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Dividend Policy: Its Impact on Firm Value

Professors Lease and Loewenstein review the theory and evidence in the area of dividend policy. They provide guidelines for the financial manager in formulating a perspective regarding dividends and dividend policy for the firm.

Abstract

This paper provides a review and synthesis of the literature on dividend policy. Beginning with the seminal works in this area by Lintner (1956) and Miller and Modigliani (1961), the paper traces the evolution of the literature up through recent working papers. After demonstrating the irrelevance of dividend policy under perfect capital markets in both the certainty and uncertainty cases, market imperfections are systematically introduced with a discussion of how they might impact the irrelevance conclusion. This discussion concludes that, with the introduction of market imperfections, the importance of dividend policy becomes an empirical issue. The classic Lintner paper on how managers make the dividend decision is reviewed. Next, the empirical evidence related to dividend policy relevance is summarized. Given the prior discussion, a concluding section offers tentative advice on how practicing financial managers should go about making the dividend decision.

I. Introduction

A fundamental assumption in most of the finance literature is that managers work to maximize the wealth of the firm's *present* stockholders. Since share price is the critical variable in this wealth maximization framework, we must address the issue of how share price is determined in the marketplace. What economic process gives rise to the prices of securities that are reported daily in the

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financial press? Of specific interest in this literature review is how, if at all, a firm's dividend policy affects the price of its common stock.[1]

The value of any asset, real or financial, is a function of the size, timing, and risk of the cash flows that accrue to the owner of the asset.[2] With respect to outside stockholders, firms distribute cash in two major ways: (1) cash dividends and (2) stock repurchases.[3] The most significant method for distributing cash, however, is via cash dividends.[4] In 1990 U.S. firms paid out over $105 billion in cash dividends.[5]

Given the above discussion, the following quote by Fisher Black may seem perplexing:

- Why do corporations pay dividends?
- Why do investors pay attention to dividends?

Perhaps the answers to these questions are obvious. Perhaps dividends represent the return to the investor who put his money at risk in the corporation. Perhaps corporations pay dividends to reward existing shareholders, and to encourage others to buy new issues of common stock at high prices. Perhaps investors pay attention to dividends because only through dividends or the prospect of dividends do they receive a return on their investment or the chance to sell their shares at a higher price in the future.

Or perhaps the answers are not so obvious. Perhaps a corporation that pays no dividends is demonstrating confidence that it has attractive investment opportunities that might be missed if it paid dividends. If it makes these investments, it may increase the value of the shares by more than the amount of the lost dividends. If that happens, its shareholders may be doubly better off. They end up with capital appreciation greater than the dividends they missed out on, and they find they are taxed at lower effective rates on capital appreciation than on dividends.

In fact, I claim that the answers to these questions are not obvious at all. The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together.[6]

Although Professor Black's observations were made some time ago, financial economists still are wrestling with the "dividend puzzle." To fully appreciate the significance of this enigma, we must back up in time over three decades. It was in 1961 that Miller and Modigliani (M&M) approached the dividend policy question for the first time using the tools of the economist.[7] To avoid commingling

[1] By dividend policy, we mean the policy that management follows in making the dividend payout decision, i.e., the size and time series pattern of cash distributions to shareholders via dividend payments.

[2] Real assets, tangible and intangible, are listed on the left-hand side of the firm's balance sheet. Financial assets, such as bonds and stocks, are listed on the right-hand side of the balance sheet.

[3] Inside stockholders—e.g., managers and board members—may receive cash in other ways, such as a variety of compensation plans.

[4] Most firms pay dividends quarterly. The firm's board of directors states the size of the dividend on the "announcement date," which follows the board meeting. Further, the announcement states that the cash payment will be made to registered shareholders on a specific "record date." However, because of delays in the share transfer process, the stock goes "ex-dividend" four business days before the record date. After the stock goes ex-dividend, the shares trade *without* the rights to the *forthcoming* quarterly dividend. The dividend checks are mailed to shareholders of record on the "payment date," which is about two weeks after the record date.

[5] Aggregate dividend payments are reported in the *Federal Reserve Bulletin.* The average annual dividend yield on common stocks between 1926 and 1990 was 4.72 percent. This yield represents 39 percent of the *total* long-term return on the S&P 500 Index (see *Stocks, Bonds, Bills and Inflation: 1991 Yearbook,* Ibbotson Associates: Chicago). The remaining component of the total return is capital gains yield.

[6] F. Black, "The Dividend Puzzle," *Journal of Portfolio Management,* Winter 1976, p. 5.

[7] See M. Miller and F. Modigliani, "Dividend Policy, Growth, and the Valuation of Shares," *Journal of Business,* October 1961. This seminal publication, along with their other path-breaking research in financial economics, earned Professors Miller and Modigliani Nobel Prizes in economics (1990 and 1988, respectively).

too many complicating issues at one time, they framed their analysis in a perfect capital market context (PCM).[8] Their conclusion, which showed that the dividend policy decision is irrelevant—i.e., dividend policy has no impact on shareholder wealth—was contrary to the well-accepted conventional wisdom that dividends were vastly preferred, by some unspecified multiple, to retained earnings.[9] By this traditional position, the more generous the dividend policy, the higher the share price, all other things equal.

We begin our development in this paper by reviewing the economic arguments of M&M. Following M&M's impeccable logic, we demonstrate that under PCM dividend policy is irrelevant, both in the certainty case and in the uncertainty case.[10] We go on to relax the PCM assumptions, one by one, in an attempt to identify which imperfections, if any, might cause dividend policy to become a relevant decision variable. The results of this exercise are ambiguous; we find that some market imperfections suggest that dividend policy may be important while others suggest irrelevance. Next, we review how managers actually make their dividend decisions. Although managers behave as though dividend policy is a critical decision variable, their behavior does not imply that the market actually values that attention. Given the conflicting impacts of market imperfections, the relevance of dividend policy becomes an empirical question. Accordingly, we review the empirical evidence—i.e., what do "real world" stock price and other data suggest about how dividend policy affects equity valuation? We provide a summary of what we know and do not know about this issue. Finally, we offer tentative suggestions for practicing financial managers.

II. Stock Valuation

As mentioned above, cash flows expected to accrue to the owner of an asset—specifically, the size, timing, and risk of these cash flows determine the value of any real or financial asset.[11] For a share of common stock, the expected cash flows include dividends plus the selling price realized when the stock is sold.

If you are considering the purchase of a share of common stock, expect to hold it one year before selling it ex-dividend at price p_1, how much would you be willing to pay today, or p_0?[12] If you estimate the stock is in a risk class requiring k_e as an expected return, you would be willing to pay

$$p_0 = \frac{d_1}{(1 + k_e)^1} + \frac{p_1}{(1 + k_e)^1}, \tag{1}$$

[8] Under perfect capital markets, the following conditions are assumed:

1. Information is costless and available to everyone on an equal basis. This assumption implies that *all* individuals are symmetrically informed.
2. No distorting taxes exist (e.g., as between capital gains and ordinary income).
3. Flotation and transactions costs are nonexistent.
4. No contracting or agency costs exist.
5. No investor or firm individually exerts enough power in the markets to influence the price of a security; i.e., investors are price takers.

[9] See B. Graham, D. Dodd, and S. Cottle, *Security Analysis* (Homewood, IL: Irwin, 1961).

[10] In the certainty case, future operating cash flows and investment opportunities are known without question. Under the uncertainty case, these future cash flows and investments are random variables drawn from market consensus probability distributions.

[11] Remember, the motivation for investment is to provide for future consumption.

[12] Selling ex-dividend means that you will receive the time = 1 dividend, d_1

where d_1 and p_1 are the expected year-end dividend and share price respectively. But why would the individual who purchases your share be willing to pay p_1 at the end of year 1? Unless you believe in the "bigger fool" theory, that buyer must believe future cash flows justify the price p_1.[13] If the buyer also plans to hold the stock one year and receive d_2 before selling the share for p_2, his or her expectation must be such that

$$p_1 = \frac{d_2}{(1+k_e)^1} + \frac{p_2}{(1+k_e)^1}.$$

Substituting p_1 into Equation (1),

$$p_0 = \frac{d_1}{(1+k_e)^1} + \frac{\frac{d_2}{(1+k_e)^1} + \frac{P_2}{(1+k_e)^1}}{(1+k_e)^1}, \text{ or}$$

$$p_0 = \frac{d_1}{(1+k_e)^1} + \frac{d_2}{(1+k_e)^2} + \frac{p_2}{(1+k_e)^2}. \tag{2}$$

Following the same rationale, ask how price p_2 is established and develop an expression similar to Equation (2) in terms of d_3 and p_3. Substituting the p_2 value into Equation (2),

$$p_0 = \frac{d_1}{(1+k_e)^1} + \frac{d_2}{(1+k_e)^2} + \frac{d_3}{(1+k_e)^3} + \frac{p_3}{(1+k_e)^3}.$$

Repetition of this process for $p_3, p_4, \ldots p_N$ will yield

$$p_0 = \frac{d_1}{(1+k_e)^1} + \frac{d_2}{(1+k_e)^2} + \ldots + \frac{d_N}{(1+k_e)^N} + \frac{p_N}{(1+k_e)^N}.$$

As N $\rightarrow \infty$, the final term approaches zero, and we can summarize the expression as

$$p_0 = \sum_{t=1}^{\infty} \frac{d_t}{(1+k_e)^t}. \tag{3}$$

Equation (3) indicates that the price today, p_0, is a discounted cash stream of all future dividends. Thus, even though no specific owner has the intention of holding the stock until infinity, the share price is determined by discounting this infinite future cash flow stream at the required rate of return. On reflection, this valuation process makes economic sense. Asset values are based on cash flows, and expected cash dividends are the primary conduit for cash to flow from the corporation to the investor.[14] Notice that we have said nothing about the pattern or size of the d_t's. Elements in this vector may have any pattern, and, in fact, may be zero.[15]

[13] By "bigger fool," we mean that the buyer at $t = 1$ will be willing to buy the share without considering the economic fundamentals from the prior owner, who also ignored future cash flows.

[14] In perfect markets, corporate share repurchases are a perfect substitute for cash dividends. Further, corporate liquidation is considered another alternative, albeit unique, to cash dividends.

[15] This cash flow pattern is in sharp contrast to the promised cash payments for bonds, where the interest and principal payments contractually are determined in advance at the time the bonds are issued.

Given the share price valuation model we have just developed, consider whether the specific dividend policy (see footnote 1) a firm adopts can influence shareholder wealth. We will show that *given its investment decision,* the specific dividend policy adopted by a firm is *irrelevant* to shareholders, given perfect capital markets.[16]

III. Dividend Policy and Owner's Wealth

To illustrate the irrelevance of dividend policy, we will first assume *perfect certainty* with regard to our forecast of cash flows. In other words, *all* aspects of the firm's future, including investment opportunities, are known with complete certainty. Further, we assume perfect capital markets. These two simplifying assumptions will assist us in developing the economic intuition on the issue of dividend policy. Next, we will introduce uncertainty with respect to the firm's future cash flows. Finally, we will relax the perfect capital market assumptions to see if market imperfections impact the issue of dividend policy relevance.

Dividend Policy under Certainty

Imagine we establish a new firm that is entirely equity financed for our analytical convenience. This all-equity capital structure allows us to avoid evaluating the joint impact of dividend policy and financial leverage policy upon firm value.[17] To simplify the algebra, assume that dividends, operating cash flows, investment outlays, and new (equity) financing all occur at the *start* of each period.

Let:

S_0 = Pre-dividend market value of *all* common stock outstanding at $t = 0$

D_t = Total dividends paid at the start of time t to shares outstanding at $t = 0$

i = Market rate of interest on all securities in all periods[18]

F_t = New equity funds raised at the start of time t

X_t = Operating cash flows received by the firm at the start of time t. X_t depends only upon previous investments plus any cash flows upon firm liquidation.

I_t = Investment in all assets (including increases in the cash level) undertaken at time t.

The total market value of our all-equity firm at $t = 0$ as in Equation (3), or

$$S_0 = \sum_{t=0}^{T} \frac{D_t}{(1+i)^t}, \tag{3}$$

where T is some future period when the firm is liquidated. In any given period, the *total sources* of cash flows for the firm *must equal* the *total uses* of cash flows, or

[16] We assume firms accept all positive NPV projects. This guideline is called the NPV Rule.

[17] While we can make our dividend policy points using any capital structure, an all-equity capital structure simplifies the derivation.

[18] We easily could allow i to vary by time period. Note, in the certainty case, the rate of return on *all* financial assets in any given period is *equal.* This return equality is driven by the economic fact that yield differences are a product of variations in the risk or uncertainty of the underlying asset. Here we have assumed uncertainty away.

Sources = Uses, or[19]

$$X_t + F_t = D_t + I_t + (1 + i)F_{t-1}. \tag{4}$$

By rearranging Equation (4), we can show that

$$D_t = X_t + F_t - I_t - (1 + i)F_{t-1}. \tag{5}$$

Substituting Equation (5) into Equation (3), we have

$$S_0 = X_0 + F_0 - I_0 - (1 + i)F_{-1} + \frac{X_1 + F_1 - I_1 - (1 + i)F_0}{(1 + i)^1} + \sum_{t=2}^{T} \cdots$$

Since we started up our hypothetical firm at $t = 0$, X_0 and F_{t-1} are both zero. Thus, we have

$$S_0 = F_0 - I_0 + \frac{X_1 + F_1 - I_1 - (1 + i)F_0}{(1 + i)^1} + \sum_{t=2}^{T} \cdots$$

Note that F_0 and $-(1 + i)F_0/(1 + i)^1$ cancel out.

Similarly, $F_1/(1 + i)^1$ cancels with the third term, or $-(1 + i)F_1/(1 + i)^2$. We can continue and arrive at

$$S_0 = \sum_{t=0}^{T} \frac{(X_t - I_t)}{(1 + i)^t}. \tag{6}$$

Equation (6) expresses the current value of the all-equity firm as the discounted flow of $(X_t - I_t)$, which is the residual cash flow to shareholders, i.e., cash flow from operations less investments in all positive NPV projects identified for the period. This net cash flow is referred to as the *residual dividend,* i.e., the cash left for shareholders after the investment decision. If the quantity $(X_t - I_t)$ is negative, which means positive NPV project investment outlays exceed operating cash flows, the firm must make up the negative shortfall by raising funds in the external capital markets. Any other action would violate the NPV Rule.

Note that D_t does not appear in Equation (6). Since neither the X_t's or the I_t's are a function of dividend policy under the above assumptions (specifically perfect capital markets and the NPV Rule), dividend policy is irrelevant. By this statement we mean that paying out a dividend, D_t, that exceeds $(X_t - I_t)$ does not increase owners' wealth. This conclusion holds in spite of the fact that the value of the firm is solely a function of *residual dividends* and the market rate of interest.

If the residual amount $(X_t - I_t)$ is not paid out—i.e., is retained in the firm—the firm implicitly has increased I_t since sources must equal uses. However, I_t already includes *all* wealth-increasing projects, since the firm follows the NPV Rule. Therefore, retention of all or part of $(X_t - I_t)$ implies that the firm is investing in negative NPV projects. As we know, this action will decrease owners' wealth via a share price decline.

However, the above conclusion may seem paradoxical. Dividends count (see Equation (3)), but dividend policy does not count (see Equation (6))? What kind of financial alchemy can produce this result?

[19] For convenience, we assume the prior period's financing, F_{t-1}, is repaid at the end of $t - 1$, or at the start of period t. At the start of t, new financing, F_t, replaces the old financing. Incremental financing also may be obtained. Any refinancing assumption will serve us just as well.

A brief example may clarify the concept. The firm receives operating cash flows, X_t, in any period t. The firm makes the decision to invest in all positive NPV projects, I_t, in that period. If the firm makes a decision to pay out dividends in excess of $(X_t - I_t)$, the firm will have to raise an incremental amount ΔF_t in the market to fund the *incremental* dividend, ΔD_t, over and above the *residual* dividend available. This assertion can be verified by reexamining Equation (5), or

$$D_t = X_t + F_t - I_t - (1 + i)F_{t-1}.$$

If the firm decides to increase the residual dividend with external financing, what will be the repayment consequences of this incremental financing during the next period? The incremental repayment will equal $(1 + i)\Delta F_t$. Therefore, next period's dividend will be reduced by $(1 + i)\Delta F_t$. In our example, where we retire incremental financing at the end of each period, we have

$$\Delta D_t = \Delta F_t = \frac{(1 + i)\Delta F_t}{(1 + i)}.$$

The first term is the incremental dividend paid in t, the second term is the incremental financing raised in t to pay the extra dividend, and the third term is the present value of the incremental financing repaid one period away.[20] Thus, what the stockholders gain in extra dividends in period t, they give up in the next period, $t + 1$, plus interest. *You get it now, or you get it later!* In present-value terms, what is gained in extra ΔD_t today is offset exactly by future dividends lost, which, in turn, are worth ΔD_t today.

Given the linkage of market value to dividends, an extra dollar of dividends paid out today over and above the residual, $(X_t - I_t)$, will result in a loss of market value of exactly one dollar since this price decline is the present value of future dividends sacrificed. The trade-off implies a dollar's worth of market value today, or capital gain. With perfect markets and no differential taxes, this offsetting price decline implies irrelevance.

For instance, say management decides to increase the dividend by \$1 today. The shareholder receives a check for an additional dollar. Simultaneously, the market recognizes the firm has raised an additional dollar of external financing that must be repaid next period plus interest at i. This decision decreases the firm's ability to pay dividends next period by $\$1(1 + i)$. What will happen to the stock price? Since stock price is the present value of future dividends and next period's dividend will drop by $\$1(1 + i)$, the present value of this reduction is

$$\frac{\$1(1 + i)}{(1 + i)},$$

or \$1. Hence, the share price will drop \$1. The extra dollar in dividend is exactly offset by a loss of \$1 in market value.[21]

[20] If the firm refuses to cut the dividend next period by $(1 + i)\Delta F_t$, it will have to raise this additional amount in the market at $t + 1$. Then, in period $t + 2$ the firm will owe $-(1 + i)^2\Delta F_t$, and so on. Eventually, the "piper" will have to be paid, however. What is the present value of ultimate repayment postponed for n periods or $-(1 + i)^n\Delta F_t$? It will be $-(1 + i)^n\Delta F_t/(1 + i)^n$, which is also equal to the extra dividend in t.

[21] Even if the \$1 of additional financing is never repaid, our conclusion does not change. The firm will still have to pay financing costs annually of $\$1(i)$. The

Dividend Policy under Uncertainty

In the preceding analysis, we assumed complete certainty concerning all future cash flows. This setting implies the market has complete knowledge of the future capital investment outlays (I_t), operating cash flows (X_t), as well as dividends (D_t). Thus, in perfect capital markets with certainty, all stock in all firms is priced to yield an identical (risk-free) rate of return.

However, what happens to the conclusion of dividend policy irrelevance when we recognize that the investment, earnings, and dividend streams are uncertain? Probability distributions replace certain amounts for the cash flows. In this situation, will the value of the firm still be independent of its dividend policy?[22] The answer is yes! The irrelevance proposition still holds.

A frequently heard argument attacking the irrelevance proposition is that less uncertainty is attached to dividend payments received now versus dividend retention for reinvestment in projects whose future returns are uncertain (commonly called the "bird in the hand principle"). This discussion implies that the firm with the higher dividend payment (or the more stable dividend payment) will be valued more highly.[23]

This argument can be refuted rather quickly if we recall the assumptions and basic decision process. Remember, the investment decision is a given—i.e., take all positive NPV projects. While the future investment opportunities and project returns are uncertain, investors have formulated expectations about these future cash flows. Whether the firm retains funds to finance this investment program or whether it distributes the money in dividends and raises the necessary investment dollars in the capital market is irrelevant. The value of the firm remains unchanged since in either case the *uncertainty regarding the future* is unaffected. In one case, the current shareholders bear the project uncertainty; in the other case, the new equityholders share in it. No basis exists to argue that one group is willing to pay more for the claim on future earnings than the other; hence, dividend policy is irrelevant under uncertainty. We simply substitute the required rate of return on equity, k_e, for the risk-free rate, i, in the above equations.

Summary

Given the cash flows available from operations, X_t, the investment decision, I_t, and the need to refund past financing, the dividend policy decision can be simply a *residual decision.*[24] To pay dividends in excess of this residual amount (see Equation (5)) suggests that dividends are an active management decision variable. We have shown that this "managed" component of the dividend payment is irrelevant in the valuation process. Stock price will fall by the amount of the "excess" dividend paid.

This irrelevance conclusion, however, is not accepted by all academics or financial managers. Some strongly believe a "managed" dividend policy can have a positive impact on owners' wealth, or share price will not drop by the full amount of the incremental dividend paid. However, if dividend policy is important to shareholders, some of our assumptions must be in error. We have shown

[22] We can also view this question as whether the discount rate used in discounting the stream of dividends is affected by the choice of dividend policy.

[23] See M. Gordon, "Dividends, Earnings, and Stock Prices," *Review of Economics and Statistics,* May 1959.

[24] Again, this policy, which is no better or no worse than any other policy, implies paying what (if anything) is left over, or $(X_t - I_t)$.

the certainty assumption is not critical to our argument. Therefore, the perfect capital market assumptions must be at the root of our undoing *if* dividend policy counts.

Let us proceed to examine "real-world" phenomena. Will the departure from perfect capital markets cause us to alter our basic conclusions? We do not pretend that the perfect capital markets assumption is realistic. However, to destroy the irrelevance arguments, real-world imperfections and investor preferences will have to impact valuation *systematically* for dividend policy to become a relevant decision variable.

IV. Analysis of the Perfect Capital Market Assumptions

We will now relax, one by one, the perfect capital markets (PCM) assumptions we discussed earlier. Specifically,

PCM Assumption 1: Information is costless and available to everyone on an equal basis. This assumption implies that *all* individuals—outside and inside shareholders, managers and nonmanagers alike—are symmetrically informed.

We realize that the speed of information dissemination is important in security markets so that investors who receive information faster do not gain at the expense of investors who receive information slower. Further, this information should be available at zero or negligible cost.[25]

How can this information availability question be related to the issue of dividend policy? Many researchers contend that dividends do have significant information content, and thus an announced change in dividend policy can impact share price by providing "new" inside information previously known only to management. Given the way corporations establish and alter dividend policy, and the market's reaction to these changes, this argument has some merit.[26] The actual process that managers follow in making the dividend decision is discussed below.

Let us not lose perspective, however. Future operating cash flows and risk determine firm value. These future cash flows depend upon the firm's investment decision and its ability to manage its assets effectively. Dividends merely reflect this basic source of value. Management could use dividend changes to communicate its new perspective on future cash flows—its "insider information." However, dividend changes are just one of several ways to communicate inside information. Management could announce new expectations for residual cash available for dividends in the

[25] The theory of efficient markets suggest that all that is known or knowable about a stock is impounded in its present price, and stock price movements become strictly a function of the random arrival of new information. With the abundance of sources to convey information, such as satellite communications, around-the-clock global securities trading, the electronic and printed media, telephones, fax machines, and ticker tapes, and the literal army of "greedy" and smart analysts scurrying about for pieces of new information, the differential availability of *publicly available* information is not likely to exist. Further, *no* scientific empirical evidence exists that demonstrates that one class of investors (other than insiders, of course!) consistently outperforms another group of investors.

[26] See R. Pettit, "The Impact of Dividend and Earnings Announcements: A Reconciliation," *Journal of Business,* January 1976. In addition, see G. Charest, "Dividend Information, Stock Returns and Market Efficiency," *Journal of Financial Economics,* June-September 1978. These studies demonstrate a favorable (unfavorable) market reaction to a higher (lower) than expected dividend announcement. An alternative explanation for stock price reactions to dividend announcements is the "wealth transfer hypothesis." That is, stockholders are able to transfer wealth from bondholders by paying out larger than expected dividends. However, also see G. Handjinicolaou and A. Kalay, "Wealth Redistributions or Changes in Firm Value: An Analysis of Returns to Bondholders and Stockholders around Dividend Announcements," *Journal of Financial Economics,* March 1984. They show that the "information content hypothesis" dominates the "wealth transfer hypothesis" in explaining price reactions to dividend announcements.

future without altering the residual dividend today. Manipulating dividends to accomplish this communication is not an economic necessity.[27]

Nevertheless, proponents of the "information content hypothesis" argue that dividends are a perfect device to communicate inside information. Managers can use dividends to convey their assessment of future prospects for the firm without giving away the exact nature of the inside information and by "putting money where their mouth is."[28]

A related line of theoretical research involves using dividends as a "signal" of firm traits, i.e.; dividends are used to separate and distinguish firms in terms of their quality. However, for a "signalling equilibrium" to be effective, a cost must be associated with the signal.[29] Moreover, the cost of the signal must be higher for inferior firms so that they cannot "mimic" superior firms. Researchers who derive dividend signalling models use tax-related costs (see below), or costs associated with foregoing positive NPV investment to pay out dividends.[30]

PCM Assumption 2: No distorting taxes exist, e.g., as between capital gains and ordinary income.

In our tax environment, capital gains *historically* have been taxed at a substantially lower rate than dividends.[31] In addition, capital gains can be deferred until the stock actually is sold. Therefore, even if tax rates nominally are equal for dividends and capital gains, these rates effectively are lower for capital gains given the time value of money. Thus, retention versus cash dividends may have a positive impact on owners' wealth. The conclusion of this line of reasoning is that firms should tailor their dividend policy toward no or low payouts.[32]

However, others have suggested the possibility of effectively sheltering dividend income from taxes.[33] By borrowing additional sums of money to create tax-deductible interest expenses to offset

[27] If management attempted to manipulate the market with misleading announcements regarding their ability to sustain the dividend change, we would expect they could get away with this maneuver only once.

[28] By giving away inside information, we mean revealing the exact nature of proprietary information that would assist the firm's competitors.

[29] A signalling equilibrium is the state where each firm reveals its "quality" (e.g., a financially strong or weak firm) by a signalling mechanism (in this case, the amount of dividend paid). Market participants are able to correctly differentiate firm quality by observing the signal.

[30] See M. Miller and K. Rock, "Dividend Policy under Asymmetric Information," *Journal of Finance,* September 1985, who use dividends to signal unobserved current earnings, and K. John and J. Williams, "Dividends, Dilution and Taxes: A Signalling Equilibrium," *Journal of Finance,* September 1985, where dividends are utilized to signal future earnings. Also see P. Kumar, "Shareholder-Manager Conflict and the Information Content of Dividends," *Review of Financial Studies,* Summer 1988. Kumar attempts to show the existence of "coarse" signalling equilibria, where dividend changes reflect only broad changes in the firm's prospects. Therefore, dividends are "smoothed" relative to earnings (see corporate dividend decisions below).

[31] The Tax Reform Act of 1986 presumably eliminates the differential taxes between dividends and capital gains. However, if history repeats itself, you can count on Congress changing the tax rules again and again. In fact, several proposals to institute another reduced capital gains tax rate are being studied by Congress.

[32] See D. Farrar and L. Selwyn, "Taxes, Corporate Financial Policy and Return to Investors," *National Tax Journal,* December 1967. If $(X_t - I_t)$ is positive, share repurchase would be preferable to cash dividends. This procedure would minimize taxes paid.

[33] See M. Miller and M. Scholes, "Dividends and Taxes," *Journal of Financial Economics,* December 1978. However, D. Peterson, J. Peterson, and J. Ang find little evidence that investors engage in the strategies that Miller and Scholes suggest to avoid taxes on dividends. (See "Direct Evidence on the Marginal Rate of Taxation on Dividend Income," *Journal of Financial Economics,* June 1985.)

dividend income, and by adjusting risk through insurance policies, Keogh Plans, or IRAs, investors may avoid taxes on dividends entirely. If tax avoidance is possible, the differential tax argument may be irrelevant.

Further complicating the tax issue is the fact that some investors—e.g., pension funds—pay no taxes on either capital gains or dividends. Other investors—e.g., traders or short-term investors—have paid equal tax rates on dividends and capital gains under the U.S. tax code even before the Tax Reform Act of 1986.[34] Therefore, these investors should be indifferent to dividend policies from a tax standpoint. Finally, some investors pay less tax on dividends than on capital gains—e.g., corporations. Corporations do not have to pay income taxes on 70 percent of the dividends they receive from other corporations. Therefore, capital gains are taxed at a higher effective rate for corporate investors than dividends.[35]

PCM Assumption 3: Flotation and transactions costs are nonexistent.

Flotation costs can be substantial, particularly for new equity issues.[36] To the extent a firm pays out an extra dollar of dividends and, given a fixed investment policy, has to raise an extra dollar of new capital in the markets, flotation costs suggest that a residual dividend policy would be superior. In general, flotation costs would dictate going to the markets only when investment cash outlays and required capital retirements exceed operating cash inflows.

Transactions costs incurred by individual stockholders represent a potential imperfection which may result in a "managed" dividend policy having a positive impact on share price. A wide variety of investors, forming potential "dividend clientele" groups, may exist in the markets, each with a unique set of tax circumstances and consumption preferences. Some evidence suggests that investors tend to gravitate to firms with growth and payout characteristics that satisfy these tax and consumption circumstances.[37] High income individuals, *ceteris paribus,* may prefer high-growth firms with correspondingly low payouts. Low income or retired individuals may prefer a high and stable level of dividends for consumption purposes and, therefore, prefer mature, low-growth and high payout firms. Particularly with this latter set of investors, or dividend clientele, a firm that follows a strictly residual dividend policy will inject uncertainty regarding the amount of dividend to be paid each period.

Given the previously discussed trade-off between dividends and capital gains, these income-oriented investors could sell off part of their capital gains in lieu of receiving dividends, i.e., create "homemade" dividends. However, this procedure entails inconvenience and transactions costs. Hence, a stabilizing "managed" dividend policy *may* be received favorably and have a positive impact on share price.

[34] The above discussion of the deferral of capital gains does not apply to these investors since, by definition, they realize their gains (or losses) in the short run.

[35] Indeed, corporations might actually be involved in "dividend capture" activities to exploit the tax advantage of returns in the form of dividends. See J. Karpoff and R. Walkling, "Dividend Capture in NASDAQ Stocks," *Journal of Financial Economics,* December 1990.

[36] Empirical research suggests that equity issues by mature industrial firms are rare. See A. Kalay and A. Shimrat, "Firm Value and Seasoned Issues of Equity: Price Pressure, Wealth Redistribution or Negative Information," *Journal of Financial Economics,* September 1987.

[37] The evidence supporting tax-induced dividend clienteles is not strong, however. See W. Lewellen, K. Stanley, R. Lease, and G. Schlarbaum, "Some Direct Evidence on the Dividend Clientele Phenomenon," *Journal of Finance,* December 1978.

PCM Assumption 4: No contracting or agency costs exist.

The assumption of zero contracting or agency costs between claimholders—e.g., stockholders, bondholders, managers, employees—suggests that no conflicts of interest arise between these parties.[38] Agency theory describes how conflicts naturally arise when self-interested parties interact and how these conflicts can be controlled. Agency costs relate to the costs of writing contracts designed to bond participants to certain activities and to monitor their performance. In addition, because contracts cannot be written and enforced perfectly, residual losses due to deviations from ideal behavior occur.[39]

At least two sets of agency-related issues exist with respect to dividend policy—bondholder-shareholder conflicts, and manager-shareholder conflicts. If shareholders direct managers to pay out large dividends that jeopardize the operation of the firm, bondholders could be left holding an empty shell. Therefore, a need to constrain dividend payments via bond covenants is required. From the bondholders' perspective, fewer dividends are better. Indeed, a typical bond covenant includes a direct dividend constraint that prevents the firm from paying out excessive dividends to its stockholders.[40]

The second agency problem exists due to the inevitable manager versus shareholder conflicts. Managers may choose to maximize their own utilities rather than maximizing the wealth of the shareholders. Examples include excessive perquisite consumption, loafing on the job, and suboptimal investments that may reduce the risk of the firm and increase manager's job security at the expense of lower share price. Dividend policy potentially can reduce this type of agency conflict.[41]

If managers retain a higher portion of the firm's cash flows for investment, they have more freedom in decision making than when they go to the external market for funds. When the firm has a generous dividend policy, management is forced to the external capital market more frequently. Raising external funds requires more disclosure and receives more scrutiny than using internal funds. Therefore, external financing provides discipline for managers in their investment decisions, as well as their consumption of salary and perquisites.

A related potential agency problem has to do with the desire of managers to "build empires" that will be under their control rather than maximize shareholders' wealth.[42] Managers might retain a higher portion of earnings even if positive NPV projects are not available. Once again, these "free cash flows," $(X_t - I_t)$, provide management with flexibility and control beyond what is necessary—at the expense of shareholders.

In sum, from both the shareholder-bondholder and the shareholder-manager agency problem perspective, dividend policy *may* have an impact on firm value. However, agency theory as a rationale for a preferred dividend policy implies that the optimum dividend is a firm-specific decision, since each firm has unique agency costs.

[38] *Agency* is a term that reflects the relationship that exists between managers and other stakeholders in the firm, e.g., stockholders. Managers are the agents for the firm's principals, or the shareholders.

[39] See M. Jensen and W. Meckling, "The Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure," *Journal of Financial Economics,* October 1976.

[40] See A. Kalay, "Stockholder-Bondholder Conflicts and Dividend Constraints," *Journal of Financial Economics,* July 1982; and K. John and A. Kalay, "Costly Contracting and Optimal Payout Constraints," *Journal of Finance,* May 1982.

[41] See F. Easterbrook, "Two Agency-Cost Explanations of Dividends," *American Economic Review,* September 1984. Also see M. Rozeff, "Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios," *Journal of Financial Research,* Fall 1982. Finally, see A. Schleifer and R. Vishny, "Large Stockholders and Corporate Control," *Journal of Political Economy,* June 1986.

[42] See M. Jensen, "Agency Costs of Free Cash Flow, Corporate Finance, and Takeover," *American Economic Review,* May 1986.

PCM Assumption 5: No investor or firm individually exerts enough power in the markets to influence the price of a security.

If firms are free to choose any dividend policy, no one firm could provide a "scarce" economic good, i.e., no preferred dividend policy would be in short supply. Therefore, even if dividend clienteles exist among investors, competitive markets would work to provide a "matching" of preferred dividend policies and dividend policies offered. Once equilibrium is established, a single firm could not influence its stock price by adopting a particular dividend policy.[43]

Summary

When we relax the perfect markets assumptions, the relevance of dividend policy becomes a messy issue. Some factors seem to favor a strictly residual policy, e.g., a firm's flotation costs. Other imperfections seem to favor a managed policy, e.g., investors' transactions costs and agency problems. Finally, some market imperfections have ambiguous implications for dividend policy, such as differential taxation.

Should a firm adopt a managed or a residual dividend policy? Because market imperfections are difficult to model theoretically, the answer becomes an empirical question. By this statement we mean that we must turn to "real world" data to see if a systematic preference exists for firms with specific dividend policies. Are firms with different dividend policies valued differently in the market, *ceteris paribus?* However, before we look at the empirical evidence of whether dividend policy "counts," let us examine how financial decision makers seem to establish dividend policy in the "real world."

V. Corporate Dividend Policy Decisions

John Lintner conducted a classic study on the corporate dividend decision in a large sample of firms.[44] His objective was to find out the parameters of the dividend decision, build a model to explain changes in dividend payout, and test his model by using real data. His findings are of considerable interest. On balance, he discovered that dividend policy is treated as an "active" decision variable, and managements believe the dividend decision is important in maximizing owners' wealth.

Lintner discovered that the first question management asks regarding this period's dividend level is whether the dividend paid last period should be changed. If new circumstances seem to dictate a dividend change, the next question is the magnitude of the change, given a conscious concern about maintaining any change into the future. Management strongly believes that the market places a premium on the stability of dividends, with an extra bonus for a steady growth trend. Managers want to avoid sudden changes in dividends. A dividend increase is made only when management

[43] See F. Black and M. Scholes, "The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns," *Journal of Financial Economics,* May 1974.

[44] J. Lintner, "Distribution of Income of Corporations among Dividends, Retained Earnings, and Taxes," *American Economic Review,* May 1956.

believes it can be sustained in the future. A dividend decrease is made only if adverse circumstances are not expected to pass quickly.

Managers believe that the market looks at the firm's earnings and has some notion of a "fair payout" ratio.[45] Hence, managers generally have an ideal or target dividend payout rate on earnings and make considerable effort to smooth changes to achieve the target. Smaller, step-wide adjustments are made rather than sudden movements toward the target level of payout.

Having compiled this survey information, Lintner developed a model to see if management's actual behavior followed this verbalized process, or

$$\Delta D_{it} = A_i + C_i(r_i E_{it} - D_{i(t-1)}) + U_{it},$$

where

ΔD_{it} = the change in dividends observed from period $t-1$ to t for firm i,
A_i = the intercept term for firm i,
C_i = the speed of adjustment coefficient for firm i,
r_i = the target payout ratio for firm i,
E_{it} = the earnings after taxes in period t for firm i,
$D_{i(t-1)}$ = the dividend payout last period for firm i,
U_{it} = the error term for firm i in period t.

Lintner fit his regression model with actual corporate dividend data and found an r^2, or explained variance, of 85 percent. Further, the intercept term, A_i, was significant and positive. This finding indicates that managements consciously do avoid dividend cuts even when earnings decline.[46]

Thus, Lintner's results show us that management does try to do what they described verbally, or

1. Stabilize dividends with gradual, sustainable increases when possible.
2. Establish an appropriate target payout ratio.
3. Avoid dividend cuts if at all possible.

Given this observed pattern of management behavior, we see why the informational content argument for dividend is so often cited as suggesting that dividend policy is important. However, again the question can be asked: "Is the dividend announcement the only way to convey management's insider information?" Could the information be disseminated some other way?

The arguments on the relevance or irrelevance of dividend policy should leave the reader uncomfortable. While the finance literature has provided inordinate discussion on the strengths and weaknesses of the various arguments, the issue boils down to an empirical question: Does dividend policy matter?

[45] By payout ratio, we mean dividends per share dividend by earnings per share, or DPS/EPS.

[46] An updated study of the corporate dividend decision using several alternative models did not significantly improve upon Lintner's results. See G. Fama and H. Babiak, "Dividend Policy: An Empirical Analysis," *Journal of the American Statistical Association,* December 1968.

V. Empirical Evidence: Does Dividend Policy Count?

Just because managers behave as though dividend policy is a critical decision variable, it does not follow that the market values their efforts. As Merton Miller suggested with respect to the capital structure decision, the dividend policy decision might be a "neutral mutation"—a policy that causes no harm but creates no value.[47]

We have suggested that because of market imperfections—specifically taxes, flotation costs, transactions costs, asymmetric information, and agency costs—a firm's dividend policy might impact the value of its shares. Therefore, let's look at the empirical evidence regarding these imperfections.

Since the tax system historically has penalized dividends relative to capital gains, Brennan added a dividend yield variable to the Capital Asset Pricing Model.[48] He reasoned that stocks in firms with higher dividend yields should have higher pre-tax returns than equity in firms with lower payouts. This higher yield would compensate investors for higher taxes and, therefore, equate after-tax returns holding constant for systematic risk. Empirical tests of Brennan's model, however, have not yielded definitive results with respect to the significance of the dividend yield coefficient.[49] Due to econometric and data problems, the studies often present conflicting conclusions. However, on balance, the weight of the evidence leans *slightly* toward concluding the market requires extra return for higher dividend yields.[50]

Contrary results, however, are found in a unique study by John Long. He examined the prices of two classes of common stock in a firm (Citizens Utilities Company of Atlanta, Georgia) with two classes of common stock. One class pays a cash dividend while the other class provides an equivalent dollar value in extra shares via a stock split.[51] Tax models of dividend policy predict the stock split shares will sell at a premium relative to the cash dividend shares. Surprisingly, Long found the opposite. The cash dividend shares sold at a significant premium to the other class of shares. This result, although it represents only one firm, suggests that the market values cash dividends over capital gains.

If taxes play a large role in the composition of investors' portfolios, high-tax-bracket investors should hold low dividend yield stocks to escape taxes, while low-tax-bracket investors should be more indifferent to the dividend policies of firms. In other words, tax-induced dividend clienteles should exist. Lewellen, Stanley, Lease, and Schlarbaum examined the dividend yields on portfolios held by individual investors in a cross-section of tax brackets.[52] They found weak support, suggesting that high-tax-bracket investors chose stocks that paid lower dividend yields.

[47] See M. Miller, "Debt and Taxes," *Journal of Finance,* May 1977.

[48] See M. Brennan, "Taxes, Market Valuation, and Corporate Financial Policy," *National Tax Journal,* December 1970.

[49] See F. Black and M. Scholes, "The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns," *Journal of Financial Economics,* May 1974. Also see R. Litzenberger and R. Ramaswamy, "The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence," *Journal of Financial Economics,* June 1979. In addition, see P. Hess, "Tests for Tax Effects in the Pricing of Financial Assets," *Journal of Business,* October 1983. Finally, see M. Miller and M. Scholes, "Dividends and Taxes: Some Empirical Evidence," *Journal of Financial Economics,* December 1982.

[50] However, in a recent working paper, A. Kalay and R. Michaely (1992) are unable to find cross-sectional differences in the returns associated with dividend yields. They argue that excess returns, on the week around the ex-dividend day, are a still unexplained phenomenon that is not consistent with the tax hypothesis.

[51] See J. Long, "The Market Valuation of Cash Dividends: A Case to Consider," *Journal of Financial Economics,* June 1978.

[52] See W. Lewellen, K. Stanley, R. Lease, and G. Schlarbaum, "Some Direct Evidence on the Dividend Clientele Phenomenon," *Journal of Finance,* December 1978.

Finally, a popular avenue of research of the "tax effect" and the "tax-induced clientele effect" has been the stock price behavior around the ex-dividend day. Stockholders owning the stock at the close of trading on the day *before* the ex-dividend day are entitled to the *next* dividend payment. Therefore, the stock price will drop at the opening of trading on the ex-date to reflect the loss of ownership of the forthcoming dividend. In an economy with preferential treatment of capital gains, the drop in price should be smaller than the forthcoming dividend. That is, a dollar of dividend paid out by the firm is worth less (after taxes) than a dollar of capital gains.

Elton and Gruber authored an influential academic study of stock price behavior around the ex-dividend day. They found less than a full-dividend price drop on the ex-dividend day during periods of differential taxation. Their study concludes that the ex-dividend price behavior of stocks is evidence of investor preference for capital gains over cash dividends.[53] In a more recent study, Mike Barclay studied the ex-dividend price behavior of stock in the United States prior to any income tax.[54] He found the price dropped by the full amount of the dividend during this pre-tax period. In contrast, other researchers found anomalous stock price behavior around ex-dividend days where taxes should not have played a role.[55]

Investigations of stock prices and returns in other countries with different tax codes—e.g., Britain and Canada—present similar, less than conclusive results. In general, the empirical studies that relate taxes, dividends, and firm value or realized returns show mixed results (with perhaps a *slight* tilt toward concluding that the market has a distaste for, or equivalently, requires a higher return for, stocks with higher dividend yields).

Empirical studies that cleanly model how dividend policy impacts firm value due to corporate flotations costs and investor transactions costs are, unfortunately, not available. Disentangling these potential effects from other imperfections on stock prices and returns is difficult. However, even if these effects could be modeled explicitly, the impacts are offsetting, as we pointed out above. Flotation costs seem to favor a residual policy, and transactions costs seem to suggest that a managed stable policy is preferred.

The agency theory models that suggest dividend policy can help reduce agency conflicts between bondholders and stockholders and managers and stockholders have, to date, not been tested.[56] Agency theory is a relatively recent development in financial economics. Further, these models currently do not specify an empirically testable functional relationship between dividend payout and agency costs. Finally, agency relationships may be too "firm-specific" to test by using the aggregated data that has been used to test the tax models.

[53] See E. Elton and M. Gruber, "Marginal Stockholder Tax Rates and the Clientele Effect," *Review of Economics and Statistics,* June 1970. They also report results that are consistent with the formation of clienteles. However, more recent research questions the ability to detect such clienteles with the available data. See A. Kalay, "The Ex-Dividend Day Behavior of Stock Prices: A Re-Examination of the Clientele Effect," *Journal of Finance,* September 1982.

[54] See M. Barclay, "Dividends, Taxes, and Common Stock Prices: The Ex-Dividend Day Behavior of Common Stock Prices before the Income Tax," *Journal of Financial Economics,* September 1987. The first modern income tax code in the U.S. went into effect in 1913. Barclay's sample period was between 1900 and 1910.

[55] See K. Eades, P. Hess, and H. Kim, "On Interpreting Security Returns during the Ex-Dividend Period," *Journal of Financial Economics,* March 1984. See also M. Grinblatt, R. Masulis, and S. Titman, "The Valuation Effects of Stock Splits and Stock Dividends," *Journal of Financial Economics,* December 1984.

[56] This discussion of agency theory, as well as dialogue contained in some other sections in this review, benefitted from the insights provided by J. Brickley and J. McConnell in "Dividend Policy," *The New Palgrave Dictionary of Money and Finance* (New York: MacMillan, 1990), eds. J. Eatwell and P. Newman.

With respect to whether managers use dividend policy to convey news about changes in firm value based on their "inside" or "asymmetric" information, empirical studies are more definitive.[57] Studies have shown that stock prices significantly rise when dividends are increased by more than the expected amount, and vice versa.[58] Moreover, research has shown that dividend announcements convey information over and above the information that is conveyed by earnings announcements.[59] Healy and Palepu find that investors interpret announcements of dividend initiations and omissions as managers' forecast of future earnings changes.[60]

Further, Brickley has shown that "specially designated dividends," which bear such labels as "special" or "extra" when announced by the board, convey less favorable information than do increases in regular dividends.[61] This finding suggests that the market regards the specially designated dividend as more temporary versus the permanent increase implied by an increase in the regular dividend.

However, share repurchase by the firm in lieu of cash dividends also is consistent with the signalling models as a way of reducing asymmetric information. As we noted earlier, share repurchase is an alternative to cash dividends. Managers may tend to repurchase their own shares when they think the firm's stock is undervalued. Accordingly, stock prices should increase at the announcement of share repurchase programs.

Empirical evidence shows that stock prices do respond positively when firms announce share repurchase programs.[62] However, the economic factors that lead managers to choose cash dividends versus stock repurchases are not well understood. To develop a theory that explains the choice between payout mechanisms, the differential costs and benefits between the alternatives must be specified.

In aggregate, managers historically have favored cash dividends relative to stock repurchase in spite of the fact that the tax code seems to favor stock repurchase. Therefore, in the view of management, cash dividends must possess substantial benefits relative to stock repurchase.

Based on asymmetric information arguments, two recent papers suggest that managers can use stock repurchases versus cash dividends to benefit themselves at the expense of outside

[57] S. Bhattacharya was the first to develop a theoretical model suggesting that managers could "signal" via dividend adjustments. See S. Bhattacharya, "Imperfect Information, Dividend Policy, and the 'Bird in Hand Fallacy,'" *Bell Journal of Economics,* Spring 1979. Also see a paper by the same author titled "Nondissipative Signalling Structures and Dividend Policy," *Quarterly Journal of Economics,* December 1980. In these models, managers are assumed to have asymmetric information not available to investors at large, mainly future earnings or cash flow projections.

[58] See R. Pettit, "Dividend Announcements, Security Performance, and Capital Market Efficiency," *Journal of Finance,* December 1972. Also see P. Asquith and D. Mullins, "The Impact of Initiating Dividend Payments on Shareholder Wealth," *Journal of Business,* January 1983. Interestingly, the timing of the dividend announcement also seems to convey information. Early announcements get a positive response from the market, while late announcements are regarded as bad news. See A. Kalay and U. Loewenstein, "The Informational Content of the Timing of Dividend Announcements," *Journal of Financial Economics,* July 1986.

[59] See J. Aharony and I. Swary, "Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis," *Journal of Finance,* March 1980.

[60] See P. Healy and K. Palepu, "Earnings Information Conveyed by Dividend Initiations and Omissions," *Journal of Financial Economics,* September 1988.

[61] See J. Brickley, "Shareholder Wealth, Information Signaling, and the Specially Designated Dividend: An Empirical Study," *Journal of Financial Economics,* August 1983.

[62] See L. Dann, "Common Stock Repurchases: An Analysis of Returns to Bondholders and Stockholders," *Journal of Financial Economics,* June 1981; R. Masulis, "Stock Repurchase by Tender Offer: An Analysis of the Causes of Common Stock Price Changes," *Journal of Finance,* May 1980; and T. Vermaelen, "Common Stock Repurchases and Market Signalling: An Empirical Study," *Journal of Financial Economics,* June 1981.

shareholders.[63] If managers "time" their repurchases in periods when they think, based on outside information, that their stock is undervalued, selling shareholders lose while remaining shareholders, including non-selling managers, win. With regular cash dividends, however, "such gaming activity" cannot be conducted to the disadvantage of selling shareholders. Since the market is aware of managers' ability to exploit inside information, a higher market price will be attached to firms with a regular cash dividend policy versus a more sporadic share repurchase policy, *ceteris paribus.* This observation might explain the reason cash dividends are much more commonly used as a method of cash disbursement than is stock repurchase.

VI. Conclusion

In this paper we have reviewed the basic stock valuation model and have shown how share value is determined by the residual dividend in a world with perfect capital markets in both the certainty and uncertainty cases. In this environment, we concluded that dividend policy was irrelevant—a trivial detail that managers could well ignore.

However, when we relaxed our perfect capital market assumptions, we opened a "can of worms." Certain market imperfections seem to favor a managed dividend policy, others favor a residual dividend policy, while yet other imperfections are ambiguous as to their impact.

Next we examined how managers make the dividend decision in the "real world." Regardless of the valuation impact of dividend policy, managers behave as though dividend policy is an important decision variable.

Finally, we turned to the empirical evidence on whether dividend policy affects stock value or required returns. Unfortunately, we found the evidence is mixed and generally inconclusive. Given all the troublesome econometric problems involved with "holding all other factors constant" to isolate any dividend policy valuation effect, we basically concluded that no clear-cut evidence exists regarding the value of dividend policy. The accumulated evidence led Stewart Myers to suggest the following:

> There is scant evidence to date that investors pay a premium for stocks with either high or low dividend yields. Apparently dividend policy is irrelevant, or its effects are minimal compared with the effects of other variables.[64]

What is unknown dominates what is known about dividend policy. Little evidence suggests an appropriate dividend payout level. However, compelling evidence suggests that stock price changes accompany changes in cash dividends and stock repurchase announcements. This price reaction presumably reflects asymmetric information between managers and the market. However, the reason that managers choose dividend changes to communicate inside information relative to other communication channels is unknown. Nor do we have a theory about the nature of the information that is being provided via dividend changes or stock repurchases, or the linkage between this information and share price.

[63] See M. Barclay and C. Smith, "Corporate Payout Policy: Cash Dividends versus Share Repurchase," *Journal of Financial Economics,* October 1988. Also see A. Ofer and A. Thakor, "A Theory of Stock Price Response to Alternative Corporate Cash Disbursement Methods: Stock Repurchases and Dividends," *Journal of Finance,* June 1987.

[64] S. Myers, *Modern Developments in Financial Management* (New York: Praeger, 1976), p. 70.

However, we should take heart by noting that important strides have been made since the original M&M irrelevance hypothesis in 1961. The nature of the market imperfections that might cause dividend policy to matter were not understood then. While taxes, flotation costs, and transactions were identified quickly as having the potential to impact the argument, signalling theory and agency theory were developed later as potential explanations for relevance.

We anticipate that current and future research into the illusive dividend issue will yield more definitive conclusions. Once a model is developed and empirically supported, managers may have another tool that they can use to maximize firm value.

In the meantime, what is a financial manager to do? Consider these tentative suggestions:

1. No matter what dividend policy your firm adopts, *never* let dividend policy affect your investment decision. While the valuation impacts of dividend policy are unclear, we know that taking positive NPV projects increases shareholder wealth.
2. Never underpay dividends. Only retain funds within the firm that pass the NPV Rule. Do not forget that cash buildup, unless it is temporary, is an investment decision.
3. If residual cash flows are realized and the extra cash is expected to be temporary, consider a share repurchase versus a dividend increase. While we do not understand the signalling mechanism of dividend policy, we know that dividend cuts are met by share price declines. Therefore, avoid temporary dividend increases. Use share repurchases instead. Further, this procedure will avoid disrupting any dividend clientele that may exist.
4. Do not spend too much time worrying about the dividend decision. Management time has an opportunity cost. Remember Brealey and Myers' third law—"You can make a lot more money on the left-hand of the balance sheet than on the right."[65] Given the relative efficiency of the capital market compared to the productive goods market, their advice is well taken.[66]

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[65] See R. Brealey and S. Myers, *Principles of Corporate Finance,* 4th ed. (New York: McGraw-Hill, 1991), p. 464. By this statement the authors mean that managers have much more potential for increasing shareholder wealth with good "productive" investment decisions on the left-hand side of the balance sheet than with capital structure and dividend decisions, which impact the right-hand side of the balance sheet.

[66] A word of caution! For the "purist," the suggestions provided above are a bit strong and might not always be followed literally because of other market imperfections, especially agency problems. For example, sometimes under conditions of financial distress the Net Present Value Rule is not in the best interest of the stockholders (suggestion 1). Occasionally, and again under conditions of financial distress, bond covenants may prevent the manager from paying out any dividends (suggestion 2). However, these cases are the