University of Pennsylvania Law Review

FOUNDED 1852

Formerly
American Law Register

VOL. 116

JANUARY 1968

No. 3

PAYOUT POLICY AND RESOURCE ALLOCATION *

MORRIS MENDELSON †

INTRODUCTION

Modern American corporate law clearly establishes the right of corporate boards of directors to determine their own dividend policy and protects them from stockholder suits in all but a few special instances. As Lattin has observed:

The general rule recognized by all courts is that it is within the sole discretion of the directors to declare or not to declare a dividend when a legal fund is available and, barring an abuse of discretion, the court will not interfere.¹

Because the declaration of dividends usually necessitates a complicated, technical decision requiring considerable knowledge of the internal affairs of a corporation and its overall economic position, a court will be reluctant to substitute its judgment for that of the board of directors² who not only know more about the corporation, but also

* The author wishes to thank George W. Patrick, Jr., an editor of the *Review*, for his valuable legal research. The author also wishes to acknowledge the helpful criticism of Professors Jean Crockett, Irwin Friend and Douglas Vickers of the University of Pennsylvania.

† Associate Professor of Finance, University of Pennsylvania. B.A. 1946, Queens University (Canada); Ph.D. 1950, Cornell University.

¹ N. LATTIN, CORPORATIONS 459 (1959). See generally 19 AM. JUR. 2d *Corporations* §§ 847-50 (1962). This general rule may be modified by statutory provision. See, e.g., N.M. STAT. ANN. § 51-3-16 (1953); N.C. GEN. STAT. § 55-50 (Supp. 1959), providing for a mandatory annual distribution out of a predetermined reserve fund.

² In *Raynolds v. Diamond Mills Paper Co.*, 69 N.J. Eq. 299, 60 A. 941 (1905), minority stockholders instituted a suit to compel the payment of dividends, alleging that the board of directors had unreasonably withheld dividends, having instead almost doubled the capital of the corporation. In holding that there was no evidence of bad

presumably have more expertise in making business decisions.³ Consequently, it has been held in a stockholder's suit to compel the payment of a dividend that the mere fact that there is a surplus is not sufficient to move a court of equity to compel disbursal of corporate funds.⁴ Courts usually have required that a plaintiff also show an abuse of discretion on the part of the directors by proving that they have been guilty of fraud,⁵ bad faith⁶ or gross mismanagement.⁷

In determining whether these elements are present, courts will examine the expressed reasons for non-declaration of dividends and the general needs of the corporation which might require retention of funds. Apparent hostility of a controlling faction toward a minority,⁸ the fact that the majority may be subject to high personal income taxes if dividends are paid, or desire by controlling directors to acquire minority stock interests as cheaply as possible are factors indicative of bad faith, if they have motivated a decision to retain corporate profits.⁹ In determining whether the directors' decision to retain funds for working capital is justified, a court may examine the nature of the business enterprise; thus, a large cash reserve may not be necessary for a prosperous manufacturing company,¹⁰ but may be important for

faith or abuse of discretion in the board's decision, the court expressed great reluctance to undertake the difficult task of reappraising the corporation's financial position:

This work of examining the situation of a great business corporation owning large plants, mills, machinery, and with large business transactions on its hands, by a court of equity in order to find out whether dividends are being unfairly and unjustly and unreasonably withheld from the stockholders, is an exceedingly difficult task.

Id. at 306, 60 A. at 944. See also *Isley, Rights of the Minority Shareholder to the Corporate Dividend*, 2 DUKE BAR J. 113 (1952).

³ To the doctrine of discretion of the board of directors has been added the normal rule presuming good faith in the decision not to pay dividends. In *Nebel v. Nebel*, 241 N.C. 491, 85 S.E.2d 876 (1955), it was stated that the use of corporate profits for expansion of plant facilities and for purchase of new machinery is "presumed to have been made in good faith in the absence of fraud or proof of bad faith." *Id.* at 503, 85 S.E.2d at 884. Similar presumptions of good faith on the part of the directors were made in *Wilson v. American Ice Co.*, 206 F. 736, 739 (D.N.J. 1913) and *Mulcahy v. Hibernia Sav. & Loan Soc'y*, 144 Cal. 219, 77 P. 910 (1904).

⁴ See *Trimble v. American Sugar Ref. Co.*, 61 N.J. Eq. 340, 48 A. 912 (1901).

⁵ See, e.g., *Doherty v. Mutual Warehouse Co.*, 255 F.2d 489 (5th Cir. 1958); *Belk v. Belk's Dep't Store*, 250 N.C. 99, 108 S.E.2d 131 (1959); *Jones v. Costlow*, 349 Pa. 136, 36 A.2d 460 (1944).

⁶ See, e.g., *National State Bank v. Victory Bldg. & Loan Ass'n*, 120 N.J. Eq. 277, 184 A. 738 (1936); *McLean v. Pittsburgh Plate Glass Co.*, 159 Pa. 112, 28 A. 211 (1893).

⁷ See, e.g., *Midland Sav. & Loan Co. v. Dunmire*, 68 F.2d 249 (10th Cir. 1933); *Burden v. Burden*, 159 N.Y. 287, 54 N.E. 17 (1899).

⁸ See, e.g., *Channon v. Channon*, 218 Ill. App. 397 (1920); cf. *Gottfried v. Gottfried*, 73 N.Y.S.2d 692 (Sup. Ct. 1947).

⁹ See, e.g., *Gottfried v. Gottfried*, 73 N.Y.S.2d 692 (Sup. Ct. 1947).

¹⁰ See *Dodge v. Ford Motor Co.*, 204 Mich. 459, 170 N.W. 668 (1919). The court found that corporate retention of funds in this case was intended to have a long range benefit, not to the company, but to the public. This the court found to be impermissible.

a savings and loan¹¹ or land investment company.¹² If corporate profits are retained to provide expansion capital, courts will be even less inclined to disturb the directors' decisions; but even here courts have defined the limits of a reasonable exercise of discretion.¹³ In short, "the essential test of bad faith is to determine whether the policy of the directors is dictated by their personal interests, rather than the corporate welfare."¹⁴

In making the presumption that directors have acted in good faith,¹⁵ courts have placed a heavy burden on the plaintiff who would attempt to compel corporate directors to distribute profits to shareholders.¹⁶ On the other hand, the law attaches no liability to directors for declaring dividends, so long as they have not wilfully or negligently imperiled the corporation's financial position.¹⁷ Thus, it may be said that the rules of law tend to insulate dividend payout decisions from judicial scrutiny, leaving directors to make decisions about income retention unfettered, for the most part, by legal constraints.

¹¹ In *Midland Sav. & Loan Co. v. Dunmire*, 68 F.2d 249 (10th Cir. 1933), large cash reserves were thought necessary for financing loans.

¹² In *Gesell v. Tomahawk Land Co.*, 184 Wis. 537, 200 N.W. 550 (1924), the court held that the corporation was justified in holding considerable assets in light of the fact that the company was engaged in slow development of land, rather than fast turnover of real estate.

¹³ In *Raynolds v. Diamond Mills Paper Co.*, 69 N.J. Eq. 299, 60 A. 941 (1905), the court held that the retention of income to acquire additional paper mills was necessary to keep pace with the growth of the paper industry. But, the court remarked, if the company should attempt to buy all the paper mills in the country, a different question would be presented. "There must come a time . . . when it is unreasonable for directors to pursue a policy of expansion . . . It is perfectly plain that a court of equity cannot tolerate an indefinite [expansion] . . . of this enterprise to the practical starvation of the stockholders." *Id.* at 308-09, 60 A. at 945.

¹⁴ *Gottfried v. Gottfried*, 73 N.Y.S.2d 692, 695 (Sup. Ct. 1947).

¹⁵ See note 3 *supra*. In *Raynolds v. Diamond Mills Paper Co.*, 69 N.J. Eq. 299, 60 A. 941 (1905), the court stated that "where there is no charge of bad faith, no charge of fraud, but the charge is that the directors are unreasonably refraining from declaring a dividend . . . the court should not intervene if there is any room for doubt." *Id.* at 306-07, 60 A. at 944. Similarly, the court in *Penn v. Pemberton & Penn, Inc.*, 189 Va. 649, 53 S.E.2d 823 (1949), in dismissing a bill requesting dissolution of the corporation and distribution of its profits, stated that "If there is any doubt about the propriety of declaring dividends, the directors are justified in resolving the doubt against such action." *Id.* at 658, 53 S.E.2d at 828 (quoting 13 A.M. JUR. *Corporations* § 677 (1938)).

¹⁶ One commentator has suggested that the plaintiff is excessively burdened by having to prove bad faith. See Isley, *Rights of Minority Shareholders to the Corporate Dividend*, 2 DUKE BAR J. 113, 123 (1952). It is there suggested that the burden of proof should be shifted to the directors once the plaintiff has shown that there are profits from which dividends could be paid and interests adverse to the minority stockholders. *Id.*; see Frey, *The Distribution of Corporate Dividends*, 89 U. PA. L. REV. 735 (1941). A similar shift in the burden of proof was made in *Dodge v. Ford Motor Co.*, 204 Mich. 459, 170 N.W. 668 (1919).

¹⁷ At Common Law, unless directors have wilfully or negligently declared and paid dividends from an improper source, they are neither liable to the corporation's creditors nor to the corporation or its shareholders, LATTIN, *supra* note 1, at 490.

Tax law, however, does encourage income retention, by making capital gains subject to much lower tax rates than dividends.¹⁸ The tenets of traditional corporation finance also encourage substantial retentions.¹⁹ Some exponents of the new corporate finance, or financial management as it is now called, encourage earning retentions even more.²⁰ Within this legal and institutional context, corporations retained over 55 per cent of their after-tax profits in 1965.²¹ In other years, except when profits were extraordinarily low, the retention rate also has been substantial.

Commentators have argued that this ability to retain substantial portions of income has freed corporations from the discipline of the capital markets:

These large retained earnings indicate the extent to which management decisions on allocating resources for expansion, development of new products, and for moulding consumer preferences are insulated from the judgment of the capital market test of profitability.²²

These commentators are substantially correct regarding the relative importance of inside funds to capital expenditures. In 1965, retained

¹⁸ After the corporation has paid income tax on its earnings, it may either distribute the earnings as dividends, or retain and reinvest them. If it distributes its earnings, individuals will pay income tax on them, frequently at high personal rates. If the corporation retains its earnings, there is a substantial likelihood that these retentions will be reflected in a higher price for the stock. By holding the stock for over six months, the individual can liquidate his holdings, receiving the retained earnings as reflected in the higher price at the capital gains rate. See INT. REV. CODE of 1954, §§ 1001, 1221, 1222. Moreover, if the corporation liquidates or distributes its corporate assets, the benefitting stockholder may be taxed at the capital gains rate. See generally, INT. REV. CODE of 1954, subchapter C, §§ 301-95. The Internal Revenue Code, however, does impose a high surtax on improperly accumulated corporate surplus. See note 49 *infra*.

Not all industrial countries follow this particular practice. In Germany, for example, corporations pay 15 per cent on dividends declared and 50 per cent on retentions. Individuals receiving dividends pay 25 per cent. This tax structure is designed in part to promote financing through the capital markets.

¹⁹ See H. GUTHMAN AND H. DOUGALL, CORPORATE FINANCIAL POLICY, ch. 26 (1962).

²⁰ See Lintner, *Dividends, Earnings, Leverage, Stock Prices and Supply of Capital to Corporations*, 44 REV. ECON. & STATISTICS 243 (1962); Miller & Modigliani, *Dividend Policy and the Valuation of Shares*, 34 J. BUS. 411 (1961). But see M. GORDON, THE INVESTMENT, FINANCING AND VALUATION OF THE CORPORATION (1962).

²¹ ECONOMIC REPORT OF THE PRESIDENT, 1966, at 284. This retention ratio is higher than the figures for other years cited in much of the literature. Earlier estimates had indicated that the retention rate for 1964 was roughly 37 per cent. However, corporate profit estimates have been substantially increased, so that now the 1964 retention ratio is estimated to be slightly less than 55 per cent.

²² Berle, *Modern Functions of the Corporate System*, 62 COLUM. L. REV. 433 (1962); Sabatino, *The Responsible Corporation*, 25 AM. J. ECON. & SOCIOLOGY 255, 262 (1962). This is not the only reason some authors are disturbed by large earnings retention. By facilitating growth, such retentions contribute to the development of substantial private power centers. Whether or not the legal apparatus should be designed to discourage retentions in order to retard the growth of private power is a separate question. This article is solely concerned with the need for discouraging retention as a means of improving resource allocation.

earnings accounted for over 25 per cent of total corporate sources of funds and over 45 per cent of expenditures on non-residential fixed investment.²³ The ratio of inside funds (retained earnings plus depreciation) to total sources was over 70 per cent.²⁴ This situation raises the question whether or not funds are being allocated as efficiently as they might be if channeled through the capital markets. It raises the spectre of funds being deflected into low-yield undertakings by firms that have substantial volumes of retained earnings and depreciation, while highly profitable investment opportunities which could produce highly desired goods (otherwise the undertakings would not be so profitable) are foregone, because the firms to which these opportunities are available are unable to raise the funds on the capital market at rates commensurate with the risks involved. The assumption of those advocating increased payout seems to be that if all profits were distributed, the supply of funds on the capital markets would increase more than the demand. Since the relatively unprofitable investment opportunities would not be undertaken, the increase in the demand for funds on the capital markets would not be proportional to the increased supply. The market cost of funds for those socially desirable projects would therefore tend to fall. This line of reasoning assumes that the stockholder would be willing to invest all the additional dividends in the capital markets. There are no clear a priori reasons to expect that this will be so.

It is the purpose of this article to inquire whether the spectre of malallocation is a real or fictitious problem.²⁵ Part I develops the theme that management is sensitive to the equity markets, although existing evidence does not establish that management is or is not as sensitive as is required for full optimization of resource allocation. Part II argues that raising funds on the capital markets is not a necessary condition for efficient allocation. Part III examines the capital budgeting methods of management to see if large corporations use techniques for screening capital expenditures which offer conditions for efficient resource allocation. Such techniques are not widely used, but there is evidence that firms achieve results consistent with their use; the firms behave "as if" they use the appropriate techniques. In Part IV the evidence examined suggests neither over- nor under-investment by large firms. Finally, Part V suggests that forcing full payout is not likely to improve resource allocation. The cost of dis-

²³ ECONOMIC REPORT OF THE PRESIDENT, 1966, at 287.

²⁴ *Id.*

²⁵ This examination is not based on new research. Instead it marshalls the evidence of a number of investigations, many of which were undertaken for reasons not even remotely related to the problem at hand.

tributing the funds to the investors and then retrieving the funds must be offset against any improvement in allocation which conceivably might result.

I

Even if large publicly traded corporations do not depend upon the capital markets for funds, the discipline of these markets may nevertheless be felt by management. This is particularly true if management is concerned with the welfare of the stockholders and therefore is sensitive to the market performance of their stock. The significance of such concern should not be exaggerated, however. Management easily may be interested in the stock doing well, may refrain from activity which will seriously impair the stock's performance and undertake activity which will improve the stock's performance. However, it is difficult to determine whether management, under these circumstances, is merely doing well or doing the best that can be done. In the literature of financial management, it is assumed that management tries to maximize the net worth of the existing stockholder's interests. The question here is whether or not this is so.²⁶

The useful evidence on the question of management's interest in the stockholder is largely anecdotal and a priori. Recently, for example, it has been pointed out that reports of the deliberations of the top levels of management in major American corporations seem to indicate a widespread concern with the performance of the companies' securities. Even in companies which have long refrained from the issuance of new shares, and which have made no plans for such issues in the foreseeable future, there seems to be a heavy preoccupation with the market's evaluation of their shares.²⁷

Lack of concern with the performance of the securities on the equity market is wholly inconsistent with the fact that major executives of one or another large corporation appear at almost every meeting of the New York Society of Security Analysts. This group holds five luncheon meetings a week throughout most of the year. The corporate officers who appear are usually presidents or top financial officers. The analyst and the financial officer encounter each other in other situations as well. Many security analysts spend a good deal

²⁶ In the matter of management goals, writers in the field of economic and financial theory seem to be out of step with much of the rest of the world. See generally J. GALBRAITH, *THE NEW INDUSTRIAL STATE*, (1967); Mundheim, *The Institutional Investor as a Shareholder: The British Experience*, *THE INSTITUTIONAL INVESTOR*, Jan. 1968, at 36. If management does not pursue the goal of profit maximization, serious problems are raised. The pricing system cannot do its job and much of the rationale of the system of private property becomes questionable. The legitimacy of managerial goals and decisions are then also highly questionable.

²⁷ W. BAUMOL, *THE STOCK MARKET AND ECONOMIC EFFICIENCY* 79 (1965).

of time either talking to corporate executives on the telephone or visiting them. At one time, Union Carbide reported that it was visited by two analysts a day.²⁸ It is not surprising then to find companies suggesting in their advertising that their stock is performing well.

There are many explanations, of varying degrees of plausibility, for managements' concern with the stock market, even when there is no intention of raising funds on the market. Among the least important reasons is the matter of better public relations. More importantly, management is concerned with the market performance of its stock because poor performance is highly likely to produce an unhappy set of stockholders. An unhappy set of stockholders *may*, in turn, produce a proxy fight with the consequent loss of control by current management. In their recently published study of proxy contests, Richard M. Duvall and Douglas V. Austin found that

corporations whose rate of return on net worth and profit margins are low relative to other companies in their industry grouping are contested more frequently and with greater success than companies whose performance is characterized by high rates of return on equity capital, high profit margins, good earnings per share, and generous dividend payouts.²⁹

To be sure, blue chip companies are rarely subjected to proxy fights. Berle³⁰ is correct in noting that such fights have eliminated, at best, only a small minority of inefficient managements in the United States. Although it is possible that the threat of proxy fights may have made many a management toe the line, little importance can be attached to it. Proxy contests are unlikely to be successful unless the performance of management is significantly below reasonable expectations. Management only need perform moderately well—which is not necessarily at its best—to avoid these challenges.

Perhaps more important is the fact that there is a good deal of trading in firms. A significant number of mergers and acquisitions are affected through the exchange of stock. Failure of management to perform in a way which is reflected in a favorable stock price movement may prove costly if the firm is involved in a merger either as buyer or seller. The relative share of future interest and dividends is not all that is at stake. There is also the even more important question of the power structure of the surviving firm. Significantly, management cannot relax its stock market vigil just because it is not

²⁸ FINANCIAL MANAGEMENT IN THE 1960's: NEW CHALLENGES AND RESPONSIBILITIES, READINGS FROM FORTUNE 7 (J. Weston ed. 1965).

²⁹ Duvall and Austin, *Predicting the Results of Proxy Contests*, 20 J. FINANCE 464 (1965).

³⁰ Berle, *supra* note 20, at 438.

contemplating mergers in the near future. Although undoubtedly once an acquisition or merger is in sight, management can and often does engage in a number of financial maneuvers designed to improve the market value of its stock,³¹ there are, on the one hand, limits to what can be done and, on the other, the possibility that if the maneuvers were started when the stock was selling at a higher price, those maneuvers would bring the stock to a new price commensurate with the higher base.

Of lesser significance is the tendency of corporations to buy their own equities. This practice is now widespread and seems to be growing.³² Naturally corporations would like to buy such stock cheaply, but are hardly likely to manipulate the price of the stock in order to do so. Repurchases, which are alternatives to dividends,³³ are difficult to rationalize with supposed management indifference to the stockholder interest.

When all is said and done, there is one fact which is extremely hard to controvert. Management often reports that it does not want to issue equity because doing so will dilute earnings. There are few who would challenge the sincerity of that statement; yet it is very difficult to reconcile this attitude with any proposition that management has little concern for the stockholders, or that management is not highly sensitive to the stockholder and the market.

The real discipline of the capital markets may stem from the possibility of take-over.³⁴ Take-over possibilities arise when management's performance permits the price of the stock to fall significantly below a value commensurate with the resources of the firm. When the underpricing is sufficiently great to give elbow room to a potential take-over group which sees the lines of action to be taken to correct the price of the stock, the existing management can be significantly

³¹ They may split the stock or increase the dividend, especially the latter. Sometimes the acquiring firm may buy its own stock, but the circumstances under which it may do so are circumscribed. See *SEC v. Georgia-Pacific Corp.*, CCH FED. SEC. L. REP. ¶ 91,692 (S.D.N.Y. 1966).

³² Corporate repurchases of their own stock recently have been running in excess of one half of the net purchases of pension funds and double those of mutual funds. See Guthert, *More Companies Are Buying Back Their Stock*, 43 HARV. BUS. REV. March-April 1965, at 40.

³³ Such repurchases have a multiple effect: they represent increased demand, which increases the price; they decrease the number of shares outstanding, which increases the per share earnings, which, finally, also may increase the price.

³⁴ The effectiveness of this discipline may be impaired if the Williams tender offer bill, S. 510, 90th Cong., 1st Sess. (1967), now before the House, is passed. The bill ostensibly is designed to protect the investor. It is much more likely to protect entrenched management. See Mundheim, *Why the Bill on Tender Offers Should Not Be Passed*, THE INSTITUTIONAL INVESTOR, May 1967, at 24 (1967). The timing of this bill and the publication of Galbraith's new book, *supra* note 26, is interesting. Whatever the bill's expressed purpose, its effect is to increase the insulation of management from the market.

threatened. However, the possibility of a take-over at most will force management to take the lines of action which will make its stock perform reasonably well. Rarely is it possible to buy a sufficient quantity of stock to take over the control of a corporation without significantly pushing up the price of that stock. If the prevailing price of the stock were at a reasonable level, this inevitable price rise might push the price over the point where the take-over bid will be worthwhile—the stock will no longer be undervalued. The take-over threat leaves management with plenty of breathing space and the market discipline is only partially felt.

There is at least one factor, however, which causes the interests of the stockholder and management in the performance of the stock to diverge slightly. This is the widespread use of stock options.³⁵ There is some evidence that a large share of managerial earnings comes from holding options. There is, thus, reason to believe that the stock option helps close the gap between ownership and control much more effectively than Berle is willing to concede.³⁶ However, it also must be remembered that while the option holder may share in benefits of market performance with the stockholder, the option holder does not have rights to dividends. A high dividend payout is an impediment to the rate of growth of the share price and, as a consequence, management, as option-holder, would prefer low payouts.³⁷

It is probable that large corporations are more sensitive to their stockholders than are the smaller corporations, which would presumably be the beneficiaries of a larger flow of funds through the capital market. Only too frequently one hears of dissatisfied stockholders not being able to influence management because a small coterie of stockholders holds a large percentage of the stock. The coterie can ride roughshod over the remaining stockholders. Similarly, one of the arguments of investment bankers for justifying their place on the board of directors of a budding company is that insiders are not stockholder-oriented. Much of this, of course, conceivably could change if these corporations, too, had to depend on the capital market for funds.

³⁵ "By 1958, 82 percent of the manufacturers having sales of \$50 million or more (86 percent of those with sales of over \$400 million) had stock options for their executives." White, *The Changing Criteria in Investment Planning*, in JOINT ECONOMIC COMMITTEE, 87TH CONG., 2D SESS., VARIABILITY OF PRIVATE INVESTMENT IN PLANT AND EQUIPMENT 22 (1962), citing Fox, *Current Stock Option Plans*, 21 MANAGEMENT RECORD 270 (1959) and Rothschild, *Financing Stock Purchases by Executives*, 35 HARV. BUS. REV., March-April 1957, at 136.

³⁶ See Berle, *supra* note 22, at 437.

³⁷ It might be noted parenthetically that this is one reason why shareholders might prefer dividends to capital gains. Capital gains which are reflected in retained earnings must necessarily be shared with the option holders. The income associated with dividends, which can in turn be reinvested in stock, accrues solely to the investor. See note 57 *infra*.

The concern of corporate management with the welfare of stockholders does not automatically lead to optimal allocation. Management can carry capital expenditures too far or not far enough, but if it does not miss the mark excessively, the company will perform reasonably well and generate little stockholder dissatisfaction. The odds are against much unwarranted investment, except by mistake. While under the current SEC rules corporations do not have to report divisional results to the stockholder, division and department managers do report their particular results to top management.³⁸ Typically one prefers not to have command over unprofitable operations. There are better ways to build empires.

Nevertheless, a relatively unprofitable empire may be better than none. As we noted, concern for stockholders should not be confused with identifying with stockholders. Evidence of such lack of identity is easy to find. Over a decade ago, John Lintner wrote of "executives . . . who were most inclined to view the interests of the company as distinct from those of the stockholders."³⁹ Relevant to the immediate problem of this article, Oliver Williamson argued that "as the proportional representation of management on the board [of directors] increases, . . . stockholder interests tend to be subordinated to management objectives."⁴⁰ This was manifested in both the direct relationship between compensation of management and the representation of management on the board and the direct relationship between that representation and the proportion of earnings retained.⁴¹ The high proportional representation of management on the board [of directors] proportion of earnings retained may have reflected the absence from the board of investment bankers pressing for external financing. One must be a little skeptical, however, of this alternative explanation. It almost suggests that investment banker representation on boards of directors is inversely proportional to management representation. This is not likely to be so, even though the probability that there will be some investment banker representation presumably would vary inversely with manager representation. Whether this is enough to produce the relationship Williamson found is problematic. If retention policy is determined by expansionary goals as well as profit considerations, the rate of return will tend to be below the level which might be attained if capital expenditures were determined by profit considerations

³⁸ The concern with judging divisional performance is reflected in D. SOLOMONS, *DIVISIONAL PERFORMANCE: MEASUREMENT AND CONTROL* (1965).

³⁹ Lintner, *Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes*, 46 AM. ECON. REV. 100 (1945).

⁴⁰ Williamson, *Managerial Discretion and Business Behavior*, 53 AM. ECON. REV. 1032, 1047 (1963).

⁴¹ *Id.* at 1047-59.

alone. If at the same time, the more dominant the expansionary goals, the more will be retained, as Williamson argues, one should find an inverse relationship between retention rate and rate of return. This is the conclusion to which his logic led him. He argued that his conclusion is consistent with the empirical findings of Gordon⁴² and Scott,⁴³ and, we may add, with those of Rayner and Little.⁴⁴ The latter have reported that they could find no relation between payout ratio and growth rate of earnings per share. For a firm with a constant rate of return which is wholly financed with internal funds, the realized growth of earnings per share will equal the realized rate of return on equity times the retention ratio.⁴⁵ An inverse relationship between the

⁴² M. GORDON, *THE INVESTMENT, FINANCING AND VALUATION OF THE CORPORATION* 231 (1962).

⁴³ Scott, *Relative Share Prices and Yields*, 14 OXFORD ECONOMIC PAPERS, N.S., October 1962, at 244.

⁴⁴ A. RAYNER & I. LITTLE, *HIGGLEDY PIGGLEDY GROWTH AGAIN* 54-58 (1966). To be sure, the results reported here apply to United Kingdom firms, but there are no reasons to expect the situation to be different in the United States.

⁴⁵ This can be seen by some simple algebraic manipulations. For convenience let us use the following symbols:

E_t = earnings per share in year t

K_t = book value per share

r = rate of return on both new and existing equity

R = rate of growth of earnings per share

b = retention ratio, i.e., percentage of earnings reinvested in the firm by management.

By the definition of r we may write

$$(1) E_{1960} = rK_{1960}$$

and

$$(2) E_{1961} = rK_{1961}$$

From the definition of b , we can see that

$$(3) K_{1961} = K_{1960} + bE_{1960}$$

Substituting equation (3) into equation (2) we have

$$(4) E_{1961} = r(K_{1960} + bE_{1960})$$

From the definition of R , we can see that

$$(5) E_{1961} = (1 + R)E_{1960}$$

from which it follows that

$$(6) \frac{E_{1961}}{E_{1960}} = 1 + R.$$

On the left hand side of (6) we may substitute the right hand side of (4) into the numerator and the right hand side of (1) into the denominator. Multiplying through by r and eliminating the parenthesis in the numerator leaves us

$$\frac{rK_{1960} + rbE_{1960}}{rK_{1960}}.$$

This fraction can be decomposed into the two fractions

$$\frac{rK_{1960}}{rK_{1960}} + \frac{rbE_{1960}}{rK_{1960}}.$$

Dividing through in the first fraction and substituting from (1) in the second leaves

$$1 + \frac{rbE_{1960}}{rK_{1960}}.$$

Dividing the denominator into the numerator leaves the left hand side of (6) equal to

$$1 + rb.$$

Since it is also equal to $1 + R$, it follows that

$$R = rb.$$

Q.E.D.

latter two variables can easily result in no relationship between growth of earnings per share and the retention ratio.

But this evidence is defective on two grounds. Most firms do not rigorously eschew all external financing. If such financing resulted in the sale of over-priced stock, a portion of the acquired assets would accrue to the existing stockholder. His earnings per share therefore would increase. The propensity to issue such equity conceivably could be directly related with the payout ratio. It is unlikely, however, that this particular phenomenon contributed much to the reported results. Too little equity is issued to affect any relationship between growth and payout. Debt financing will also affect the Rayner-Little results, and probably did. Although the ratio of debt to equity financing is quite stable, the degree of leverage is always in a state of flux, so that there need be little stability in the average rate of return. More important, the relevant rate of return is the rate earned on new investment, which may or may not be the same as that earned on existing capital. The rate discussed in all the alleged evidence is the *average* rate of return. This evidence is therefore not so much supporting as irrelevant.

This, therefore, adds little credence to the case against earnings retention. Certainly one can build a strong case against the discretionary power with respect to dividends of corporations controlled by closely knit or family groups, which hold a sufficiently large percentage of the stock outstanding so that they cannot be coerced by either proxy or take-over threats.⁴⁶ Such firms may be much more interested in providing sinecures for the family,⁴⁷ than in maximizing the market value of the stock for the stockholders. It is in this type of corporate situation that the stockholder's suit for undue retention

⁴⁶ For an argument sharply restricting the exercise of discretionary power in the case of a closely held corporation, see Note, *Proposals to Help the Minority Stockholder Receive Dividend Treatment From the Closely Held Corporation*, 56 NW. U.L. REV. 503, 507-08 (1961).

One reason usually given for distinguishing between public and closely held corporations is that the minority shareholder of a closely held company runs the risk of greater harm:

The owner of readily salable stock can realize the accumulated profits in the form of increased value of his holdings, while the stockholder in the closed corporation is forced to rely for the most part on the declaration of dividends. In view of the fact that the great majority of cases in which relief has been granted involved stock which was not readily marketable, it would seem that such a consideration plays no small part in the decisions of the courts.

Isley, *Rights of Minority Shareholders to the Corporate Dividends*, 2 DUKE BAR J. 113, 116 (1952).

⁴⁷ In *Godley v. Crandall & Godley Co.*, 212 N.Y. 121, 105 N.E. 818 (1914), members of the board who were majority shareholders paid themselves what the court thought to be excessive salaries out of funds which should have gone to paying dividends to the minority holder. Similarly, in *Raynolds v. Diamond Mills Paper Co.*, 69 N.J. Eq. 299, 60 A. 941 (1905), the court held that the single controlling shareholder and his son (who was first vice-president) received excessive salaries. The court ordered these amounts reduced and the difference added to funds out of which dividends could be declared.

of earnings is most likely to be successful,⁴⁸ and in which the Internal Revenue Service is most likely to claim that there is an excessive accumulation of earnings.⁴⁹ Occasionally, this type of firm is thoroughly shaken by the entry of a new and vigorous competitor into the industry. By and large there exists a very real possibility that closely held firms are the ones that are impervious to the capital markets. These then are the firms whose retention power perhaps should be curtailed. Unfortunately, forced distribution channels the funds through management's hands, since management in such firms is not truly divorced from ownership. The misuse of resources is only partially curtailed. It is limited to the extent that, in the distribution process, the government will take its share. It is also curtailed to the extent that, with the disappearance of the tax advantage of retention, the funds may be diverted to other uses.

The case against retentions by large, widely held firms, however, is hardly established. The empirical studies cited are anything but definitive. Furthermore, there exists other evidence that managements of large firms do not use retained resources inefficiently. This evidence can best be understood in the context of another line of reasoning to which we now turn.

II

Even absent direct evidence that management is stockholder- and capital-market-sensitive, it still could be argued that there is no a priori reason why failure to use external funds necessarily must lead to malallocation of resources.⁵⁰ If the capital budgeting procedures are appropriate, the budgeting criteria themselves provide the link to the capital markets.

⁴⁸ See, e.g., *Whittemore v. Continental Mills*, 98 F. Supp. 387 (D. Me. 1951), in which minority interests alleged that the board of directors was dominated by a single owner of a majority interest (who was also on the board). It was maintained that a dividend was not declared because the majority owner would be taxed excessively on the profits, once through his controlling corporation and again on personal income tax. The court, in denying a motion to dismiss, held that the directors "wrongfully refused to declare dividends from available funds . . . for reasons not related to the conduct of the corporation's business." *Id.* at 390.

⁴⁹ The Internal Revenue Code imposes a surtax on improperly accumulated corporate profits. INT. REV. CODE OF 1954, §§ 531-33. See note on *High Surtax on Improperly Accumulated Surplus: Section 102 of the Internal Revenue Code* [INT. REV. CODE OF 1939, essentially similar to the foregoing sections of the 1954 Code], BALLANTINE, LATTIN & JENNINGS, CASES AND MATERIALS ON CORPORATIONS 763 (2d ed. 1953).

⁵⁰ In a world of uncertainty, mistakes will inevitably occur so that a firm over time will occasionally under-invest and occasionally over-invest. Similarly, at any point of time, some firms will under-invest and others over-invest. If the mistakes are due solely to uncertainty, the errors will be random and there will be no persistent tendency for funds to be excessive or deficient in any sphere of private business activity. One must, therefore, distinguish between the inefficiency in the allocative mechanism which can be measured by range of the *random* error and the inefficiency attributable to persistent bias in allocation. This latter type of inefficiency is the primary concern of this article. In neither case is there necessarily under- or over-investment in the economy. Our concern is with the distribution of investment.

In the current literature, the recommended decision rules for capital budgeting are premised on the proposition that equal amounts of cash received at different dates are not equivalent. The most elementary example of this proposition is that anybody can deposit \$1.00 in a savings bank and receive \$1.04 one year later. Since \$1.00 today can be converted into \$1.04 a year from now, no one with sound business sense would accept less in an arm's length transaction than \$1.04 one year from now as the equivalent of \$1.00 today. It follows that each dollar expected one year from now—with the same confidence that we have that savings bank funds will be forthcoming—has a present day equivalent or a present value of $\$1.00/1.04$.⁵¹ Similarly, a dollar to be received two years from now will have a present value of $\$1.00/1.04$ one year from now. This quantity in turn has a current present value of $\$1.00/(1.04)^2$. By analogy \$1.00 to be received n years from now has a current present value of $\$1.00/(1.04)^n$. If one were to receive a stream of annual payments of \$1.00 each for ten years beginning one year from now, that stream would have a present value equal to the sum of the present values of each element of the stream or $\$1.00/(1.04) + \$1.00/(1.04)^2 + \$1.00/(1.04)^3 + \dots + \$1.00/(1.04)^{10}$. This process of evaluating a future sum of money or an expected stream is called discounting, and the number inside the parentheses, reduced by one, is called the discount rate. The discount rate in the above example is ".04."

The present value concept is crucial to the rule of capital budgeting, the rule most widely accepted among economists. The rule for selecting among independent investment proposals is that any investment opportunity which has a present value in excess of the cost (or present value of the cost if the outlays are made over an extended period of time) should be undertaken.⁵² A critical element in the capital budgeting decision is the rate of discount to apply to the streams of cash receipts that are expected to be generated by the investment proposals under consideration. Whether or not a corporate decision determined by the present value rule is subject to the discipline of the capital market depends upon the discount rate the corporation chooses.

In the literature, the recommended discount rate is the "cost of capital," the weighted average cost of the various kinds of funds the corporation uses.⁵³ In computing the cost of capital, the costs of the

⁵¹ In this example it is assumed that the interest rate and other rates of return do not change over time. The assumption is a pedagogical convenience, in no way essential to the argument.

⁵² For a good discussion of capital budgeting, see H. BIERMAN, JR. & S. SMIDT, *THE CAPITAL BUDGETING DECISION* (6th ed. 1965).

⁵³ E. SOLOMON, *THE THEORY OF FINANCIAL MANAGEMENT* 69-75 (1963). The weights are based on the market value of the securities.

various types of funds which ought to be considered are the rates of return investors expect on each type of fund. Thus the cost of equity is the rate of return the stockholders expect on their stock. For this purpose, the expected return of stock is the discount rate which, on the average, will make the expected dividend plus the expected value of the stock one year from now have a present value equal to the current market price.⁵⁴ The cost of capital is the appropriate rate of discount, regardless of how the investment is to be financed.⁵⁵ If the discount rate were not the average cost of all available types of funds, the following type of anomaly could occur. Year One: an investment proposal earning 6 per cent is financed with debt that costs 4 per cent.⁵⁶ Year Two: because of the amount of debt now outstanding, the corporation is forced to utilize external equity to finance further capital expenditures. If the cost of equity is 15 per cent, the corporation would now reject a proposal that yielded only 12 per cent, twice the rate of return of the asset financed the preceding year. The corporation would have been better off foregoing the 6 per cent and waiting. This kind of problem is avoided if the cost of capital (the average cost of all the funds available) is consistently applied, rather than the cost of the particular type of the funds used. The use of a uniform discount rate assumes that all funds used go into a common pool and that every asset is purchased from a pool made up of different kinds of funds in the same proportions that are found in the whole capital structure. The basic assumption is that funds are fungible, which in fact they are.

For capital budgeting purposes the price at which stock was originally sold is unimportant. The relevant value of the stock is its average market price. Rates used in computing the cost of capital should be based upon current values, not original values. Since the market value of the equity is the value of the entire claim of the stock-

⁵⁴ This is an over-simplification. The only serious difficulty with it, however, is that the current market price is really the fundamental investment price plus or minus some random deviation.

⁵⁵ Some authors have suggested that the cost of capital is not appropriate at all. See, e.g., Linter, *The Cost of Capital and Optimal Financing of Corporate Growth*, 18 J. FINANCE 292 (1963); Lerner & Carleton, *Integration of Capital Budgeting and Stock Evaluation*, 54 AM. ECON. REV. 683 (1964). On the other hand, the basic defect in the logic of the above authors has been laid bare in Vickers, *Profitability and Reinvestment Rates: A Note on the Gordon Paradox*, 39 J. BUS. 366 (1966). A broader criticism of the Lerner-Carleton thesis can be found in Crockett & Friend, *The Integration of Capital Budgeting and Stock Evaluation*, 57 AM. ECON. REV. 214 (1967).

⁵⁶ The rate of return is the particular discount rate which makes the present value of a proposal equal to its cost. Generally if the rate of return is greater than the discount rate required by the corporation, the present value of the asset will be above the cost of the asset and the asset is therefore usually worthwhile buying. For technical reasons the use of the rate of return as a selective device is not completely the equivalent of using present values. For our purposes, however, this lack of equivalence is unimportant. See Lorie & Savage, *Three Problems in Rationing Capital*, 28 J. BUS. 229 (1955).

holders against the company, the earnings historically retained are automatically included and no separate allowance has to be made for them. Except for the difference in the cost of raising the funds, it makes no difference whether the equity funds come from retained earnings or new issues, as far as the computation of the cost of the equity is concerned.⁵⁷ Thus, a market rate of return enters into the decision-making processes whether or not the firms raise funds on the equity market. The discipline of the capital market on a firm is effective as long as it uses the present value criteria in capital budgeting and the cost of capital as the rate of return in finding the present value.

This capital budgeting procedure also will maximize the net worth of the stockholder's investment. The cost of equity can be defined as the rate of return the stockholder uses to determine the present day equivalent of the next dividend and the liquidation value of the stock one year hence. The liquidation value of the stock one year hence is equivalent to the present value one year hence of the dividend to be received in the second year plus the liquidation value of the stock at the end of the second year. Similarly, the expected liquidation values of the stock at the end of the second year, third year, fourth year and so on, can be decomposed. Thus the stockholders' expected rate of return is the discount rate which translates the stream of all future dividends into the current value of the stock. The value of retained earnings reflected in the market value of the stock is the present value of the stream of dividends generated by the resources financed with the retained earnings. This present value is maximized when the resources acquired by the firm are the most productive available. Thus, maximizing the net worth of stockholder interest and efficient allocation are logically equivalent.

Therefore, if all firms used the present value rule as their capital budgeting technique and if they all used their cost of capital as the discount rate, the failure to offer securities to the public would not inhibit the achievement of efficient allocation. The failure to use the present value rule, however, does not lead necessarily to inefficient allocation. In the two sections which follow we will advance the proposition that, among the large publicly held firms, the appropriate capital budgeting technique is not used widely enough to achieve efficient

⁵⁷ This is subject to some qualification. If the investors seek a given cash income, investment in low payout stocks may require a strategy of periodic liquidations. While on the average the cash flow should not be affected, the investor assumes an additional risk of price fluctuations if he pursues this strategy. The range of possible outcomes of his investments is thus widened and there is more risk involved. In a world of partnership taxation, this is much more important than under the existing tax structure and along with transaction costs make dividends preferable to capital gains. The rate of return on a low payout stock may thus be higher than that on a high payout stock.

allocation by itself, but that management acts "as if" such rules were used and the implicit rate of return targets are such that there is no evidence that large firms tend to under-invest or over-invest.

III

It is not absolutely essential to efficient allocation that management use "scientific" capital budgeting techniques. Firms that do not may operate "as if" they did, so that their procedures closely approximate the results of using "scientific" procedures. We often behave in accordance with scientific models of behavior, even though most of us do not know the mathematics involved. Management may make instinctive allowances for the deficiencies in their procedures, so that the results very well may conform to those which would be produced if management were using what we consider scientific methods. Therefore, an examination of procedures actually used is desirable. The evidence suggests that although purely scientific procedures are not widespread, behavior which approximates those procedures very well may be common.

Since the Second World War there have been periodic surveys of the capital budgeting methods used by business. There exists little evidence either that present value techniques are becoming more widespread or that stock values are not being optimized. The McGraw-Hill survey for 1948⁵⁸ provided a good deal of evidence that the required payback period was quite short,⁵⁹ but little evidence on how widely the payback period was used. Subsequent studies probed more deeply into the methods used, and were less concerned with projections of capital expenditures. One of the earliest was the Schwab survey.⁶⁰ Schwab found that about 56 per cent of the firms in a relatively small sample of large firms used a rate-of-return approach.⁶¹ A still later survey⁶² suggests that between 1958 and 1960 there was a sharp decline in the percentage of firms using either the payback period alone or the rate-of-return alone or in any combination and a sharp increase in the use

⁵⁸ See *Capital Spending Plans 1949-1953*, BUSINESS WEEK, Jan. 22, 1949, at 54.

⁵⁹ The payback period is some variant of the ratio of the cost of the project to annual net receipts. This ratio indicates the number of years it takes to break even.

⁶⁰ Schwab, *Capital Expenditure Evaluation*, 26 THE COMPTROLLER 359 (1958).

⁶¹ There is some confusion in the literature between the rate-of-return defined as the yield or discount rate which equates the expected stream to the cost of the investment and the rate-of-return which is simply the ratio of some measure of income over the average amount invested. In this article the phrase "rate-of-return" will always refer to the first kind of rate-of-return. The second kind of rate-of-return will always be called the "average rate-of-return." There is some evidence that this survey was somewhat biased in favor of firms using sophisticated methods. See White, *supra* note 35, at 9.

⁶² Miller, *A Glimpse at Practice in Calculating and Using Return on Investment*, NAA BULLETIN, June 1960, at 65.

of the average rate-of-return. Thirty per cent reported using rate-of-return. As in the case of the earlier study, there is evidence that the survey also was biased in favor of firms using sophisticated methods.⁶³

The whole problem was surveyed by White,⁶⁴ who argued quite strongly that since the 1955 McGraw-Hill survey, the rate-of-return methods have become more prevalent. However, White's position is weakened considerably by evidence that he confused the rate-of-return method with the average rate-of-return method. If one could rely on the casual reports by students returning for visits from their jobs, on casual contacts with company executives and on articles in publications such as *The Harvard Business Review*, one would conclude that business firms seem to be switching away from excessive reliance upon naïve methods to reliance on fairly sophisticated procedures.

There is, unfortunately, no real evidence in the surveys of any such trend. The most recent survey is one made in the latter part of 1964 by George A. Christy.⁶⁵ Like the earlier studies, his survey was of fairly large firms. There was, however, less indication, except for size, that the firms included in his sample were better managed than other firms, as was the case in the earlier surveys. It is interesting that despite increasing awareness of sophisticated methods, the coming of age of the computer and the increasingly widespread use of operations research, less than 15 per cent of the firms in Christy's sample used a rate-of-return type method. Clearly a substantial number of firms still used decision rules for which there is little apparent rationale. For a substantial number of firms, therefore, the procedures in use do not give rise to a presumption of efficient allocation. In the long run, however, even if allocation were indeed inefficient, the distortion would be limited. To the extent that firms use funds poorly, they generate less new funds to malallocate. As we have suggested, evidence that the failure of large business firms to utilize "scientific" capital budgeting procedures is not as deplorable as it might at first appear. There is little evidence that inefficiency arising from error is increased. There is evidence that management behaves so as to approximate the use of scientific methods.

Christy divided his sample of firms into five groups whose earning trends could be characterized as: steadily upward; predominantly upward; about level; predominantly downward; and steadily downward. He cross-classified the firms by earning trend and the methods of project ranking and came to the following conclusions:

⁶³ See White, *supra* note 35, at 10.

⁶⁴ *Id.*

⁶⁵ G. CHRISTY, CAPITAL BUDGETING: CURRENT PRACTICES AND THEIR EFFICIENCY (Bureau of Business and Economic Research, University of Oregon, 1966).

The gist of these figures is to demolish the veiled suggestion, so often encountered in theoretical writings, that payback methods are associated with inferior managements.⁶⁶ [And the data] utterly failed to indicate that "successful" companies are distinguished by any particular mechanics of project ranking. The payback method, dismissed by most academic writers as at best a screening device, holds up as well in these statistics as the vaunted—and supposedly scientific—discounted cash flow methods.⁶⁷

A careful examination of the reported figures at first does not seem to support so harsh a judgment of the discounted cash-flow method. Fifty-three per cent of the firms reporting that they used some variant of the discounted cash-flow method, either alone or in combination with other measures, were included in those whose earnings trends were either steadily upward or predominantly upward. Only 43 per cent of the remaining firms were in this category. It would be nice for the academician if we could attach significance to this comparison. Unfortunately, the number of firms in the sample using the discounted cash-flow method alone or in combination with other methods is much too small to supply any truly conclusive evidence. There is, however, evidence that the discounted cash-flow method is associated with superior management in the fact that those surveys which tended to cover the better managed firms had a much higher percentage of firms using the discounted cash-flow method than Christy's survey, which had no such bias.

Since this is so, if it could be demonstrated that the discounted cash-flow method was extensively used, the allocative mechanism would have given us little cause for concern. Fortunately the failure to prove that the discounted cash-flow method is widely used, does not lead to the contrary conclusion.

IV

Even if the firms surveyed did not reflect any differential behavior attributable to capital budgeting procedures, they nevertheless could be under- or over-investing as a group if the implicit discount rates were too high or too low. An exploration of the literature for evidence of such inefficiency is therefore useful.

The early McGraw-Hill surveys suggested that the required payback period was quite short—in the vicinity of five years. In Christy's study, 35 companies used the paycheck period as their sole standard. Thirty-three of these indicated what their minimum payback period

⁶⁶ *Id.* at 15.

⁶⁷ *Id.* at 16.

was. Of these 33, 27 had a payback period of less than six years.⁶⁸ It has been estimated that the average life of industrial machinery and equipment for depreciation purposes in the post-War period was approximately twenty years.⁶⁹ If the expected cash flow is assumed to be distributed evenly over the lifetime of the asset, the payback period represents the price paid for an annuity of \$1 over the lifetime of the asset.⁷⁰ Since the average payback period in the McGraw-Hill survey was five years and the average depreciable life of the asset was about twenty years, business firms could be said to have been paying \$5 for twenty-year annuities of \$1 per year. That involves a yield of roughly 19 per cent. The payback periods reported were defined gross of corporate income taxes and, therefore, assuming straight line depreciation and a 50 per cent tax rate, the after tax return was roughly 11 per cent. In the Christy study, the average payback period clearly was less than five years, but the study does not indicate whether paybacks were reported gross of taxes. The yields in the Christy study seemed to be in the same vicinity.

Recent studies suggest that the cost of equity has been around 9 per cent.⁷¹ However, few firms are without debt. In 1950, the average ratio of all debt to total invested funds (valued at market) was a little less than .50. If we eliminated all debt but mortgages, bonds and notes from both the numerator and the denominator, the ratio is still about .30.⁷² The cost of capital for all non-financial firms has been, therefore, less than 9 per cent.

This does not necessarily lead to the conclusion that there has been a tendency to under-invest. First, the estimates are quite crude, and there is no way of determining the range of error. Second, the cost of capital is only indirectly measured. It represents the realized rate of return instead of the anticipated rate of return. Third, the appropriate rate of return for new investment may well be in excess of the rate of return on existing investment since results of new investment cannot be anticipated as accurately. Fourth, the evidence on both cost of capital and equity is drawn from a universe that includes

⁶⁸ *Id.* at 47.

⁶⁹ R. GOLDSMITH, *THE NATIONAL WEALTH OF THE UNITED STATES IN THE POST-WAR PERIOD* 340 (1962). Goldsmith's estimates are based on *IRS Bulletin F*.

⁷⁰ The dimension of the payback is derived by dividing a certain number of dollars by a number of dollars per year. Typically in a payback calculation the dollars in the numerator and the denominator are cancelled. This leaves the resulting dimension in years. There is, however, no reason why the dollars need to be cancelled. The resulting ratio then represents the number of dollars associated with each dollar per year.

⁷¹ Fisher & Lorie, *Rates of Return on Investment in Common Stocks*, 37 J. BUS. 1 (1964).

⁷² R. GOLDSMITH, R. LIPSEY & M. MENDELSON, *STUDIES IN THE NATIONAL BALANCE SHEET* 52-53 (1963).

utilities, and the evidence on required rate of return does not. This is particularly important in the case of leverage, the measure of which will be affected significantly by utilities.

V

We may consider finally the question of the allocative efficiency of the alternative to management retaining earnings: utilizing the capital market. There is undoubtedly some imperfection in that market. Manipulation is hardly unknown. The prices of individual stocks have sometimes increased beyond levels that rational investors could consider reasonable. The prices of some stocks have plunged precipitously. The stocks involved could not have been priced properly both before and after such changes in investors' fortunes. There also may be cause for concern that the popularity of technical analysis and the current attempts of some mutual funds to attract investors on the basis of performance⁷³ may damage further whatever effectiveness the market has as an allocative mechanism. Thus, even if the market is successful in aligning risks and rates of return in the long-run, it is patent that in the short-run the rates of return deviate significantly from the normal.

This may certainly give us pause about preferring the allocative propensities of the capital market to those of management and about the desirability of management even looking to the capital market for guidance. Nevertheless, one may be too hasty in rejecting the capital market as a socially useful allocative mechanism. It makes errors. We all do. The real danger lies in the possibility that its errors are systematic, rather than random. If the errors were indeed systematic, some investors, such as mutual funds, with significant research resources, will be able to realize results that are significantly better than random selections of stocks would yield. There is no doubt that the mutual funds were stung by the findings of the Wharton School about their performance relative to the market.⁷⁴ But this is precisely the kind of result to be expected if the market is effectively pricing securities. The Wharton School's findings are thus more charitably and probably more accurately interpreted as a commentary on the efficiency of the capital market than as a criticism of mutual fund management.⁷⁵

⁷³ Not all performance funds rely on technical analysis.

⁷⁴ I. FRIEND, F. BROWN, E. HERMAN & D. VICKERS, *A STUDY OF MUTUAL FUNDS*, H.R. REP. No. 2274, 87th Cong., 2d Sess. 17-18, 294-358 (1962). Although this study is identified with the Wharton School, with sufficient frequency to justify the type of reference made here, it does not in fact reflect the views of the School. The School, as such, holds no official view.

⁷⁵ The new fashion in stock trading could be a partial recognition of the futility of trying to find market errors in pricing and of the merit of the Wharton School

Thus, while short-run aberrations in the performance of the market should be acknowledged, their significance should not be exaggerated.

Until now the thrust of this discussion has been that the discipline of the market place stems primarily from the utilization of the cost of funds as established on the markets as guideposts in decision-making, rather than from the reliance of business firms upon the market for the funds it needs. As long as firms utilize the capital market essentially to determine the appropriate critical rates of return, short-run fluctuations need not affect allocation. Short-run market aberrations, however, may influence business decisions via the flow of funds that is made available. The story of allocation can be quite different when the discipline of the market is to be exercised directly through the supply of funds to the corporation.

What may be expected then is a tendency for firms to take advantage of the positive deviations from the normal—in a word, to sell securities when they are overpriced. The consequence of this is that investment proposals which might otherwise not have been worthwhile, become attractive, especially to expansion minded managements. Under such circumstances, reliance upon the discipline of the market place leads to precisely those results which the proponents of using the market are trying to avoid. Furthermore, some major investment errors—such as the Edsel Division of Ford and the Convair episode of General Dynamics—might have been undertaken, even if the firms had required external funds.

Once again, if business firms truly try to optimize the net worth of the existing stockholders by buying all assets for which the present value is equal to or greater than the cost, they are in effect discounting at the cost of funds. Their decision is then dependent upon the capitalization rate utilized by the market evaluating the income stream accruing to security holders. All investment decisions under such circumstances are related to the cost of funds, regardless of how the investment is financed. When this is true, any forced distribution of net earnings can only result in additional transaction costs.

Implicit in pro-payout arguments is the assumption that funds would be equally accessible to all firms. However, some small firms with hopes of high rates of return even after allowing for additional

findings. The new venture into technical analysis may also prove to be futile. The many published studies of stock price movements all indicated that following such movements is hardly a royal road to riches. The disturbances therefore may prove to be temporary. In the interim—hopefully not an extended interim—the range of errors generated by the capital market may be broadened.

For an excellent collection of studies of stock price movements, see *THE RANDOM CHARACTER OF STOCK MARKET PRICES* (P. Cootner ed. 1964). Possibly studies which have found price movements effective predictors of future prices have been left discreetly unpublished. This is highly doubtful, but the possibility cannot be dismissed entirely.

risk may not have access to funds which would enable them to carry out all the capital expenditures they would like to undertake.⁷⁶ If such firms were able to get all the funds they needed, it is highly doubtful that the allocation of resources would approach appreciably closer to the optimum. The mortality rate of small business is high. This fact, coupled with the fact that some investigations into the cause of such failures, argues that failure is not caused by the inadequacy of financing,⁷⁷ suggests that a reallocation of resources in their favor would not necessarily be a good utilization of resources. To be sure, we do not know the mortality rate of ventures undertaken by large businesses. On the average, such ventures must be profitable or the aggregate would not be what it is. We do know that large firms can construct white elephants—again the Edsel Division of Ford is an example. It is highly possible that we become more conscious of the few major failures than we do of the many minor successes.

Furthermore, the capital markets very well may have been instrumental in channeling funds to inefficient uses. This is at least suggested by the findings of the Wharton School study of the new issue market. That study found some evidence that the yield on new equity issues tends to be slightly less than the yield on comparable outstanding issues.⁷⁸

Thus the empirical evidence on budgeting methods, as we have noted, offers little support for the proponents of full payout. The empirical evidence on performance of firms also offers little such support. On the other hand, the proponents of full payout seem to forget that there are two sides to the capital market. The investor's ability to allocate funds is limited by the choices available to him. If the market is neutral and all firms pay out all earnings, what assurance is there that the ambitions of such expansion oriented managements as may exist will be curtailed any more than those of profit oriented managements? If not, as we have noted, a full payout policy merely adds the expense of distributing and retrieving funds (and the implicit consumption of resources) to the cost of capital formation.

CONCLUSION

From the financial point of view, then, no definitive argument can be made that superior allocative efficiency is obtained by distribution,

⁷⁶ Irwin Friend and James R. Longstreet argue that there is not any evidence of legitimate needs going unsatisfied. See their study, *Price Experiences and Returns on New Stock Issues*, in I. FRIEND, J. LONGSTREET, M. MENDELSON, E. MILLER & A. HESS, *INVESTMENT BANKING AND THE NEW ISSUE MARKET* (1967).

⁷⁷ Markham, *Trends in the Relative Importance of Small Business*, in BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, *FINANCING SMALL BUSINESS* 197, 213 (1958).

⁷⁸ Friend & Longstreet, *supra* note 76, at 80-81.

rather than retention, of corporate income. Since there can be no generalized conclusion that it is financially more sound to pursue one alternative rather than the other, there is no reason to alter the present presumptions and legal framework within which courts now act when they pass upon directoral discretion in distributing or retaining corporate income. The significant elements should continue to be the specific individual corporate needs examined in light of the nature of the business enterprise, as well as the factors motivating the directors' decision.⁷⁹

The real problem of retention may be the one we have largely ignored, the fact that it facilitates the growth of private power centers and helps determine the direction in which our social structure evolves.⁸⁰ If this is indeed the case, political considerations far outweigh those of allocative efficiency.⁸¹

⁷⁹ See notes 4-14 and accompanying text *supra*.

⁸⁰ See generally GALBRAITH, *supra* note 26; THE CORPORATION IN MODERN SOCIETY (E. Mason ed. 1959).

⁸¹ Courts may be growing more sensitive to the legal ramifications of such "private power centers." One commentator has noted that:

In legal account, a lively interest in the attribution of value to power has already begun. It is illustrated by the case of *Pertman v. Feldman*, [219 F.2d 173, (2d Cir.) *cert. denied*, 349 U.S. 952 (1955)], in which the Court of Appeals for the Second Circuit held the sellers, at a price over the market, of a controlling block of stock in a corporation liable to turn over the excess to the corporation or (as the remedy was moulded in this case) to divide it pro rata with their fellow but non-controlling shareholders.

Berle, *Modern Functions of the Corporate System*, 62 COLUM. L. REV. 433, 438 (1962).