ISSUES IN MANAGERIAL FINANCE

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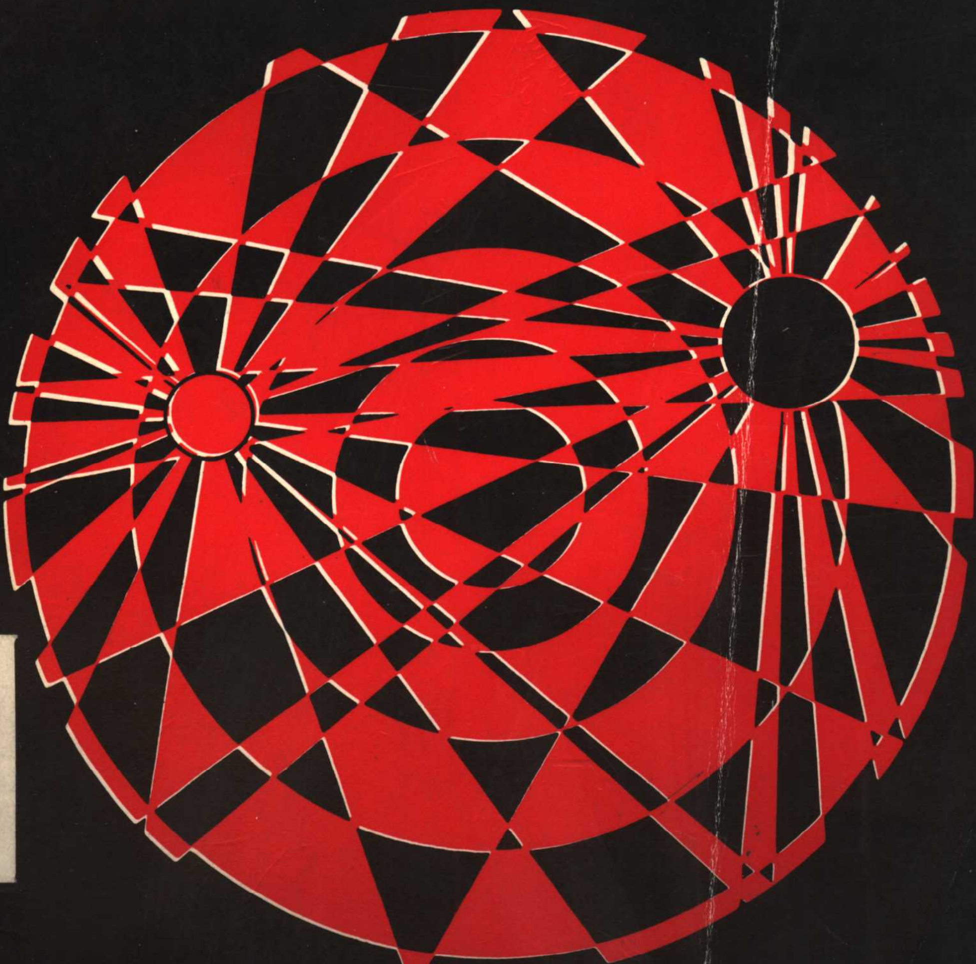

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PREFACE

In selecting articles for this book, our objective was to provide a collection of articles that would add depth and dimension to a student's understanding of financial management. Most of the articles deal with a key issue in finance, often a controversial one. Where controversy does exist, we have tried to include papers that give both sides of the argument.

The book is designed primarily for use in the second undergraduate or beginning graduate course in financial management. However, depending on such factors as the backgrounds of the students, the duration of the course, and the orientation of the class, the appropriate usage will vary. The organization of the book roughly parallels that of most financial management texts, so there should be no difficulty in using this book in conjunction with standard texts such as Weston/Brigham, Johnson, Van Horne, Philippatos, and others.

The rigor and analytical complexity of the articles vary somewhat, reflecting the fact that financial management covers both institutional and quantitative topics. We have not made an effort to stress mathematics and statistics, but neither have we attempted to avoid them when they represent the best way of handling a given problem.

The articles were drawn from a wide selection of sources, but *Journal of Finance, Harvard Business Review, Financial Management,* and *Financial Analysts Journal* are most heavily represented. Some important topics were not covered in the journal literature at a level suitable for most students; in these instances, we adapted several appendices to *Managerial Finance,* 5th edition, and we also commissioned one paper on an important topic—the effect of personal income taxes on the cost of capital. While we have used recent articles on many topics, we did not base our selections on newness alone. Articles such as those by Hillier, Hertz, and Altman have become classics, and no recent articles have come along to replace them.

A brief introduction to each article, a set of questions at the end of each article, and in certain instances, several problems which utilize the techniques described in the article have been provided. The introductions are designed to show how the article fits into the general perspective of financial management, while the end-of-article questions and problems are designed both to help students determine whether or not they really understand the article and to facilitate classroom discussion. Both the introductory paragraphs and the questions help to integrate the articles.

Financial management has undergone significant changes in recent years and, from every indication, this dynamic process will continue. It is stimulating to participate in these developments and we sincerely hope that *Issues in Managerial Finance* will contribute to a better understanding of the theory and practice of finance.

Most of the readings in this book are reprinted without any editorial changes whatever. Some of the authors may use the traditional approach of persistent use of masculine nouns and personal pronouns. We would like to assure our readers that such treatment is not intended to exclude women from theoretical discussions nor to discourage them from careers in finance. We also believe that most of us, as authors, will become more successful in the future in eliminating sexist language in our work.

Gainesville, Florida
Salt Lake City, Utah
August, 1975

Eugene F. Brigham
Ramon E. Johnson

CONTENTS

I AN OVERVIEW OF FINANCE: ANALYSIS, PLANNING, AND CONTROL

1 Wilbur G. Lewellen*

MANAGEMENT AND OWNERSHIP IN THE LARGE FIRM

The study of financial management involves normative and descriptive concepts. Normative concepts refer to what management ought to do. Most of our normative theories and analytical methods have the objective of maximizing the value of shareholders' wealth; this is equivalent to maximizing the share price of the firm's stock. Regardless of what managers actually do, this normative objective is appropriate in framing theories and decision rules. It is of interest, however, to know something of the descriptive behavior of financial managers. For example, is there any reason to believe that managers actually would focus their efforts on the share price maximization objective?

In small firms in which the managers are the owners, it is easy to believe that they would act in the interest of their shareholders. However, in large firms, the management tends to be insulated from most shareholders, and they control the firm via the proxy mechanism. This has given rise to popular assertions that management would be interested in goals other than shareholder maximization—goals such as satisfactory profits, sales maximization, growth maximization, or job security maximization for managers. Professor Lewellen's study shows that the remuneration structure of top management of large firms is consistent with the general interest of shareholders, and, hence, with income or share price maximization.

The professionalization of American corporate management during this century continues to be one of the more remarked-upon features of our industrial society. We are reminded at regular intervals, both in the popular and in the

Source. Reprinted by permission from the *Journal of Finance*, May 1969, pp. 299–322. The author is Professor of Industrial Management, Purdue University. Professor Lewellen reduced the size of his article by eliminating some of the technical aspects of how the study was performed. Accordingly, readers who desire a keener understanding of research details should refer to the original article.

* The research represented by this paper was supported in part by the National Bureau of Economic Research with funds supplied by the Life Insurance Association of America and the Rockefeller Brothers' Fund. Support was also provided by the Ford Foundation's grant for research in Business Finance to the Sloan School of Management at the Massachusetts Institute of Technology. The latter funds were drawn on while the author held a visiting appointment at M.I.T. during the 1966–67 academic year. The computations were performed at the computer centers of M.I.T. and Purdue University. The author is indebted to Professors Daniel M. Holland of M.I.T. and Robert W. Johnson of Purdue for a number of helpful comments on the manuscript. None of the foregoing individuals or organizations are, of course, to be held responsible for the opinions and conclusions presented.

scholarly press, that the era of the owner-manager has passed. The men who run the several hundred large firms which dominate our contemporary economy are said to be motivated no longer by the monetary rewards—and stirrings of pride—traditionally attendant upon proprietorship. Instead, they are pictured as something like the private sector's equivalent of civil servants: the secure employees of an immense organization who are apt to feel only an incidental identification with the interests and objectives of the organization's owners.

If accurate, certainly, this characterization is particularly unsettling where economic analysis is concerned. Most of our received doctrine in economics is predicated on the assumption that the productive units in the community seek some form of "profit maximization" in developing their activities. Unless the professional managers who nowadays administer the affairs of those units can be relied on to adopt a proprietary attitude and thereby pursue the indicated goal, the applicability of much of our theory becomes suspect. The likelihood that this suspicion is justified has, of course, received wide attention in the literature of business and economics. Two kinds of arguments can be observed.

On the one hand, behavioral scientists have pointed out that most men—including corporate executives—are strongly motivated by other than pecuniary considerations. Hence, the expressed profit objective of the firm and the possible eventual translation of higher profits into higher rates of executive pay is described as but one of many factors influencing managerial decisions. There will will be no attempt here to become involved in that aspect of the dialogue, much less to referee the accompanying discussion. On the other hand, even those writers who are content to emphasize monetary incentives—as we shall below—have come to the conclusion that the existing links between company success and executive earnings are too weak to be counted on as an encouragement to the right kind of efforts on behalf of a firm's shareholders by its management. Thus, even insofar as higher personal earnings are thought to be important to executives, the corporate system as presently constituted is said to lack the proper payoff mechanism to validate our normative economic models. The latter contention is the one with which the current paper takes issue.

THE PREVAILING VIEW

The evidence which has been offered in this regard concerns both the strength and the form of the empirical profit-compensation relationship. A quarter century ago, Berle and Means alerted us to the tendency for effective voting control of the country's large industrial enterprises to pass into the hands of management.[1] A recent study by Larner confirmed their predictions and concluded that the takeover is now virtually complete, i.e., that only about 30 of the

[1] A. Berle and G. C. Means, *The Modern Corporation and Private Property*, New York, Macmillan, 1934.

200 largest nonfinancial corporations in the United States can still be classified as truly "owner-controlled."[2] The implication is that, for all practical purposes, top management has become insulated from a meaningful performance review by stockholders—and that, in consequence, executive rewards are unlikely to be very sensitive to changes in company fortunes. On that basis, there might be good reason to wonder whether professional managers will concentrate on traditional entrepreneurial objectives in making their operating decisions.

The complementary view asserts that, even to the extent a firm's performance and its officers' earnings *are* related, the relationship is perverse. In particular, there is some indication that intercorporate differences in top executive salary and bonus scales are more closely associated with differences in the total annual sales of the firms in question than with differences in profit levels.[3] As a result, executives are characterized as being interested primarily in raising their firms' sales—subject perhaps to some vague requirement that the corresponding profit rates be "reasonable"—rather than as attempting to maximize profits per se.[4] In this manner, they are presumably following a course which will maximize their own income.

REBUTTAL

The intention here is not to deny the fact of management professionalization, to dispute the ability of top executives to exercise voting control of their firms via the proxy mechanism, or even at the moment to question the available statistical data on the empirical salaries-vs.-sales and salaries-vs.-profits relationships. Instead, the objective will be to present some new evidence about the economic circumstances of senior corporate executives which strongly suggests that the phenomena cited above are not in themselves sufficient either to (1) create a real difference between the pecuniary interests of management and stockholders, or (2) produce a set of managerial goals which conflict with profit maximization. The argument will be that, while ownership and management in the large firm are quite obviously separated nowadays, the possible undesirable consequences of the separation have been substantially overstated.

The basis for this heresy can be found in the neglect by previous writers of two key features of the corporate executive's relationship to his company. First,

[2] R. J. Larner, "Ownership and Control in the 200 Largest Nonfinancial Corporations, 1929 and 1963," *American Economic Review*, Volume LVI, No. 4 (September 1966), pp. 777–787.

[3] J. W. McGuire, J. S. Chiu, and A. O. Elbing, "Executive Incomes, Sales, and Profits," *American Economic Review*, Volume LII, No. 4 (September 1962), pp. 753–761; D. R. Roberts, *Executive Compensation*, New York, Free Press of Glencoe, 1959.

[4] W. J. Baumol, "On the Theory of Oligopoly," *Economica*, Volume XXV, No. 99 (August 1958), pp. 187–198; W. J. Baumol, "On the Theory of Expansion of the Firm," *American Economic Review*, Vol. LII, No. 5 (December 1962) pp. 1078–1087; R. Marris, *The Economic Theory of Managerial Capitalism*, New York, Free Press of Glencoe, 1964.

his compensation for services rendered does not consist solely of those direct cash payments called salary and bonus which are invariably used as measures of his earnings. In fact, the executive compensation package can be shown to have been weighted quite heavily in recent years towards "ownership" items—arrangements which utilize shares of the employer corporation's common stock as the compensation medium. Second, while it is true that there are now very few large companies in which management holds a majority or even a substantial minority of the outstanding stock, it is also true that the stockholdings which executives do have are very important in terms of their *personal* wealth positions. Thus, it turns out that the income these men enjoy each year from such items of remuneration as stock options, stock bonuses, and profit-sharing plans and from the dividends and capital gains occasioned by their stock holdings in their own companies bulks large in comparison with receipts from salaries, cash bonuses, and other fixed-dollar rewards. We therefore find that the ownership-management link is not so tenuous after all. In turn, the possiblity of a continuing close identification by executives with the interests and profit objectives of shareholders seems less preposterous than the conventional view suggests. That, in its simplest form, will be the position here.

Before examining the evidence, however, one important—if not very original—point should be emphasized: implicit in the discussion is the proposition that "profit maximization" and "share price maximization" for a firm are equivalent concepts. The latter is merely a more rigorous and more comprehensive restatement of the former in an environment where it is necessary to deal not only with the anticipated size of the elements in a stream of corporate earnings, but with their futurity and uncertainty as well. The theoretical literature of the last decade or so dealing with corporate investment and financing decisions has, of course, established this principle as the core of the normative decision-making process. Hence, the contention throughout the paper that (1) shareholders and management can be considered to share a common economic goal whenever management's income depends significantly on the market price behavior of the firm's shares, and (2) that this goal is consistent with that of optimizing the use of resources in the community in general. While the myriad nonpecuniary motives of individual managers are ignored by such an orientation, those matters are—as was indicated at the outset—topics for another discussion.

THE COMPENSATION DATA

The origins of the present paper lie in a recently-published empirical study of executive compensation practices conducted by the author for the National Bureau of Economic Research.[5] In that undertaking, a record was constructed

[5] W. G. Lewellen, *Executive Compensation in Large Industrial Corporations*, New York, National Bureau of Economic Research and Columbia University Press, 1968.

of the value to senior corporate executives of all the major items in their compensation packages: pension benefits, stock options, profit-sharing plans, and deferred-pay contracts as well as salaries and bonuses. The sample chosen consisted of the men who occupied the five-highest-paid positions every year between 1940 and 1963 in each of 50 of the nation's largest manufacturing firms. The list of companies was compiled from *Fortune* magazine's tabulation of the 500 largest industrials for fiscal 1963 and is presented in the Appendix.[6] By using the compensation reports required by the SEC to appear in each firm's annual proxy statement to shareholders, an analysis was performed of the rewards enjoyed by a total of 558 different executives. The resulting data encompass some 7800 man-years of compensation experience. Because the nature of the figures generated by that analysis are central to the data developed and the conclusions reached below, the procedures followed are worth outlining briefly. For a complete description, however, the reader is referred to the original study.[7]

The magnitude of the income accruing to an individual in a given year from his salary and bonus payments was easily determined simply by applying to the observed pre-tax figures the relevant personal income tax schedule for the year, along with an estimate of the deductions and exemptions the man might have been expected to claim. In the case of rewards having more complex taxation, timing, and contingency features, the following approach to valuation was adopted: for each deferred and contingent arrangement, a "current income equivalent" was constructed, defined to be the amount of additional current income—additional salary and bonus, if you will—which would be as valuable to the executive in question as the particular arrangement being considered. In effect, the hypothesis was that the most appropriate way to go about measuring on a common scale the compensation provided by the various supplements to direct cash payments was to calculate the size of the cash increments which, if *substituted* for those supplements, would leave the relevant executives as well off.

In connection with a pension plan, for example, the question was asked: "How much of an increase in annual after-tax salary would the prospective pension recipient require in order to be able to purchase with those funds an individual retirement annuity from an insurance company similar in form and equal in value to the benefits promised him under his company's retirement plan?" The necessary annual premium payments were taken to be the "after-tax current income equivalent" of the man's pension expectations. They measure the amount of additional cash income he would have needed during each year of his active working life to guarantee himself the same level of economic security in retirement that his pension was designed to provide. By similar reasoning,

[6] *Fortune*, Volume 70, No. 1 (July 1964), pp. 179–198. The 50 companies combined accounted for approximately one-fourth of the sales recorded by *all* U.S. manufacturers in 1963.

[7] Especially Chapters 2 through 6. For another study with a generally similar focus, see: L. R. Burgess, *Top Executive Pay Package*, New York, Free Press, 1963.

the current income equivalent of a deferred compensation agreement was specified to be a stream of equally valuable annual salary awards beginning at the time the agreement was made and continuing up to the executive's anticipated retirement age. Once a set of such indices had been developed for all the major components of the pay package, it became possible to make convenient and accurate statements about the absolute magnitude and relative importance of originally quite dissimilar rewards. The principle followed throughout was, of course, to define "equivalence" between a series of hypothetical increments to salary on the one hand and the benefits expected from a specific deferred or contingent arrangement on the other in terms of the *after-tax present values* of the two sets of payments. In most cases, a discount for mortality as well as futurity was called for in the calculations.

STOCK OWNERSHIP DATA

Executives' stockholdings in their own companies form the other half of the story. In addition to information on compensation, the SEC requires that corporations report annually in their proxy statements the number of shares of common stock each member of their board of directors owns. Since in practice most senior officers are also directors, it became evident while gathering the data for the compensation study that sizeable ownership positions were not unusual among top executives. In fact, the stockholdings observed were often sufficiently large as to suggest that the capital gains and dividends enjoyed therefrom might be as important to the individuals in question as their reported remuneration. That possibility prompted the current paper.

The approach was simply to go through the proxy statements a second time and record, for each executive who was included in the compensation sample, the amount of his company's stock he owned in every relevant year. The published figures cover those securities which are either directly or beneficially owned by the executive and his immediate family. Because the "immediate family" definition encompasses only the man's wife and any children living at home, the likelihood is that the resulting data somewhat understate the true extent of management's ownership involvement. Securities owned by married children and by other family members are excluded—and these can, of course, be quite substantial on occasion. The bias is worth noting, since it implies that a more comprehensive set of figures would necessarily reinforce the conclusions offered here.

COMPENSATION, 1940–1963

Tables 1 and 2 present the record of senior executive compensation from 1940 through 1963 for the 50 large manufacturing companies at issue. The numbers

TABLE 1. COMPENSATION OF HIGHEST-PAID EXECUTIVES (MEAN VALUES)

YEAR	BEFORE-TAX SALARY AND BONUS	AFTER-TAX SALARY AND BONUS	OTHER AFTER-TAX COMPENSATION	TOTAL AFTER-TAX COMPENSATION
1940	$135,662	$76,382 (75)	$ 25,597 (25)	$101,979
1941	141,487	65,804 (72)	25,731 (28)	91,535
1942	134,827	49,627 (75)	16,333 (25)	65,960
1943	141,334	42,523 (75)	13,938 (25)	56,461
1944	137,407	41,795 (66)	21,872 (34)	63,667
1945	133,685	41,221 (67)	20,411 (33)	61,632
1946	130,751	48,569 (70)	20,474 (30)	69,043
1947	142,700	51,497 (66)	26,820 (34)	78,317
1948	153,978	75,201 (75)	24,553 (25)	99,754
1949	164,632	78,767 (75)	26,544 (25)	105,311
1950	167,645	79,595 (65)	43,195 (35)	122,790
1951	167,176	74,536 (68)	34,805 (32)	109,341
1952	173,284	71,894 (62)	44,763 (38)	116,657
1953	175,688	73,100 (55)	58,682 (45)	131,782
1954	177,562	78,353 (55)	65,117 (45)	143,470
1955	182,515	79,480 (37)	134,950 (63)	214,430
1956	190,523	81,347 (35)	154,327 (65)	235,674
1957	188,628	80,736 (36)	146,491 (64)	227,227
1958	190,554	80,985 (48)	87,822 (52)	168,807
1959	193,966	82,695 (39)	131,315 (61)	214,010
1960	186,370	80,733 (36)	144,120 (64)	224,853
1961	185,688	80,741 (39)	126,378 (61)	207,119
1962	182,631	79,539 (35)	148,693 (65)	228,232
1963	196,343	83,568 (44)	106,256 (56)	189,824
Average 1955–63	$188,580	$81,092 (38)	$131,150 (62)	$212,242

[Numbers in parentheses denote per cent of after-tax total each year]

represent mean values for the inviduals who occupied the five highest-paid positions in each company in each year. To minimize the range of tabulations required, the data are summarized in the form of two time series: one for the single highest-paid man in every firm and one for the five highest-paid men as a group. The latter figures were derived simply by dividing the total of the means obtained for the five separate positions by five.

Several features of the data deserve comment: First, the rates of growth in remuneration depicted are quite low. Between 1940 and 1963, after-tax salaries and bonuses grew at a compound annual rate of only $\frac{1}{4}$ of 1 per cent for top executives and at 1.2 per cent for the top five together.[8] The more interesting

[8] Similar calculations for executives ranked each year according to the size of their salaries and bonuses instead of their total compensation show essentially the same result.