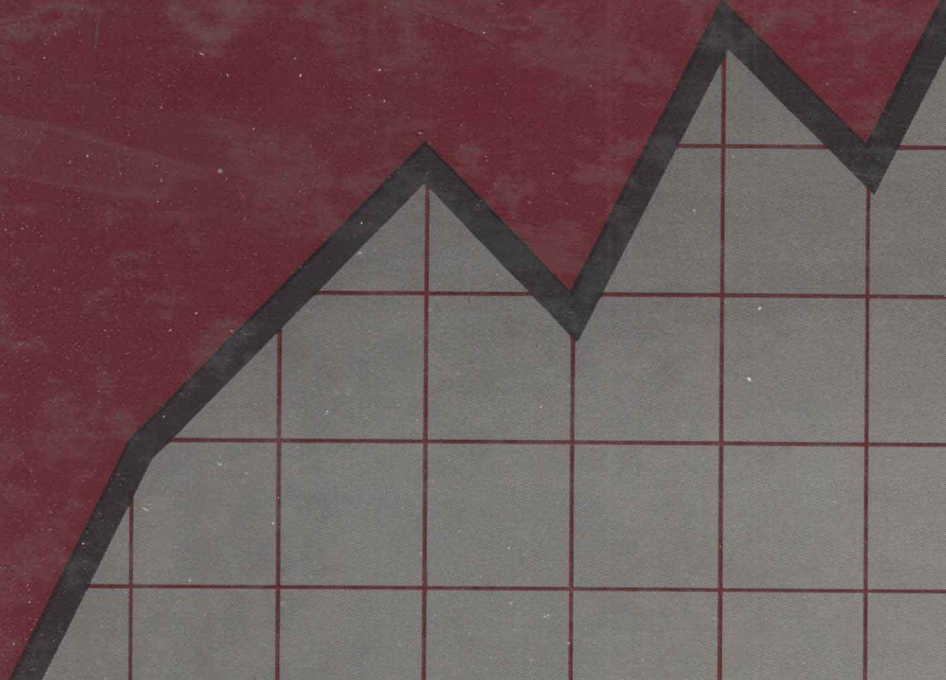
SECOND EDITION

# Managerial Economics

Thomas J. Hailstones

John C. Rothwell



# MANAGERIAL ECONOMICS

*Second Edition*

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# MANAGERIAL ECONOMICS

# PREFACE

Often there is a wide gap between economic theory and the application of economic analysis, particularly at the microeconomic level. The theory of the firm is one thing; the application of economic analysis to the problems of the firm is another. It was for this reason that the National Association of Business Economists was formed in 1959 by a group of business economists who realized that most of the research analyses, publications, and discussion of traditional economics offered little help in solving the day-to-day economic problems of the firm. On the other hand, the body of knowledge known as managerial economics, especially as developed in the past two decades, serves as a very useful tool to business management.

This text in managerial economics endeavors to bridge the gap between economic theory and the application of economic analysis. It reviews traditional analysis and shows the application of this analysis to the understanding and solution of economic problems of the firm and industry. Frequently a student will learn microeconomic principles or theory and then ask: "What can I do with it?" This text shows what can be done with it and how it can be applied. As a result, microeconomics comes alive. It takes on new zest and meaning. This is accomplished in a manner that the student with a modest knowledge of economic principles and a modicum of mathematics can grasp the fundamentals of managerial economics. In fact, the review material is of sufficient thoroughness that a good student can assimilate sufficient economic concepts to handle fundamental managerial economics without a prerequisite course in principles of economics.

Although there are many complex, sophisticated, and highly quantitative aspects of managerial economics, this text is designed as a beginning. It stresses fundamentals and basic applications. It melds theory and practice. It deals with practical problems and cases. In addition to its pragmatic value, knowledge obtained through this text can be used as a stepping stone to the study of higher levels of managerial economics.

The authors wish to thank their many colleagues and students for offering constructive comments on the first edition of the book. In particular a note of appreciation is due Professor John Park, Frostburg State College; Professor Terry L. Riddle, Central Virginia Community College; and Professor Jack E. Klauser, Chaminade University of Honolulu, for their helpful contributions to the second edition. Again, a special thanks is extended to Mrs. Marjorie Schmidt for her stenographic assistance with the book.

T.J.H.
J.C.R.

# MANAGERIAL ECONOMICS

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# CHAPTER ONE
# MANAGERIAL ECONOMICS AND THE ROLE OF THE BUSINESS ECONOMIST

Traditional economics is often divided into two segments: macroeconomics and microeconomics. Macroeconomics deals with aggregates of the economy, such as *total production, total employment and unemployment, total income, total money supply,* and the general price level. Moreover, it deals with those policies used to affect these aggregates. Microeconomics, on the other hand, treats issues and problems of the individual consumer, the business firm, and the industry, including demand and supply, profit maximization, and competition. In addition, it analyzes how resource owners should allocate their resources to achieve certain desired ends. Further, there are many special areas of economics, such as agricultural economics, multinational economics, urban and regional economics, comparative economic systems, mathematical economics, econometrics, and managerial economics.

## TRADITIONAL ECONOMICS VS. MANAGERIAL ECONOMICS

For years much of economics was confined to the ivory tower of the theorist on the university campus. Since World War II, however, there has been an increased effort to apply traditional economics, particularly microtheory, to the economic problems of business firms, nonprofit organizations, and government agencies. Thus evolved the concept of managerial economics.

Managerial economics, sometimes referred to as business economics, is a relatively new area of economic analysis and has become more widespread in the past few decades. *Managerial economics* is the application of economic theory and analysis to practices of business firms and other institutions, such as health care facilities and government agencies. Managerial economics deals with managerial decisions in comparing and selecting among economic alternatives.

Managerial economics uses more than microeconomic theory. It requires, also, the application and integration of practices, principles, and techniques from the areas of accounting, finance, marketing, production, personnel, and other functions or disciplines associated with economics. Because sales and profits of the firm and industry are affected by the national economic climate, managerial economics must relate the concept of macroeconomics to the problems of the business firm. Because the current success, prosperity, or problems of the firm are often linked to what is happening to the status of such measures as the gross national product, the general level of employment, and the consumer price index, there is a need to relate the economics of the firm with the national economy. Likewise, future sales and profits of the firm must be projected within the constraints of the growth and development of the national economy. Similarly, the operations of nonprofit organizations and government agencies are affected by the economic climate of a region or general business conditions of the nation.

Since managerial economics deals with both micro and macro economics it is related to the emerging concept of mesoeconomics. Mesoeconomics, with "meso" meaning middle, suggests a middle level of aggregation between the microeconomics of the firm and markets, on one hand, and the analysis of macro aggregates, on the other. As defined by the Professor Lee E. Preston of the University of Maryland, *mesoeconomics* is the study of the economy as a set of interlinked activities, industries and sectors, in a dynamic and policy-relevant perspective.[1]

## PROFIT MAXIMIZATION THEORY

Microtheory is based in large part on the assumption that the individual, the firm, and the industry will seek to maximize profit, both in the short and the long run. In using this as a guiding principle, however, managerial economics recognizes that short-run profit may be sacrificed in the interest of long-run profit. The business economist must recognize, too, that other factors beside profit maximization may have to be taken into consideration by an officer or manager of a firm when rendering a final decision on an economic problem. The firm in many instances may be interested in a reasonable profit rather than in maximizing profit to the *n*th degree. The actions of the firm on economic matters may to some extent be influenced by related legal, moral, public, and community obligations. Minority problems and environmental issues may also have a bearing on managerial decisions. Most firms and industries want to avoid legal or unethical practices, even if it means less profit. A monopolist or oligopolist may charge less than "what the traffic will bear" for the sake of maintaining better consumer relations and improving its public image. Firms will often contribute large sums of money to civic and charitable organizations, which certainly reduces the amount of profit that can be paid out in dividends or retained for future development of the company. Often firms are more generous than necessary with worker wage and fringe benefits. More and more firms are becoming concerned about the deterioration of the natural environment and may be accepting less than maximum profit as a result of expenditures for anti- and depollution devices.

This does not imply that all firms are altruistic. Certainly a small number of the twelve million business enterprises in the American economy exploit every opportunity, by fair means or foul, to maximize profit. Hence our society enacts laws regarding the economic conduct of individuals and business firms. Consequently, a firm may be forced to take, or avoid taking, certain measures that will affect profit maximization.

[1] Preston, Lee E. "Meso-Economics: Concepts, Analysis, Policy." Paper presented at the AFEE annual meeting in San Francisco, December 1983.

For example, antitrust laws, designed to protect, preserve, and promote competition, prevent many firms from taking actions that may enhance their profits, particularly at the expense of other firms or at a cost to the general public. Labor laws that give workers the right to organize and bargain collectively can restrict profit maximization measures. Minimum wage laws also limit the profit maximization axiom, especially for the marginal firm. More recently, firms have had to contend with the Fair Employment Practices Act, a number of federal and state antipollution acts, the federal Occupational Safety and Health Act, and various consumer protection laws. Accordingly a firm must be careful whom it hires or fires in terms of racial or sex discrimination; it should attain and maintain a proper ratio of minority employees. It may have to install costly antipollution devices or sometimes close down certain of its operations. It must have the proper equipment and take necessary measures for the safety of its employees. Living within the law imposes a cost. This cost may or may not be passed on to the consumer. In many cases these laws lessen the firm's ability to maximize profits. Because the requirements of these laws cannot be ignored without running the risk of severe penalty, they have to be taken into consideration when making final decisions on the economics of the firm.

With the large number of reservations, restrictions, and requirements on business firms today, one may truly question whether our economic system still can be called a free enterprise system. This issue will not be debated here. Much of the constraint on businesses has been imposed for the purpose of preventing exploitation or promoting the common good; thus it can justifiably be said that the freedom of our economic system is not complete but qualified. The firm has a right to do business and compete, but it does not have the right to infringe upon the rights and freedom of its competitors, to exploit consumers, or to endanger the safety of its workers.

Within this context of voluntary and involuntary constraints, a firm will seek to optimize its profit. That is, it will seek profits, not necessarily maximum, compatible with its general objectives and overall goals, both economic and noneconomic. Consequently, when using profit maximization as a guide in economic analysis, the economist must remember that final decisions on economic issues will be tempered by other considerations.

In spite of the widespread acceptance of some sense of public and civic responsibility among many business firms and other officials, one world-renowned economist, Milton Friedman, stoutly maintains that the sole responsibility of the business firm is to make a profit for its stockholders. Others suggest, however, that the profit motive ought to be deemphasized. They recommend, for example, that the managers of a business enterprise should be judged not only on their ability to make profits but also on the extent to which the firm fulfills some social commitment as well. In order to appraise social commitment, a different type of board of directors is recommended, one made up of stockholders, consumers, businesspeople, and government officials. Nevertheless, profit is still the prime determinant of managerial efficiency; and the concepts of managerial economics apply in analyzing problems and issues for managerial decisions.