THIRD EDITION

INVESTMENTS

William F. Sharpe

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PREFACE

The field of investments is in the midst of a continuing revolution.

Not too many years ago, investments textbooks were devoted primarily to discussions of the art of security analysis. Readers were introduced to the mysteries of accounting, some of the details of the operations of major industries, and various rules of thumb for selecting "good" or "bad" securities. Institutional details of securities markets, types of investment instruments, transactions costs, and the like were presented, along with historic data, but the reader was provided no framework for understanding such phenomena. A theory of the formation of prices in capital markets was lacking.

Harry Markowitz published his seminal work on portfolio theory in the 1950s. This provided a way to deal with risk and return methodically. The original Capital Asset Pricing Model was developed by the present author, John Lintner, and Jan Mossin in the 1960s. It provided a model of the relationships among risks and returns in an efficient market. Fischer Black and Myron Scholes published their work on option pricing in the 1970s. It showed that some securities can be valued by considering the values of related instruments, under the assumption that riskless arbitrage is impossible in a well-functioning capital market.

With this array of theories, it was possible to approach the field of investments in a rigorous manner. The first edition of this text reflected these changes.

Unlike many fields, investments is blessed with a wealth of quantitative data. Thus theories can be subjected to empirical tests. Early investigations suggested that the new theories conformed well with reality. A few deviations were found, but they were accommodated by extending the basic theories.

The second edition of this text reflected the situation at the beginning of the 1980s. Markets were assumed to be highly efficient and to conform reasonably well to the specifications given by extended versions of the original Capital Asset Pricing Model. Deviations of prices from corresponding "intrinsic values" were assumed to be small, temporary, unsystematic, and difficult to identify.

Recent empirical work has cast some doubt on this comforting view of the world. Earlier statistical tests have been found to be relatively weak, suggesting that they may have been unable to identify important disparities between theory and reality. Moreover, systematic "anomalies" have been found, calling into question at least some aspects of the standard theories.

In reaction to these findings, investigators have turned their attention with renewed vigor to models of the factors determining security returns. Some work is limited to statistical analysis of historic data, but much of it goes further, to include fundamental economic analysis of the interrelationships among firms and between firms and major aspects of the overall economy. Associated with such factor models is the Arbitrage Pricing Theory, developed by Stephen Ross.

This edition differs considerably from its two predecessors.

It is more eclectic—encompassing both utility-based theories (i.e. Capital Asset Pricing Models) and factor-model-based theories (i.e. the Arbitrage Pricing Theory). It emphasizes the fact that one need not choose one or the other of these approaches—indeed, both may hold at the same time. The strengths and weaknesses of each are given, along with challenges associated with using them in practice.

Empirical work is given substantial attention—especially that connected with factor models and with "anomalies" such as the returns from small stocks, the behavior of security prices in January, and so on.

Much of the work comes from professionals working in the investment industry. In the early phases of the revolution in investment theory, there tended to be an attitude of confrontation between academicians and practitioners. This has long since ceased. The flow of ideas (and people) between the two groups is perhaps greater than that in any business field. This should not be surprising—after all, *research* is the key ingredient in investment management.

The structure of the book is similar to that of the second edition. An overall framework is provided at the outset in sufficient detail to provide a needed base for the remaining material. Following a discussion of taxes and inflation, particular instruments are described and analyzed. The remaining chapters cover financial analysis, investment management, performance measurement, and extended diversification. Throughout, factual and institutional details are discussed in the context of an overall marketplace that provides investors with a relatively efficient means for participating, in whole or in part, in future prospects for the economy.

The book is intended to be encyclopedic without excessive or insignificant detail, rigorous without the use of needless analytic apparatus, and as integrated as possible.

Many readers will choose to cover only a portion of the material. To facilitate this approach, the chapters have been written in a modular manner.

No one can undertake a project of this magnitude without a great deal of help. I am especially grateful for all that I have learned from my colleagues (past and present) at the Stanford Graduate School of Business and at Wells Fargo Investment Advisors. El Vera Fisher at Stanford and Linda Frascino, Robert Lentz, and Pam Wilder at Prentice-Hall played key roles in the production of this edition. These are only a few of my many debts, but the rest of the list is far too long for publication. It must suffice for me to offer my thanks to all who have been my teachers (formal and informal) over the years and to express my appreciation to my wife, my son and daughter, and to my parents for providing the environment and encouragement necessary to support the kind of work represented in this book.

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