

INVESTMENTS

PRINCIPLES OF PORTFOLIO
AND EQUITY ANALYSIS



Michael G. McMillan, CFA / Jerald E. Pinto, CFA / Wendy L. Pirie, CFA / Gerhard Van de Venter, CFA
Foreword by Lawrence E. Kochard, CFA, Chief Investment Officer, Georgetown University

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Principles of Portfolio and Equity Analysis

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Principles of Portfolio
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CFA Institute is the premier association for investment professionals around the world, with over 101,000 members in 134 countries. Since 1963, the organization has developed and administered the renowned Chartered Financial Analyst[®] Program. With a rich history of leading the investment profession, CFA Institute has set the highest standards in ethics, education, and professional excellence within the global investment community, and is the foremost authority on investment profession conduct and practice.

Each book in the CFA Institute Investment Series is geared toward industry practitioners along with graduate-level finance students and covers the most important topics in the industry. The authors of these cutting-edge books are themselves industry professionals and academics and bring their wealth of knowledge and expertise to this series.

FOREWORD

As I read *Investments: Principles of Portfolio and Equity Analysis*, I was struck by how much the investment profession has evolved over the past 40 years. Although the changes have been mostly for the better, the market events of the past decade suggest that we still have more to learn in order to avoid repeating some of our recent mistakes. We witnessed the bursting of two bubbles—technology and housing/credit—which resulted in a lost decade for equities: The S&P 500 generated negative returns for the 10 years ended December 2009.

I remember learning modern portfolio theory as a student when it was indeed relatively modern. Although analytical techniques for managing portfolios have improved since the 1970s, the investment landscape has become much more complex. The number of markets, institutions, and securities has exploded alongside improvements in security selection/analysis, portfolio construction, and risk management. Aided by ever-increasing information and computing power, institutional investors have become bigger, more numerous, more global, and seemingly more sophisticated. They have attracted the best and brightest from the world's leading universities. These growing armies of professional investors all compete to be the next Warren Buffett or top hedge fund manager.

New investment texts that keep up with the changing markets and analytical techniques are needed. *Investments: Principles of Portfolio and Equity Analysis* is a valuable addition to the bookshelves of all investment professionals and students of finance. It has kept pace with the changes in the institutional aspects of investing, as well as the advances in asset pricing and portfolio theory and the practical applications of such tools.

As chief investment officer of Georgetown University, I am responsible for investing its endowment. I also teach investment courses in the MBA program at Georgetown. I am a consumer of this book for both parts of my professional life. As an endowment manager, I know that our investment process involves asset allocation, investment manager selection, portfolio construction, and risk management. The governance for this process is set forth in our investment policy statement. Thoroughly covering all these topics, *Investments: Principles of Portfolio and Equity Analysis* discusses the theory and application of how endowments, pensions, and other institutions invest their sizable pools of capital. Although we are not directly involved with security selection at our endowment, it is important that we understand the best practices followed by investment managers (e.g., mutual funds, hedge funds, and other investment advisers) to help us in our selection of such managers. We must also be able to recognize opportunities for managers to add value relative to a passive index. Although many investors scoff at the notion of market efficiency, most managers fail to beat passive benchmarks. This book does a wonderful job of addressing not only market efficiency and whether and when active management can add value, but also the institutional details of investing—the mechanics of trading and custody; the array of institutions (e.g., endowments, pensions, and sovereign wealth funds); and the growing number of investment vehicles available to institutions (e.g., exchange-traded funds [ETFs] for passive implementation and hedge funds for active management).

As someone who spans both the academic and the real world of investing, I understand the challenge and importance of writing a book that is able to cover and meld both investment theory and implementation. I believe readers will find that *Investments: Principles of Portfolio and Equity Analysis* succeeds on both fronts. The book will help professional investors understand a broad body of investment theory. More importantly, it will help them apply this knowledge to the actual practice of investing.

Lawrence E. Kochard, CFA
Chief Investment Officer
Georgetown University
September 2010

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INTRODUCTION

CFA Institute is pleased to provide you with this Investment Series covering major areas in the field of investments. These texts are thoroughly grounded in the highly regarded CFA Program Candidate Body of Knowledge that serves as the anchor for the three levels of the CFA Program. Currently, nearly 200,000 aspiring investment professionals from over 150 countries are devoting hundreds of hours each year to master this material, as well as other elements of the Candidate Body of Knowledge, to obtain the coveted CFA designation. We provide these materials for the same reason we have been chartering investment professionals for over 45 years: to lead the investment profession globally by setting the highest standards of ethics, education, and professional excellence.

HISTORY

This book series draws on the rich history and origins of CFA Institute. In the 1940s, several local societies for investment professionals developed around common interests in the evolving investment industry. At that time, the idea of purchasing common stock as an investment—as opposed to pure speculation—was still a relatively new concept for the general public. Just 10 years before, the U.S. Securities and Exchange Commission had been formed to help referee a playing field marked by robber barons and stock market panics.

In January 1945, a fundamental analysis-driven professor and practitioner from Columbia University and Graham-Newman Corporation wrote an article in the precursor of today's CFA Institute *Financial Analysts Journal*, making the case that people who research and manage portfolios should have some sort of credential to demonstrate competence and ethical behavior. This person was none other than Benjamin Graham, the father of security analysis and future mentor to well-known modern investor Warren Buffett.

Creating such a credential took 16 years. By 1963, 284 brave souls—all over the age of 45—took an exam and successfully launched the CFA credential. What many do not fully understand is that this effort was driven by a desire to create professional standards for practitioners dedicated to serving individual investors. In so doing, a fairer and more productive capital market would result.

Most professions—including medicine, law, and accounting—have certain hallmark characteristics that help to attract serious individuals and motivate them to devote energy to their life's work. First, there must be a body of knowledge. Second, entry requirements must exist, such as those required to achieve the CFA credential. Third, there must be a commitment to continuing education. Finally, a profession must serve a purpose beyond one's individual interests. By properly conducting one's affairs and putting client interests first, the investment professional encourages general participation in the incredibly productive global

capital markets. This encourages the investing public to part with their hard-earned savings for redeployment in the fair and productive pursuit of appropriate returns.

As C. Stewart Sheppard, founding executive director of the Institute of Chartered Financial Analysts, said:

Society demands more from a profession and its members than it does from a professional craftsman in trade, arts, or business. In return for status, prestige, and autonomy, a profession extends a public warranty that it has established and maintains conditions of entry, standards of fair practice, disciplinary procedures, and continuing education for its particular constituency. Much is expected from members of a profession, but over time, more is given.

For more than 40 years, hundreds upon hundreds of practitioners and academics have served on CFA Institute curriculum committees, sifting through and winnowing out all the many investment concepts and ideas to create a body of investment knowledge and the CFA curriculum. One of the hallmarks of curriculum development at CFA Institute is its extensive use of practitioners in all phases of the process. CFA Institute has followed a formal practice analysis process since 1995. Most recently, the effort involves special practice analysis forums held at 20 locations around the world and surveys of 70,000 practicing CFA charterholders for verification and confirmation. In 2007, CFA Institute moved to implement an ongoing practice analysis to update the body of knowledge continuously, making use of a collaborative web-based site and wiki technology. In addition, CFA Institute has moved in recent years from using traditional academic textbooks in its curriculum to commissioning prominent practitioners and academics to create custom material based on this practice analysis. The result is practical, globally relevant material that is provided to CFA candidates in the CFA Program curriculum and published in this series for investment professionals and others.

What this means for the reader is that the concepts highlighted in these texts were selected by practitioners who fully understand the skills and knowledge necessary for success. We are pleased to put this extensive effort to work for the benefit of the readers of the Investment Series.

BENEFITS

This series will prove useful to those contemplating entry into the extremely competitive field of investment management, as well as those seeking a means of keeping one's knowledge fresh and up to date. Regardless of its use, this series was designed to be both user friendly and highly relevant. Each chapter within the series includes extensive references for those who would like to further probe a given concept. I believe that the general public seriously underestimates the disciplined processes needed for the best investment firms and individuals to prosper. This material will help you better understand the investment field. For those new to the industry, the essential concepts that any investment professional needs to master are presented in a time-tested fashion. These volumes lay the basic groundwork for many of the processes that successful firms use on a day-to-day basis. Without this base level of understanding and an appreciation for how the capital markets operate, it becomes challenging to find competitive success. Furthermore, the concepts presented herein provide a true sense of the kind of work that is to be found managing portfolios, doing research, or pursuing related endeavors.

The investment profession, despite its relatively lucrative compensation, is not for everyone. It takes a special kind of individual to fundamentally understand and absorb the

teachings from this body of work and then successfully apply them in practice. In fact, most individuals who enter the field do not survive in the long run. The aspiring professional should think long and hard about whether this is the right field. There is no better way to make such a critical decision than by reading and evaluating the classic works of the profession.

The more experienced professional understands that the nature of the capital markets requires a commitment to continuous learning. Markets evolve as quickly as smart minds can find new ways to create exposure, attract capital, or manage risk. A number of the concepts in these books did not exist a decade or two ago, when many were starting out in the business. In fact, as we talk to major employers about their training needs, we are often told that one of the biggest challenges they face is how to help the experienced professional keep up with the recent graduates. This series can be part of that answer.

As markets invent and reinvent themselves, a best-in-class foundation investment series is of great value. Investment professionals must continuously hone their skills and knowledge if they are to compete with the young talent that constantly emerges. Further, the best investment management firms are run by those who carefully form investment hypotheses and test them rigorously in the marketplace, whether it be in a quant strategy, *comparative shopping for stocks within an industry*, or hedge fund strategies. Their goal is to create investment processes that can be replicated with some statistical reliability. I believe those who embraced the so-called academic side of the learning equation have been much more successful as real-world investment managers.

THE TEXTS

One of the most prominent texts over the years in the investment management industry has been Maginn and Tuttle's *Managing Investment Portfolios: A Dynamic Process*. The third edition updates key concepts from the 1990 second edition. Some of the more experienced members of our community own the prior two editions and will add the third edition to their libraries. Not only does this seminal work take the concepts from the other readings and put them in a portfolio context, but it also updates the concepts of alternative investments, performance presentation standards, portfolio execution, and, very importantly, managing individual investor portfolios. Focusing attention away from institutional portfolios and toward the individual investor makes this edition an important and timely work.

Quantitative Investment Analysis focuses on some key tools that are needed for today's professional investor. In addition to classic time value of money, discounted cash flow applications, and probability material, there are two aspects that can be of value over traditional thinking.

The first involves the chapters dealing with correlation and regression that ultimately figure into the formation of hypotheses for purposes of testing. This gets to a critical skill that challenges many professionals: the ability to distinguish useful information from the overwhelming quantity of available data. For most investment researchers and managers, their analysis is not solely the result of newly created data and tests that they perform. Rather, they synthesize and analyze primary research done by others. Without a rigorous manner by which to understand quality research, you cannot understand good research, nor do you have a basis on which to evaluate less rigorous research.

Second, the last chapter of *Quantitative Investment Analysis* covers portfolio concepts and takes the reader beyond the traditional capital asset pricing model (CAPM) type of tools and into the more practical world of multifactor models and arbitrage pricing theory.

Equity Asset Valuation is a particularly cogent and important resource for anyone involved in estimating the value of securities and understanding security pricing. A well-informed professional knows that the common forms of equity valuation—dividend discount modeling, free cash flow modeling, price/earnings models, and residual income models—can all be reconciled with one another under certain assumptions. With a deep understanding of the underlying assumptions, the professional investor can better understand what other investors assume when calculating their valuation estimates. This volume has a global orientation, including emerging markets. The second edition provides new coverage of private company valuation and expanded coverage on required rate of return estimation.

Fixed Income Analysis has been at the forefront of new concepts in recent years, and this particular book offers some of the most recent material for the seasoned professional who is not a fixed income specialist. The application of option and derivative technology to the once-staid province of fixed income has helped contribute to an explosion of thought in this area. Not only have professionals been challenged to stay up to speed with credit derivatives, swaptions, collateralized mortgage securities, mortgage-backed securities, and other vehicles, but this explosion of products strained the world's financial markets and challenged central banks to provide sufficient oversight. Armed with a thorough grasp of the new exposures, the professional investor is much better able to anticipate and understand the challenges our central bankers and markets face.

Corporate Finance: A Practical Approach is a solid foundation for those looking to achieve lasting business growth. In today's competitive business environment, companies must find innovative ways to enable rapid and sustainable growth. This volume equips readers with the foundational knowledge and tools for making smart business decisions and formulating strategies to maximize company value. It covers everything from managing relationships between stakeholders to evaluating mergers and acquisitions bids, as well as the companies behind them.

Through extensive use of real-world examples, readers will gain critical perspective into interpreting corporate financial data, evaluating projects, and allocating funds in ways that increase corporate value. Readers will gain insights into the tools and strategies used in modern corporate financial management.

International Financial Statement Analysis is designed to address the ever-increasing need for investment professionals and students to think about financial statement analysis from a global perspective. The work is a practically oriented introduction to financial statement analysis that is distinguished by its combination of a true international orientation, a structured presentation style, and abundant illustrations and tools covering concepts as they are introduced in the text. The authors cover this discipline comprehensively and with an eye to ensuring the reader's success at all levels in the complex world of financial statement analysis.

Investments: Principles of Portfolio and Equity Analysis provides an accessible yet rigorous introduction to portfolio and equity analysis. Portfolio planning and portfolio management are presented within a context of up-to-date, global coverage of security markets, trading, and market-related concepts and products. The essentials of equity analysis and valuation are explained in detail and profusely illustrated. The book includes coverage of practitioner-important but often neglected topics such as industry analysis. Throughout, the focus is on the practical application of key concepts with examples drawn from both emerging and developed markets. Each chapter affords the reader many opportunities to self-check his or her understanding of topics. In contrast to other texts, the chapters are collaborations of respected senior investment practitioners and leading business school teachers from around

the globe. By virtue of its well-rounded, expert, and global perspectives, the book should be of interest to anyone who is looking for an introduction to portfolio and equity analysis.

I hope you find this new series helpful in your efforts to grow your investment knowledge, whether you are a relatively new entrant or an experienced veteran ethically bound to keep up to date in the ever-changing market environment. CFA Institute, as a long-term, committed participant in the investment profession and a *not-for-profit* global membership association, is pleased to provide you with this opportunity.

Robert R. Johnson, PhD, CFA
Senior Managing Director
CFA Institute
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