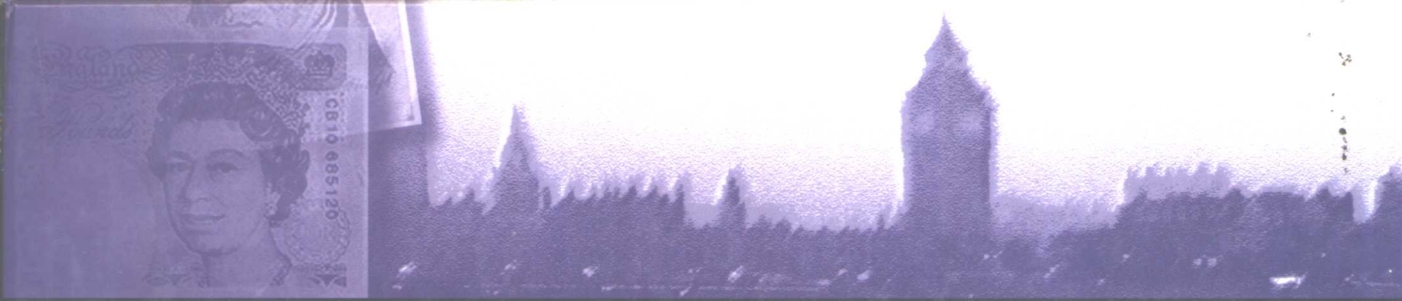

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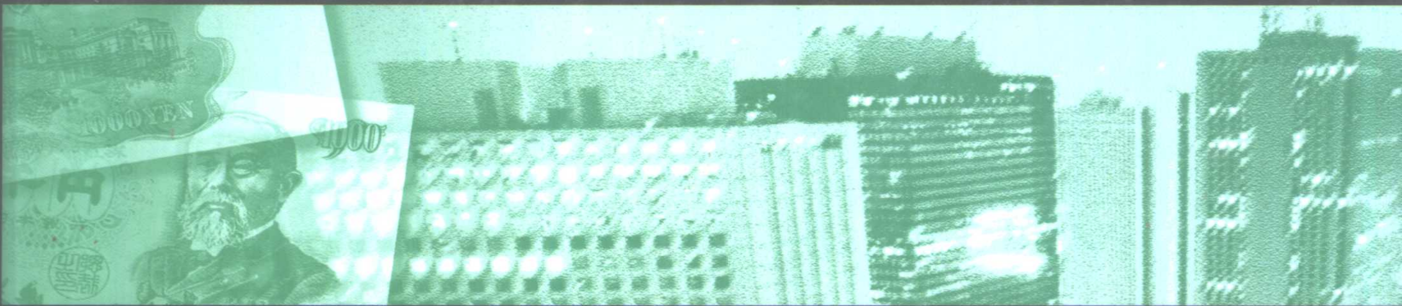

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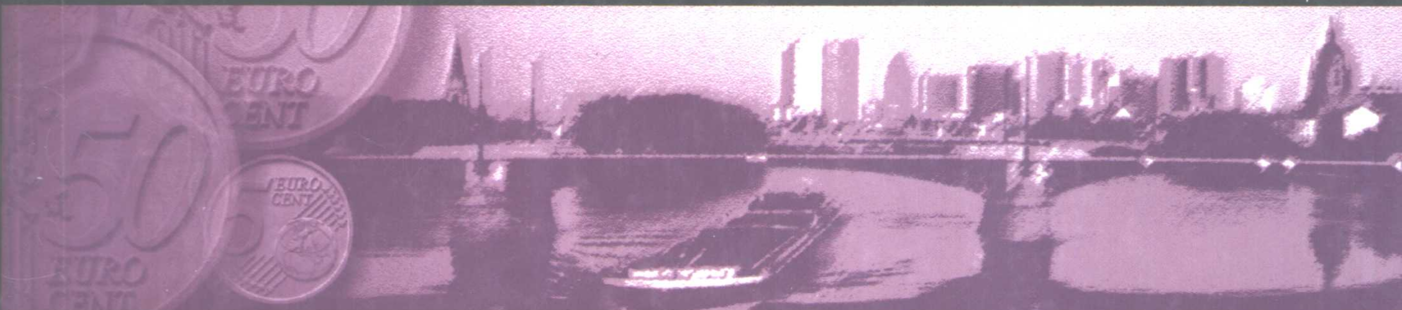

BRUNO SOLNIK

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Fourth Edition

Bruno Solnik
H.E.C. School of Management
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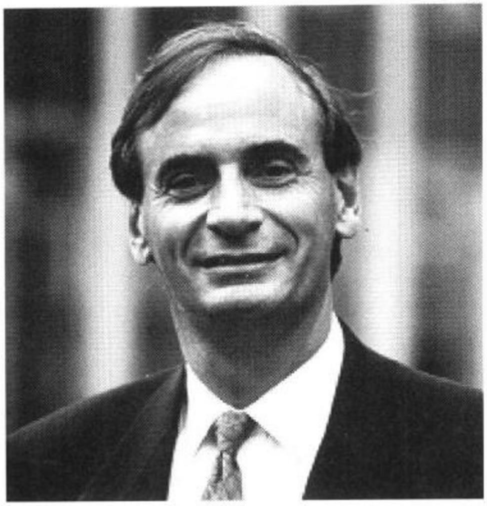
To Catherine, who remains, after three decades of marriage and medical practice, the heart of my life. She has now enjoyed all the exciting aspects of the leading financial cities of the world and the top ten hotels of *Institutional Investor's* list. She has also shared numerous sleepless, interminable airplane hauls and middle-of-the-night phone calls from Hong Kong, Tokyo, or San Francisco. Let this book add to the long list of pleasures and suffering we happily share.

About the Author



Bruno Solnik is Professor of Finance at the H.E.C. School of Management in France, where he chairs the Finance and Economics Department. He holds an Engineering degree from Polytechnique in Paris and a Ph.D. from Massachusetts Institute of Technology. Before joining H.E.C., he was on the faculty of the Stanford Business School.

Professor Solnik has been a visiting professor at the University of California at Berkeley, U.C.L.A., Strathclyde University, and the Université de Genève. He was the founding president of the European Finance Association. He has written seven books, five in France and two in the United States, including *International Investments*. He has published some fifty articles in leading finance journals such as the *Journal of Finance*, the *Financial Analysts Journal*, *Journal of Financial and Quantitative Analysis*, and the *Journal of Portfolio Management*. He serves on the board of editors of several major finance journals in America, Europe, and Asia. He has received many prizes, including a 1994 Graham & Dodd award from the *Financial Analysts Journal*. In 1999, he received the prestigious Nicholas Molodovsky award from the Board of Governors of the Association for Investment Management and Research. This award is given periodically to individuals whose outstanding contributions have changed the direction of the finance profession and raised it to higher standards of accomplishment. Previous recipients include Fischer Black, Marty Leibowitz, Harry Markowitz, Merton Miller, Roger Murray, Bill Sharpe, and Jack Treynor.

Professor Solnik's work focuses on international financial markets, from exchange risk to international portfolio diversification. His expertise has been called upon by many pension funds and banks in Europe, the United States, and Asia. He serves on the Council for Education and Research of the AIMR (Association for Investment Management and Research).

Preface

Twenty-five years ago, I published an article entitled "Why not diversify internationally rather than domestically?" in the *Financial Analysts Journal* (July/August 1974). At the time, U.S. pension funds had never invested outside of the United States. The situation was not very different in most other countries (except Britain) in which international investment by pension funds and other institutional investors was legally prohibited or regarded as exotic. Although European banks and private investors have long been international investors by cultural heritage as well as necessity (given the small size of each country), pension funds guidelines often limited or prohibited international investments. Because pension plans are large and sophisticated investors, their absence on the international scene was significant. Various forms of capital and currency controls constrained international investing. Few brokers or asset managers offered global services, and the combination of low expertise, stringent regulations, and high costs inhibited global investing. Twenty-five years later, the investment scene has changed dramatically.

Back in 1974, the world stock market capitalization stood below $1 trillion, and the U.S. market share was close to 60%. Since the publication of the first edition of this book, the world stock market capitalization has passed the $23 trillion mark, and the U.S. stock market share has fluctuated between 30% and 60%. It is now common to see U.S. pension funds with 10% or 20% of their assets invested internationally. The value of foreign assets held by U.S. pension funds has multiplied by a factor of ten in the past ten years, reaching more than $600 billion by 1999. Individual investors have followed the trend, and the number of international mutual funds offered to American investors is astonishing. A similar trend toward international investing can be seen in all countries, most notably, Japan and Europe. For example, ABP, the pension fund of Dutch civil servants and one of the largest in the world with total assets well over $100 billion, decided in 1989 to move from a purely domestic strategy to invest a growing percentage of its assets abroad. Dutch institutional investors now have more than 30% of their assets abroad.

The rapid pace of international investing is due to a change in mentality based on many factors. First, the benefits of international diversification in terms of risk and return have increasingly been recognized, as detailed in this book. This has led to a push toward guidelines and legislation more favorable to foreign investments. For example, many U.S. public pension funds have obtained a modification of their investment constraints. A second factor is the deregulation and internationalization of financial markets throughout the world. This global integration of financial markets leads to reduced costs, easier access to information, and the development of worldwide expertise by major financial institutions. In 1986, foreign organizations and banks were allowed to become members of the Tokyo and London stock exchanges. A similar step was taken in France in 1988 and is now the rule in all major countries. Computerized quotation and trading systems have been developed that allow global round-the-clock trading. At the start of 1990, restrictions to capital flows were removed within the countries of the European Union (EU); European-based investment management firms can freely market their products to residents of any EU member state. Hence, American or Japanese asset managers established in London can easily provide their services to any European client. This globalization of investment management has led to increased competition among money managers of all nationalities, as well as to a wave of alliances, mergers, and acquisitions among financial institutions in order to extend their international management expertise and the geographic coverage of their client base. The trend is most visible in Europe, where banks and insurance companies have acquired brokers (at home or abroad) and engaged in alliances and takeovers to access the global European market. It is also visible in the United States and Japan.

Target Audience

This book is designed for MBA students and professionals working in the investment area. In some cases, it has been used for senior-level undergraduates majoring in finance. The book is, to a large extent, self-contained and does not take a specific national viewpoint (e.g., American); hence, it has been successfully used in courses and professional seminars throughout the world.

As of 1999, this book is a recommended reading for the CFA examination.

Structure of This Book

The greatest challenge international money managers face is dealing with the sheer complexity of the international capital markets. It requires familiarity with foreign cultures, financial instruments, and markets.

Financial traditions vary across the world and strongly influence the organization and functioning of markets. A global investor must obtain information from different sources and be able to interpret it. Regulations, dealing practices, taxes, and costs complicate the investment process. The diversity and complexity of instruments available worldwide are an intellectual challenge. Different techniques and concepts must be applied to satisfy the range of objectives sought by the investors the manager serves. But the most difficult task is probably operating in a complex *multicurrency* environment, which is why this book starts with a detailed analysis of foreign exchange.

This fourth edition is divided into six parts. *Part One* deals with the international monetary environment. Its three chapters are designed to provide a sufficient understanding of the relations across national monetary variables and of the determinants of foreign exchange rates. *Part Two* introduces the case for international investing and its theoretical framework. Readers who are already familiar with foreign exchange could start by going directly to the second part, which discusses the motivations of international investing.

The next three parts discuss the institutional features, concepts, and techniques of the major investment and risk-management vehicles. *Part Three* focuses on stock market investments, from the institutional aspects to the concepts and techniques used in global equity investing. A specific chapter is devoted to emerging stock markets. *Part Four* deals with fixed-income investment, from the institutional aspects to the concepts and techniques used in global fixed-income investing. The last chapter in this part is devoted to swaps; this introduction to derivatives is a transition to *Part Five,* which focuses on futures, options, and alternative investments. *Part Six* deals with some strategic and organizational issues.

A basic investment course is a useful prerequisite to this text. Some knowledge of international economics may also be of help in the early chapters. Familiarity with discounting techniques and basic statistics (e.g., standard deviation, correlation, regression) will make some of the chapters easier to read. However, this book is intended to be accessible to students and portfolio managers without recent training in portfolio theory. Concepts and theories are presented with a focus on their practical relevance rather than on their mathematical formulations. The more advanced sections appear in chapter appendixes. Each chapter ends with a large number of questions and problems. Brief solutions to selected problems, marked with an asterisk (*), are provided at the end of the book.

Pedagogical Approach

To operate in a complex, multicurrency, multimarket, multicultural environment, you need a strong conceptual framework as well as a working knowledge of institutional aspects. Presenting concepts without resorting to lengthy theoretical expositions full of equations is a challenge. I have attempted to present all the major concepts and theories by illustrating their applications with numerous examples. The examples discussed in the text and the numerous end-of-chapter questions and problems are an important component of this effort. Brief solutions to selected problems are given at the end of the book, with complete solutions of these selected problems provided on the Web site accompanying this text (see the description of the Web site on page xiv).

Concepts and practices in global investment are evolving rapidly. An analysis of recent academic and practitioner literature is provided in a nontechnical fashion. Similarly, institutional details are continuously updated. You can keep up with the most recent institutional changes by accessing the sites listed for each chapter on the Web site.

New to the Fourth Edition

As with the previous editions, this new edition provides students and practitioners with comprehensive yet accessible coverage of international investments.

The fourth edition is a major revision in terms of both content and presentation. *All* chapters have been updated and extensively rewritten to reflect the most current developments in the investment field. End-of-chapter problems also reflect these changes. The international monetary system has undergone profound changes with the introduction of the euro in 1999 and the emerging market crises of the late 1990s. The euro has become the common currency of eleven European countries. It is the only currency used for financial securities and cross-border transactions since 1999, although the traditional European currencies (Deutsche mark, French franc, etc.) will still be used for most domestic transactions until 2002. The fourth edition reflects this change. The coverage of "currencies" has been expanded and improved in Part One, and throughout the text.

The most significant changes are listed below:

- **Chapter 1** has been rewritten to incorporate recent changes in the international monetary system, especially the euro, and the problems encountered with pegged exchange rates.

- **Chapter 3** has been greatly expanded and rewritten to improve its pedagogy. The section on exchange rate determination (purchasing power parity, balance of payments, asset market approach) has been rewritten to provide a better understanding of how the various economic approaches can be used to explain and forecast exchange rate movements. The Asian financial crisis, which rocked emerging markets in the late 1990s, is discussed.
- **Chapter 4** is now better structured and addresses several recent issues such as the stability of international correlation in periods of turbulence.
- **Chapter 5** has been extensively rewritten to improve pedagogy and present the theory more rigorously. The issue of currency exposure is discussed in detail with a focus on the practical implications of the theory through examples and end-of-chapter problems. Empirical studies published in the 1990s are reviewed and interpreted.
- **Chapter 6** presents the new developments in equity market organization and trading. The transformation and globalization of equity markets have become important issues.
- **Chapter 7** has been extensively rewritten. The section on accounting standards has changed considerably since the third edition. The section on stock market valuation is now more detailed and pedagogical. The section on international factors in security returns has been rewritten to reflect all recent empirical evidence and the controversies among country factors, industry factors, and style factors.
- **Chapter 8** has been completely rewritten. Emerging markets became a favorite asset class in the mid-1990s and then crashed. A detailed analysis is provided.
- **Chapter 16** has been improved in several ways. The technical aspects of performance decomposition and attribution are not easy to follow. A simple example has been added that is followed throughout the chapter. Several end-of-chapter problems have been added, some with solutions at the end of the book, to allow students to check their understanding. Performance analysis has become very important in the global arena, and AIMR Global Investment Performance Standards are setting the norm. These standards, published in February 1999, are reproduced as an appendix.
- **Chapter 17** takes into account the evolution of international investing. It starts with a "tour" of the global investment industry and discusses the pros and cons of the various approaches used in international investing in light of the theory and of recent empirical evidence.

Solving problems is probably the most efficient learning device in the field of international investments. The number of end-of-chapter problems has therefore been greatly expanded to give students more opportunities to apply and practice the concepts learned. The answers to selected problems are located in the back of the text, and on the Web site, so that students can check their own work at their own pace. A large number of questions asked in various CFA (Chartered Financial Analysts) examinations have been added. These are shown with the CFA logo. The glossary allows students a quick reference to the key terms presented in the book.

Teaching Aids

An *Instructor's Manual* is available to adopters. The manual includes summaries of chapters and detailed answers to all questions and problems. I have personally prepared each problem and solution in the *Instructor's Manual,* except for the CFA examination questions.

Web Site

A Web site for this book is available at http://awlonline.com/solnik. For each chapter, it cross-references major Web sites that provide up-to-date information on the subject matter. The Web site also contains a database that can be used for the various projects assigned at the end of several chapters. This database includes monthly stock indexes, bond indexes, interest rates, exchange rates, and inflation rates for major countries and a sample of emerging countries. This allows students to conduct tests of various theories presented in the text. The Instructor's Manual is also available on a password-protected part of the site, as are transparency masters of key text and figures.

Acknowledgments

This book is the result of twenty-five years of teaching international investment to students and executives on four continents. My interest in this topic started with my doctoral dissertation at the Massachusetts Institute of Technology, and I am grateful to my former teachers R. Merton, F. Modigliani, S. Myers, G. Pogue, and M. Scholes. I also owe a special debt to

many colleagues at universities where I taught international investment: Stanford, Berkeley, École Polytechnique, Université de Genève, and H.E.C. In times when international diversification was often regarded as an exotic idea, several organizations supported me in spreading the *bonne parole.* Special thanks are due to N. de Rothschild (Banque Rothschild); D. Nichol (Ivory Sime); J. Twardowski (Frank Russell and Q. Group); G. Stevenin (Rondeleux Oudart); K. Mathysen-Gerst and P. Keller (Lombard Odier); H. P. Baljet (Lombard Odier Nederland); F. Grauer (Wells Fargo); C. Nowakowski (Intersec); J. D. Nelson, L. R. Golz, and D. Umstead (State Street Bank); F. s'Jacob and R. van Maasdyck (LOIPM); Y. Sakaguchi (NIMCO); S. Fukabori (Kokusai); R. and S. Toigo (IFE); M. Leibowitz (Salomon Brothers); J. Gillies (Frank Russell Co.); J. Frijns and J. Overmeer (Inquire Europe); R. Arnott and B. Goodsall (First Quadrant); and J. Vertin, K. Sherrerd, and D. Tuttle (AIMR).

From my fifteen-year association with Lombard Odier, I discovered not only that no theory could ever reflect the complexity of international finance, but also that many ideas and techniques presented in this book could provide valuable assistance to investment management. Thierry Lombard and Patrick Odier were a constant source of ideas and inspiration for this book.

Numerous people have assisted me in the preparation of this fourth edition. Special thanks are due to M. Fabaron and J. Gumpelson. Several colleagues provided suggestions for revisions and chapter organization. I am especially grateful to Blaise Allaz (H.E.C.), James Ang (Florida State University), Alexandros Benos (H.E.C.), Geert Bekaert (Stanford University), D'Anne Hancock (University of Missouri, St. Louis), James Lothian (Fordham University, Graduate School of Business), John Olienyk (Colorado State University), Geert Rouwenhorst (Yale School of Management), Hervé Stolowy (H.E.C.), Jahangir Sultan (Bentley College), Dean Taylor (University of Colorado, Denver), Chris Telmer (Carnegie Mellon University), and Linda Tesar (University of California at Santa Barbara). I would particularly like to thank D'Anne Hancock for the many valuable suggestions she gave to improve this fourth edition and for her work in researching appropriate questions and solutions from the CFA examination and keying them to the content of my book.

Bruno Solnik
Paris

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