

PART I

Introduction

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CHAPTER 1

Alternative Investments: An Overview

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INTRODUCTION

Given historically low interest rates coupled with severe equity bear markets, interest in alternative investments has recently soared. Because sophisticated investors viewed the resulting investment environment for traditional investments as low return, many turned to alternative investments as a way of meeting their return objectives and, perhaps to a lesser extent, as a means of controlling risk. That is, alternative investments provide an opportunity to earn a reasonable return with manageable risk. Some alternative investments offer good opportunities to participate in different markets and to apply investment strategies that are unavailable to the general investing public. Thus, investors and portfolio managers who understand alternative investments have a substantial advantage over those who do not. Chen, Baiert, and Kaplan (2002), Amin and Kat (2003), Chen, Ho, Lu, and Wu (2005), and Anson (2006) find superior performance for the inclusion of alternative investments on a stand-alone basis or as a part of a portfolio consisting of traditional assets.

What are so-called “alternative investments”? *Alternative investments* refer to many asset classes that fall outside of traditional investments, such as stocks, bonds, and cash. Broadly speaking, anything else in which an individual or institution can invest may be called an alternative investment. Because alternative investments encompass a wide range of offerings, limiting the discussion of the various types to a few major categories is helpful. Yau, Schneeweis, Robinson, and Weiss (2007) place such investments into two broad categories:

1. Traditional alternative investments
 - *Real estate*: Ownership interests in land or structures attached to land. Investors may participate in real estate directly or indirectly. Direct ownership involves investment in residences, commercial real estate, and

agricultural land. Indirect investment includes investing in companies engaged in real estate ownership, development, or management; real estate investment trusts (REITs); commingled real estate trusts (CREFs); and infrastructure funds.

- *Private equity*: Ownership interests in publicly traded companies. Although private equity involves an array of investment activities, among the most important fields of private equity activity are venture capital (equity financing of new or growing private companies), closely held companies, and buyout funds (the buyout of established companies through private equity funds).
 - *Commodities*: Agreements to buy and sell a tangible asset or an actual physical good that is generally relatively homogeneous in nature. The three major classes of commodities are energy (e.g., crude oil and coal), metals (e.g., gold, silver, platinum, copper, and aluminum), and agricultural products (e.g., coffee beans, corn, orange juice, soybeans, sugar, and wheat). Commodities are essential building blocks of the global economy.
2. Modern alternative investments
- *Managed futures*: Private pooled investment vehicles that can invest in cash, spot, and derivative markets for the benefit of their investors and that have the ability to use leverage in a wide variety of trading strategies. Managed futures offer the potential for reduced portfolio volatility and the ability to earn profit in any economic environment. Managed futures accounts can take both long and short positions in futures contracts and options on futures contracts in the global commodity, interest rate, equity, and currency markets.
 - *Hedge funds*: Loosely regulated and actively managed pooled investment vehicles that use a wide variety of investment strategies, such as taking aggressive long and short positions and using arbitrage and leverage. Because hedge funds can take many forms, no precise legal or universally accepted definition is available. Nonetheless, the primary goal of most hedge funds is to reduce volatility and risk while attempting to preserve capital and deliver positive (absolute) returns under all market conditions.
 - *Distressed securities*: Securities of companies or government entities that are either already in default, under bankruptcy protection, or in distress and heading toward such a condition. The most common distressed securities are bonds and bank debt. As investments, distressed securities are usually very risky because the company might not recover.

Although each of these alternative investments has unique characteristics that require a different approach by investors, alternative investments have some common characteristics. For example, they may be relatively illiquid and may involve relatively high costs of purchase and sale compared to stocks and bonds. Appraising the performance of alternative investments is often difficult because of problems associated with determining the current market value of the asset and the complexity of establishing valid benchmarks. Limited historical risk and return data may be available.

Further, many alternative investments are unavailable or unsuitable for the general public due to their complexity or structure. The complexity associated with alternative investments is a limiting factor for the average investor because such investments may require due diligence and a high degree of investment analysis before buying. *Structure* refers to how the investment is offered. Many alternative investments are private offerings available only to sophisticated investors. Not surprisingly, the major investors in alternative investments are high-net-worth individuals (accredited investors) and institutional investors. According to Securities and Exchange Commission (SEC) guidelines, an accredited investor, in general terms, must have a net worth of at least \$1 million in assets, or have income over \$200,000 per year (last two years and expectation of the same for the current year), or both. Some offerings require investors to have more than \$5 million in assets to qualify. Yet, the potential risk-diversification benefits of alternative investments offer broad appeal across investor types. This is because of their generally low correlation with traditional financial investments.

Purpose of the Book

The purpose of *Alternative Investments—Instruments, Performance, Benchmarks, and Strategies* is to examine the many and varied areas that are now viewed as alternative investments. The survey nature of this book involves trade-offs given the vast footprint that constitutes alternative investments. Although no single book can cover everything associated with this topic, this book highlights key topics. Readers can gain an in-depth understanding of the major types of alternative investments and the latest trends within the field. Empirical evidence about each type of alternative investment is featured. Cited research studies are presented in a straightforward manner, focusing on the comprehension of study findings, rather than the details of mathematical frameworks. Authors contributing chapters consist of a mix of academics and practitioners.

Although each chapter is self-contained, the chapters are organized into five sections: (1) introduction, (2) real estate, (3) private equity, (4) commodities and managed futures, and (5) hedge funds. These topics not only incorporate the major types of alternative investments discussed by Yau et al. (2007) but also expand upon their list. Within each category, the book provides a discussion of such topics as the market for the investments, benchmarks and historical performance, specific investment strategies, and issues about performance evaluation and reporting.

Features of the Book

Alternative Investments—Instruments, Performance, Benchmarks, and Strategies has several distinguishing features.

- Perhaps the book's most distinctive feature is that it provides a detailed discussion of alternative investments, including empirical evidence and practice within the various topics covered. The book attempts not only to blend the conceptual world of scholars with the pragmatic view of practitioners, but also to synthesize important and relevant research studies in a succinct and clear manner and to present recent developments. Thus, the

book reflects the latest trends and cutting-edge research involving alternative investments.

- The book contains contributions from numerous authors, ensuring a variety of perspectives and a rich interplay of ideas.
- Each chapter ends with a summary and conclusions section that provides the key lessons of the chapter.
- When discussing the results of empirical studies that link theory and practice, the objective is to distill them to their essential content so that they are understandable to readers, including theoretical and mathematical derivations to the extent to which they may be necessary and useful to them.
- The end of each chapter contains at least four discussion questions that help to reinforce key concepts. Guideline answers are presented at the end of the book. This feature should be especially important to faculty and students using the book in classes.

Intended Audience

The book's unique set of features should be of interest to various groups, including practitioners, investors, academics, and students. Practitioners can use this book to navigate through the key areas in alternative investments. Individual and institutional investors will also benefit as they attempt to expand their knowledge base and apply the concepts contained within the book to the management of their portfolios. Academics can use this book in their undergraduate and graduate investment courses and as a source for understanding the various strands of research emerging from this area. The book also has the potential for being used in the Chartered Alternative Investment Analyst (CAIA) program because the topics included in the book closely mirror those required by the CAIA program.

STRUCTURE OF THE BOOK

The remaining 27 chapters of the book consist of five sections. A brief synopsis of each chapter by section follows.

Part I. Introduction

Alternative investments include real estate, private equity, commodities, managed futures, and hedge funds, among others. These investments have the potential to enhance the risk-adjusted performance of existing portfolios of traditional investments. Chapter 2 highlights the role that alternative investments play in strategic asset allocation. Chapter 3 explores long-term trends that have emerged in alternative investments because of the financial crisis of 2007–2008. Because many alternative investments operate in private markets under less regulated conditions, Chapter 4 points out the increased importance of investor due diligence when including alternative investments within a portfolio.

***Chapter 2 The Role of Alternative Investments in Strategic Asset Allocation
(Douglas Cumming, Lars Helge Haß, and Denis Schweizer)***

This chapter introduces a framework for strategic asset allocation using alternative investments along with traditional investments. The approach accounts for time series biases with alternative asset indices. A strategic asset allocation model is used that is flexible enough to capture the risk-return profile adequately, as well as to incorporate real investor preferences. The empirical results show that bonds are highly important in all portfolios, but defensive portfolios tend to use stocks of large U.S. firms. In all portfolios, emerging markets gain in relevance with decreasing risk aversion. For alternative investments, all portfolios use the maximum allocation of hedge funds and a medium allocation of commodities. Private equity is comparatively more important in defensive portfolios, whereas REITs gain in importance as risk aversion decreases.

Chapter 3 Trends in Alternative Investments (Erik Benrud)

The market for alternative investments has changed considerably since the financial crisis of 2007–2008. This chapter examines those changes and posits which ones reflect important, long-term trends that emerged from the turbulence of the crisis. The most important overall trend is an increase in the responsiveness of managers to the demands of investors in an effort to keep capital invested. This trend has led to more specific trends, such as an increase in transparency and liquidity in existing products and the introduction of new products with more investor-friendly properties. Although these trends will likely have positive effects, they may also have undesirable implications for the returns on alternative investments.

Chapter 4 Alternative Investments and Due Diligence (Gökhan Afyonoğlu)

Alternative investments such as hedge funds, private equity funds, real estate funds, timberland and commodity funds are drawing ever-increasing amounts of attention and capital. Alternative funds are private investment vehicles that are subject to less regulation than traditional asset classes. From an investment perspective, managers of such investments typically use sophisticated and opaque investment strategies; trade complex instruments such as derivatives; utilize leverage; and invest in illiquid assets. These factors, in addition to risk/return characteristics that differ from those of traditional investments, make analyzing and assessing alternative investments more challenging and elevate the importance of thorough due diligence. Furthermore, the entrepreneurial nature of many investment advisers coupled with a lack of transparency necessitates extensive business or operational due diligence in order to ascertain that firms have adequate organizational structure, governance mechanisms, and checks and balances to safeguard investors; minimize operational risks; and comply with laws, regulations, and industry best practices.

Part II. Real Estate

Investors can gain exposure to real estate in various ways. Chapter 5 introduces the section and points out that this exposure can occur in a variety of ways, including direct investment in private real estate markets (both commercial and residential)

or public equity markets through REITs. Chapters 6 and 7 provide expanded coverage on commercial real estate. Chapter 6 investigates ways of analyzing returns, whereas Chapter 7 offers empirical evidence of how commercial real estate performs through investments in REITs. Chapter 8 discusses how real estate mortgages serve as the collateral for mortgage-backed securities (MBS) and how the increased complexity of MBS played a key role in the recession emerging from the financial crisis of 2007–2008. Chapter 9 shows the role that real estate can play in the private equity markets. Chapter 10 provides a discussion of methods available to value real estate. Chapter 11 concludes the section by discussing three different approaches to assessing real estate performance.

Chapter 5 REITs and the Private Real Estate Market (Shaun A. Bond and Qingqing Chang)

Financial economists have long been interested in the dual-market nature of real estate. Real estate is in a unique position among alternative asset classes in that an active market transacting commercial and residential real estate assets exists alongside the public pricing and trading of REITs on the stock market. This chapter summarizes past research on how these two markets are connected and whether investors in REITs receive a return consistent with the direct real estate market. To investigate this issue, an analysis is conducted using multivariate cointegration techniques on a data set that includes the financial crisis of 2007–2008 and a carefully matched set of control variables. Researchers have previously used matched controls to address this issue. The findings suggest that REITs and the private real estate market adjust together toward a long-run equilibrium. Evidence also indicates that the financial markets lead movements in the real estate market.

Chapter 6 Commercial Real Estate (Peter Chinloy)

This chapter develops the return to holding commercial real estate. That return is examined for the four main property types: apartments, industrial, office, and retail. Commercial real estate has a return consisting of the sum of an income yield or cap rate and capital gains. Interestingly, expected capital gains over the long term are equal to the rate of inflation. The real return to real estate is consequently the income yield or capitalization (cap) rate, which acts as the real discount rate. The cap rate differs between investors even for the same asset because of agency and contract issues. The agency issues concern operating expenses, capital expenses, and revenues. Because apartment tenants differ in ability to operate and lack scale, landlords bear these costs. Leases are offered with full service to tenants. Industrial tenants are on site, so landlords offer triple net leases and pay no maintenance. Office tenants are unsure about capital expenses and demand them up front as tenant improvements. Retail tenants offer to share revenues with landlords to ensure upkeep.

Chapter 7 Real Estate Investment Trusts (Brad Case)

This chapter focuses on the return characteristics of commercial real estate investments made through REITs. REITs enable investors to access the commercial real estate asset class indirectly through ownership of equity shares in a company whose assets consist primarily of commercial properties or mortgages and whose

revenues derive primarily through commercial property leases or mortgage payments. Investments in equity shares of listed REITs preserve liquidity while exposing the investor to short-term fluctuations not related to property market developments. Historical performance data suggest stronger risk-adjusted returns for investments in listed REITs than for other real estate investments. This result may be attributable to differences in principal-agent issues, financing practices, and capital market discipline.

Chapter 8 Mortgage-Backed Securities (Eric J. Higgins)

MBS are a financial repackaging of the interest and principal payments on mortgages that are sold to investors. The repackaging of these mortgage payments is known as *securitization*. Mortgage securitization relies on the knowledge of the cash flows to be received from the mortgages, including prepayments. The MBS market in the United States reached a peak of over \$9 trillion in 2007. The current MBS market had its genesis in the late 1960s, but two previous MBS markets existed in the United States in the late 1880s and the 1920s. The increasingly complex mortgage securities created in the recent MBS market helped fuel a real estate boom that ultimately led to the worst U.S. recession since the Great Depression.

Chapter 9: Mezzanine Debt and Preferred Equity in Real Estate (Andrew Berman)

This chapter discusses mezzanine loans and preferred equity investments, which are two types of nontraditional real estate financing providing capital and liquidity to real estate owners. Unlike traditional mortgage loans, these nontraditional methods of financing have complex structures and different risks and benefits. Mezzanine loans are debt transactions in which the lender's collateral is in the form of the mezzanine borrower's ownership interests in other entities that own income-producing property. Preferred equity transactions are structured as equity investments in an entity that owns real property. These equity investments are structured as capital contributions to the entity; in return, the investor receives a preferred return on its investment. The investor's preferred return is the economic equivalent to interest on a mezzanine loan. Although each of these financing vehicles is structured differently (one as debt and the other as equity), both allow property owners to obtain funds in excess of the typical senior mortgage loan, increase the property owner's leverage, and provide liquidity. This chapter discusses the unique structure of these financings and examines both the opportunities and risks for real estate owners, mezzanine lenders, and preferred equity investors.

Chapter 10 Real Estate Appraisal and Valuation (Jeffrey D. Fisher and Demetrios Louziotis, Jr.)

This chapter explains why appraisals are necessary for the valuation of private real estate investments. The traditional approaches to valuation are explained, including a discussion of their advantages and disadvantages. Emphasis is placed on the income approach, because income tends to be most relevant for income-producing real estate. The income approach may be based on direct capitalization (value in perpetuity), discounted cash flow (DCF) analysis, or both. DCF uses a discount rate to estimate the present value of projected future cash flows from operations and resale of the property at the end of its holding period. The relationship between

the discount rate and cap rate is also discussed. The cap rate is used in direct capitalization and is the ratio of the first year net operating income (NOI) to the value of the property. It is often used as a general guideline for how commercial real estate is being priced relative to its current earnings. The sales comparison and cost approaches are alternative methods for estimating value and provide a check on the results of the income approach. The final value estimate reconciles the individual value estimates from each approach used.

Chapter 11 Performance of Real Estate Portfolios (David Geltner)

This chapter describes the three major approaches to measuring the investment returns within the real estate asset class or portfolios of commercial properties: indices based on appraisals, transactions, and stock prices. Appraisal-based indices are the traditional approach, but suffer from lagging and smoothing bias, questions about their subjectivity, and the limited population of properties that are regularly appraised. Transaction-based indices, a major innovation during the past decade, address many of these shortcomings. Yet, they provide only price change, not total return, and are difficult to trade or invest in directly. The newest innovation is stock market-based indices that provide more frequent and leading information and greater tradability but do not directly reflect private property market pricing.

Part III. Private Equity

Private equity consists of the four components discussed within this section: venture capital, mezzanine capital, buyout funds, and distressed debt. Chapter 12 discusses venture capital, which is most closely associated with financing for privately held startup companies. Mezzanine capital, as discussed in Chapter 13, offers investors higher return opportunities within debt securities in exchange for a subordinated position within debt issues. Chapter 14 introduces buyout funds, which consist of publicly held firms taken private, often for the purposes of increasing firm efficiency and restoring entrepreneurial spirit without being under the microscope of the public markets. Distressed debt, discussed in Chapter 15, offers opportunities for investment returns from positions taken in a recovering firm or through appropriate positions in the bankruptcy process for a deteriorating firm. In Chapter 16, the holistic performance of private equity is assessed on a stand-alone and risk-adjusted basis. Chapter 17 further extends this analysis through assessment of systematic and abnormal performance of private equity.

Chapter 12 Venture Capital (Tom Vanacker and Sophie Manigart)

This chapter introduces venture capital, which is a subset of the private equity asset class that focuses on investments in new or growing privately held companies with high growth potential. It specifically addresses why venture capital investors exist beside traditional financial intermediaries, such as banks; what the different venture capital models are; what venture capitalists do; how venture capital investors influence the development of their portfolio companies; and how venture capital as an asset class may create value for investors. For this purpose, the chapter relies on an extensive and growing, but largely fragmented, stream of research on venture capital from the finance, entrepreneurship, and management fields.

Chapter 13 Mezzanine Capital (Sameer Jain and Phillip Myburgh)

Mezzanine securities represent privately-negotiated instruments with a cash flow and collateral priority ranking in the middle of a borrower's capital structure, senior to common or preferred equity but subordinated to senior secured debt. The ongoing dislocation in global credit markets creates an environment where liquidity and capital resources are expected to remain scarce. The senior secured syndicated loan market has contracted substantially, and both the second-lien bank debt and high-yield markets are generally only accessible by seasoned issuers typically raising large amounts with relatively conservative capital structures. These prevailing market conditions create a particularly attractive environment for mezzanine investors, because mezzanine capital is required to bridge the funding gap in many transactions that require borrowers to raise leveraged finance. This chapter analyzes mezzanine capital's investment characteristics, distinguishes between mezzanine capital and high-yield debt, explores supply and demand factors driving mezzanine pricing, reviews similarities and differences in mezzanine's usage in the United States and Europe, and highlights important investing considerations.

Chapter 14 Buyout Funds (Christian Rauch and Mark Wahrenburg)

What are buyout funds, how are they run, and how do they create value for investors? What is the current state of the buyout industry, and how did fund managers deal with the adversities they faced during the financial crisis of 2007–2008? Which challenges await the industry in the future? This chapter attempts to answer these questions. To do so, the chapter explains the economic features and major value drivers of buyout funds. It also discusses how the recent financial crisis crippled these value drivers and how the subsequent regulatory scrutiny might have the potential to change the buyout industry in the future.

Chapter 15 Distressed Debt Investing (Michelle M. Harner, Paul E. Harner, Catherine M. Martin, and Aaron M. Singer)

This chapter discusses the phenomenon of distressed debt investing. Hedge funds and private equity funds, as well as other investors, increasingly seek returns through debt or equity securities of troubled companies. These investments present various strategic and legal considerations with which courts and investors themselves continue to wrestle. For example, gaps in information often exist for distressed debt investors, especially if the company issuing the relevant debt or equity is private. Distressed debt investors are ultimately placing a bet about the appropriate level in the capital structure in which to invest as the likely "fulcrum security." Investors also face the risk that the claims they purchase may be valueless based on avoidable transfer theories or other, similar principles. This chapter discusses these and other related issues and provides illustrative case studies to describe the potential legal ramifications of distressed investments.

Chapter 16 Performance of Private Equity (Christoph Kaserer and Rüdiger Stucke)

This chapter gives an overview on the performance of private equity, the different performance-measurement methods, as well as evidence from the recent literature and a database with current performance numbers. First, the chapter explains why the calculation of time-weighted returns is extremely difficult for private equity

funds. As a result, alternative performance measures have been developed that are based on the observable cash flows from a fund investor. On this basis, the internal rate of return (IRR), the modified IRR, and the money multiple, as well as the public market equivalent are introduced. Second, methodological as well as operational problems associated with these methods, the adjustment for risk, and the challenges in obtaining reliable performance data are discussed. Finally, the chapter gives an overview on the empirical findings in the literature on private equity performance, and presents recent performance numbers for three subasset classes of private equity.

Chapter 17 Private Equity: Risk and Return Profile (Axel Buchner, Arif Khurshed, and Abdulkadir Mohamed)

This chapter examines abnormal performance and systematic risk of private equity investments around the world. The methodology extends the standard IRR approach and allows the estimation of systematic risk and abnormal returns of a cross-section of private equity investment cash flows. The empirical results show that the systematic risk (beta) for the venture and buyout investments is significantly different from 1.0, while abnormal returns (as measured by alpha) are significantly positive for both types of deals. Buyout investments are characterized by lower systematic risk and higher abnormal performance than venture capital investments.

Part IV. Commodities and Managed Futures

Commodity investments often serve as a hedge against inflation, offering diversification benefits in a portfolio context. Managed futures strategies, which include commodity and financial futures, incorporate active management and leverage to take advantage of opportunities that exist in capital markets. Chapter 18 gives an overview of the performance of commodities and the role they play in a portfolio context. In Chapter 19, commodity performance is further analyzed through various strategies. Chapter 20 introduces methodology to assess the role that commodities play in strategic portfolio allocation. Chapter 21 discusses managed futures strategies. Chapter 22 reports and analyzes their historical performance.

Chapter 18 Investing in Commodities (Claudio Boido)

Policies of asset allocation have changed substantially in the last decade, and many asset managers have varied their choices of asset classes within a portfolio. Research shows that commodity futures returns often exhibit a negative correlation with equity markets. In recent years, two major changes have taken place in commodity markets. First, world demand for commodities has been sustained due to large variations in the price of some commodities. Historically, the real prices of crude oil and equities have increased in tandem only during episodes of growth in world demand for industrial commodities. Second, financial institutions have sharply increased their share of open interest in commodity futures markets. This chapter examines commodities as a financial asset and reviews the recent literature on the correlation between commodities and traditional asset classes with a view on how to select a portfolio.

Chapter 19 Performance of Commodities (Andrew Clark)

This chapter discusses the history of commodity trading, commodity trading basics, commodity futures, the basics of commodity exchange-traded funds (ETFs), and commodity investing via managed futures. It also examines contango and backwardation and their associated roll yields and, finally, the intermediate-term outlook for commodities. The chapter focuses on how to trade commodities through futures, ETFs, and commodity-trading advisors (i.e., managers of managed futures accounts). In particular, the following areas are discussed: costs of carry; margin accounts; leverage issues, especially as they occur in ETFs; the hows and whys of spreading; delta-neutral hedging; nondirectional trading; and trading programs such as trending and market-neutral strategies.

Chapter 20 Commodity Futures and Strategic Asset Allocation (Yongyang Su, Marco Lau, and Frankie Chau)

This chapter analyzes the role of commodities in the process of strategic asset allocation. It emphasizes computing the optimal weighting of commodities relative to the traditional assets in a multiperiod portfolio choice setting and offers some plausible explanations on why commodities are an important asset class beyond the traditional portfolios of stocks and bonds. From the perspective of U.S. investors, the analysis shows that investors have a relatively strong and stable intertemporal hedging demand for commodities for long-term horizons despite their increasingly easy and inexpensive access to the global equity and bond markets. Overall, the results lend support to those institutional investors who believe that commodities are an important asset class and continue to include such assets in their strategic portfolio allocation process.

Chapter 21 Managed Futures: Markets, Investment Characteristics, and Role in a Portfolio (David Accomazzo)

The modern investor faces increasingly complex financial markets. Globalization, exceptional international monetary policies, fragmentation of trading venues, rapidly changing technology, and an unstable regulatory framework contribute to instability and to the shattering of some long-held investing convictions. Crises seem to occur more frequently and with increasing magnitude, and traditional diversification does not seem to provide the advantages witnessed in the past. This chapter provides an overview of an alternative investment strategy called managed futures that can improve portfolio construction. The overview includes an introduction to the industry, an analysis of the current state of the sector, and the role of this strategy in a portfolio. Particular attention is dedicated to the dynamic of choosing a Commodity Trading Advisor (CTA). Furthermore, a case study about the recent collapse of MF Global—one of the largest brokers in the industry—is included due to its far-reaching consequences and likely changes that may result in the industry because of it.

Chapter 22 Performance of Managed Futures: 1983 to the Post-2008 Crisis Period (Kai-Hong Tee)

The growth of the managed futures industry increased dramatically in the late 1970s after the introduction of the world's first financial futures contracts (foreign currency futures) by the Chicago Mercantile Exchange in 1972. The first published

academic research on the performance of managed futures appeared in the 1980s. Researchers who adopted similar performance metrics to assess managed futures in different time periods also reach similar conclusions as earlier studies about the benefits of managed futures. Some recent studies address the issues of performance persistence and market-timing ability of managed futures traders. Following the onset of the financial crisis of 2007–2008, researchers also reassessed the diversification benefits of managed futures and the low correlations of their returns with those of stocks and bonds. Evidence reaffirms that the favorable characteristics of managed futures investments are useful for investors looking for a “crisis alpha” for their portfolios in periods with high market volatility.

Part V. Hedge Funds

Hedge funds encompass a wide variety of strategies that run the gamut from those that alter systematic risk exposure to those that focus exclusively on mispricing by eliminating systematic risk altogether. Chapter 23 offers an overall introduction to hedge funds, explaining the dynamics of the markets in which they operate and biases associated with performance measurement. Chapter 24 focuses on the performance of various hedge fund strategies, indicating that adding hedge funds to traditional portfolios offers enhanced returns and reduced risk. Chapter 25 presents risk management measures in assessing the complex risk exposures undertaken by hedge funds. Chapter 26 discusses the role hedge funds may have played in the financial crisis of 2007–2008 and the regulatory framework in which hedge funds operate. Chapter 27 introduces replication strategies as a basis of mimicking the dynamic nature of hedge fund strategies. Chapter 28 explores the trade-off of the benefits of managerial expertise in creating these funds with the added expense of an additional layer of fees.

Chapter 23 Investing in Hedge Funds (Hunter Holzhauser)

This chapter provides an introduction to the extensive field of hedge fund investing, which has grown over the last 60 years to become a major influence on the financial markets. As this influence grows, new pillars of empirical research are raised to shine more light on the hedge fund industry from every angle, including performance, risk management, market impact, and fund of funds strategies. Detailed analysis of each area of empirical research can be found in the following chapter. However, to firmly support these pillars of research, this chapter builds a solid foundation based upon the history and purpose of hedge funds. Thus, this chapter builds upon more foundational themes for hedge funds, including their structure, history, data biases, strategies, and future.

Chapter 24 Performance of Hedge Funds (Dianna Preece)

Hedge funds pool private capital and engage in a wide range of investment and trading activities. Fund managers take long and short positions and use leverage and derivatives to accomplish the return objectives of the fund. Actions of fund managers, rather than those of market forces, tend to drive hedge fund returns. Funds are limited to accredited investors who generally are high-net-worth individuals and institutional investors. Substantial research examines hedge funds during the last 15 years. Studies show that hedge funds have negatively skewed

returns with positive excess kurtosis. Hedge fund returns exhibit low correlation with stock and bond returns, making them an attractive addition to a portfolio of traditional assets. Studies also indicate that adding hedge funds to portfolios of traditional assets tends to reduce risk and increase returns.

Chapter 25 Hedge Funds and Risk Management (Theodore Syriopoulos)

Hedge funds have exhibited not only fast growth rates and increased assets under management but also losses and failures. The dynamic investment strategies employed and the complex risk exposures undertaken have turned the issue of efficient risk management into a critical priority. This chapter contributes a concise discussion and critical evaluation of the advantages and limitations of the most appropriate risk tools to apply to hedge funds, such as the variance-based approach, value-at-risk, expected shortfall, extreme value theory, tail analysis, and generalized Pareto distribution. The empirical approaches most widely employed to calculate risk measures are also introduced, including parametric models, Monte Carlo and historical simulations, scenario analysis, stress tests, and copulas.

Chapter 26 Hedge Funds and the Financial Crisis (Jing-Zhi Huang and Ying Wang)

Hedge funds suffered their worst year on record in 2008, during the financial crisis of 2007–2008. Yet, the crisis brought more attention to the so-called shadow banking system, which includes hedge funds among other players. This chapter focuses on two important issues that received extensive coverage in the wake of the financial crisis: the role of hedge funds in the crisis and the regulation of hedge funds. In particular, this chapter reviews recent studies that examine trading activities of hedge funds during the crisis and also reports some recent developments on how to extract the information about systemic risk from hedge funds.

Chapter 27 Hedge Funds: Replication and Nonlinearities (Mikhail Tupitsyn and Paul Lajbcygier)

Hedge funds were once considered to derive returns only from managers' superior skill for security selection and market timing as well as their ability to find and quickly exploit arbitrage opportunities in the market. Recently, researchers have challenged this view when academic studies revealed that a large part of hedge fund returns stems from systematic risk premiums rather than abnormal performance or alpha. As a result of the revelation that an alternative beta exists and drives hedge fund returns, many researchers have been motivated to determine if hedge fund returns can be replicated inexpensively, similar to index fund replication, such as Vanguard's S&P 500 product. So far, researchers have proposed several approaches to replication. However, the task is still a work-in-progress in terms of successful implementation. Hedge funds' dynamic investment strategies and flexibility to trade derivatives lead to complex nonlinear exposures to systematic risk, which existing linear models fail to capture. Until these nonlinear features are taken into account, any replication model is unlikely to succeed and evolve into a viable alternative to direct hedge fund investing. Therefore, this chapter introduces a new nonlinear model of hedge fund returns that paves the way toward nonlinear replication.

Chapter 28 Fund of Funds: A Tale of Two Fees (Kartik Patel)

The role of a hedge fund asset class in institutional portfolios has increased in popularity because of its ability to deliver high risk-adjusted performance while maintaining a low correlation to traditional asset classes, such as stocks and bonds. A fund of funds (FOF) provides exposure to a diversified portfolio of hedge funds for institutional investors. FOFs add value through strategic allocation and manager selection to construct portfolios. Selecting the number of funds in a portfolio depends on the investor's risk appetite. Although a small number of funds in a portfolio has a potential of earning high returns, it poses a risk of underperforming benchmarks required for institutional mandates. Selecting a FOF depends on identifying managers with both a strong operational due diligence team and a strong investment team.

SUMMARY AND CONCLUSIONS

Alternative investments include a wide variety of assets that do not fall within the context of traditional investments. This book explores real estate, private equity, commodities and managed futures, and hedge funds within the universe of alternative investments. As a group, alternative investments allow for the possibility of enhanced risk-adjusted performance through the possibility of enhanced returns, reduced risk, or both.

Having a better understanding of the role these investments play in a portfolio context offers advantages to investors, especially when that knowledge also includes investment strategies that are implemented in the private markets. This awareness should include an understanding of the lack of normality and the potential illiquidity that exist within these markets. Some strategies attempt to eliminate market risk completely in an attempt to exploit mispricing, often with leverage (e.g., market-neutral hedge fund strategies), whereas other strategies attempt to provide a hedge against inflation (e.g., commodity futures). Throughout this book, readers can expect not only to gain a better understanding of each of the types of alternative investments presented, but also to understand how their inclusion may better achieve portfolio objectives. Enjoy the journey.

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