

Mutual Funds and Exchange-Traded Funds

BUILDING BLOCKS TO WEALTH



**H. KENT BAKER
GREG FILBECK
HALIL KIYMAZ**

EDITORS

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—John Green

Mutual Funds and Exchange-Traded Funds: Building Blocks to Wealth represents the work of many people all with the singular purpose of creating the most informative book possible on the subject. The list of contributors is long but we want to single out the following, all of whom merit special recognition. The reviewers of our initial book proposal offered useful suggestions and guidance for improving the book. The contributing authors provided multiple revisions of their work resulting in high quality and in-depth chapters. Our partners at Oxford University Press all contributed substantially to the publication of this book especially Scott Parris (Editor) and Cathryn Vulman (Assistant Editor). Other important contributors included Cherline Daniel (Senior Project Manager), Lynn Childress (Copyeditor), and Claudie Peterfreund (Indexer). We also appreciate the support of our respective institutions—the Kogod School of Business at American University, the Black School of Business at Penn State Behrend, and the Crummer Graduate School of Business at Rollins College. Finally, our families have been highly supportive throughout the project. We dedicate this book to our families: Linda and Rory Baker; Janis, Aaron, Kyle, and Grant Filbeck; and Nilgun and Tunc Kiymaz.

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Abbreviations

ABS	asset-backed security
ACWI	All Country World Index
ADR	American depository receipt
AFI	Analistas Financieros Internacionales
AMEX	American Stock Exchange
AMLF	asset-backed commercial paper money market mutual fund liquidity facility
AP	authorized participant
APT	arbitrage pricing theory
ASRIA	Association for Sustainable and Responsible Investment in Asia
AUM	assets under management
BCG	Boston Consulting Group
BM	book-to-market
CAPM	Capital Asset Pricing Model
CAR	cumulative abnormal return
CCO	chief compliance officer
CDO	collateralized debt obligation
CDS	credit default swap
CDSL	contingent deferred sales load
CEF	closed-end fund
CFTC	Commodity Futures Trading Commission
CIU	collective investment undertaking
CNAV	constant net asset value
CS	characteristics selectivity
CSA	Credit Support Annex
CSR	corporate social responsibility
CV	coefficient of variation
D2C	direct-to-consumer
DJIA	Dow Jones Industrial Average
DJREI	Dow Jones U.S. Real Estate Index
DRIP	dividend reinvestment program
DWR	dollar-weighted return
EBRI	Employee Benefit Research Institute

ECB	European Central Bank
ECM	Error Correction Model
EGTRRA	Economic Growth and Tax Relief Reconciliation Act
EMH	efficient market hypothesis
EMMF	emerging market mutual fund
ERISA	Employee Retirement Income Security Act
ESA	Education Savings Account
ESG	environmental, social, and governance
ETF	exchange-traded fund
ETMF	exchange-traded managed fund
ETN	exchange-traded note
Eurosif	European Sustainable Investment Forum
FCA	Financial Conduct Authority
FDR	false discovery rate
FERSA	Federal Employees' Retirement System Act of 1986
FINRA	Financial Industry Regulatory Authority
FoF	funds-of-funds
FSA	Financial Services Authority
FSOC	Financial Stability Oversight Council
FTSE	Financial Times Stock Exchange
GAAP	generally accepted accounting principles
GIC	guaranteed investment contract
GICS	Global Industry Classification Standard
GLS	generalized least squares
GMM	generalized method of moments
GNMA	Government National Mortgage Association
GO	general obligation
GSE	government-sponsored enterprise
GSIA	Global Sustainable Investment Alliance
HFT	high-frequency trading
HML	high minus low
HY	high yield
IAA	Investment Advisers Act of 1940
IAPT	international arbitrage pricing theory
ICA	Investment Company Act of 1940
IETF	inverse exchange-traded fund
IFC	International Finance Corporation
IG	investment grade
IMMFA	Institutional Money Market Funds Association
IPO	initial public offering
IRS	Internal Revenue Service
ISDA	International Swaps and Derivatives Association
ISLA	International Securities Lending Association
LCR	liquidity coverage ratio
LETF	leveraged exchange-traded fund
LIBOR	London Interbank Offered Rate

LIETF	leveraged and inverse exchange-traded fund
LOP	law of one price
MBS	mortgage-backed security
MDP	managed distribution policy
MFS	Massachusetts Financial Services
MIT	Massachusetts Investors Trust
MMDA	money market deposit account
MMMF	money market mutual fund
MOM	momentum factor
MPPM	manipulation proof performance measure
MSCI	Morgan Stanley Capital International
NA	no arbitrage
NASD	National Association of Securities Dealers
NAV	net asset value
NEST	National Employment Savings Trust
NGO	nongovernmental organization
NPV	net present value
NTF	no-transaction fee
NTW	net terminal wealth
NYSE	New York Stock Exchange
OEF	open-end fund
OEIC	open-ended investment company
OTC	over-the-counter
PCAOB	Public Company Accounting Oversight Board
P/E	price/earnings
PPA	Pension Protection Act
PPP	purchasing power parity
QDIA	qualified default investment alternative
RAFI	Research Affiliates Fundamental Indexation
RBSA	return-based style analysis
RC	risk contribution
RDR	retail distribution review
REIT	real estate investment trust
RIAA	Responsible Investment Association of Australasia
RIC	registered investment company
SAA	strategic asset allocation
SAI	statement of additional information
SBJPA	Small Business Job Protection Act
SBWG	Salomon Smith Barney World Government
SCF	Survey of Consumer Finances
SDF	stochastic discount factor
SEC	Securities and Exchange Commission
SIO	social investment organization
SMB	small minus big
SPDR	Standard & Poor's Depository Receipt
SPV	special purpose vehicle

SRI	socially responsible investing
SRMF	socially responsible mutual fund
SRO	self-regulatory organization
STAR	smooth threshold auto regression
TAA	tactical asset allocation
T-bill	Treasury bill
TDF	target-date fund
TEV	tracking error variance
TGP	Temporary Guarantee Program
TIPS	Treasury Inflation Protection Securities
TNA	total net assets
TRA	Taxpayer Relief Act
TSP	Thrift Savings Plan
TVA	Tennessee Valley Authority
TWR	time-weighted rate of return
UCITS	Undertaking for Collective Investment in Transferable Securities
UIT	unit investment trust
UNGC	United Nations Global Compact
VaR	value-at-risk
VAR	vector auto regression
VNAV	variable net asset value

Mutual Funds and Exchange-Traded Funds

Part One

BACKGROUND

1

Mutual Funds and Related Investment Vehicles: An Overview

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The best argument for mutual funds is that they offer safety
and diversification. But they don't necessarily offer safety and
diversification.
Ron Chernow

Introduction

Investors face a bewildering array of choices of where to put their money from traditional investments such as stocks, bonds, and cash to various alternative investments. Some choose to build and manage their own investment portfolios. The portfolio management process of planning, execution, and feedback is a challenging undertaking especially for those investors who lack the requisite knowledge, skills, and experience. For example, these investors face such daunting tasks as determining investment objectives and constraints, integrating investment strategies with capital market expectations to select the specific assets for the portfolio, monitoring and rebalancing their investments as economic events or personal circumstances change, and evaluating portfolio performance (Maginn, Tuttle, McLeavey, and Pinto 2007).

Others choose a *separate account*, which is a plan that holds only the assets for a single individual and is managed by an investment adviser. A separate account enables the investor to customize investments based on specific criteria. Many others, however, place their funds with an *investment company*, which is a corporation,

trust, or partnership that invests pooled shareholder funds in securities appropriate to the organization's objective.

In the United States, the main types of SEC-registered investment companies (RICs) are mutual funds also called open-end funds, exchange-traded funds (ETFs), closed-end funds (CEFs), and unit investment trusts (UITs). During 2014, the total U.S. net assets of mutual funds (\$15.852 trillion) dwarfed those of ETFs (\$1.974 trillion), closed-end funds (\$289 billion), and UITs (\$101 billion). The United States has the world's largest mutual fund and ETF markets (Investment Company Institute 2015).

The term "mutual fund" generally refers to the open-end type. An *open-end investment company* is the legal name for a mutual fund, indicating that it stands ready to redeem (buy back) its shares from investors at the end of every business day at the *net asset value* (NAV). NAV is the per-share value of a mutual fund, calculated by subtracting the fund's liabilities from the current market value of its assets and dividing by the number of shares outstanding. Open-end funds typically sell shares to the public daily at the NAV but without a legal limit on the number of shares that the fund can issue. Open-end funds are the most common type of investment company in terms of both number and combined assets.

A *mutual fund* pools money from many people and invests it on behalf of its investors according to some particular investment strategy. Each investor in the fund owns shares representing a part of the holdings in stocks, bonds, or other assets. Companies issuing these funds, such as Fidelity or Vanguard, manage the pool of money on the investors' behalf. The underlying logic of mutual funds is that they provide diverse investments without requiring investors to make separate purchases and trades. This book discusses how mutual funds and several other investment vehicles, especially ETFs, can serve as building blocks to wealth.

Mutual funds supply investment capital in securities markets around the world and play a critical role in household finances especially in retirement planning and education savings. According to the Investment Company Institute (2015), total worldwide assets invested in mutual funds in 2014 totaled almost \$31.4 trillion of which about half (\$ 15.852 trillion) represents U.S. mutual funds and ETFs. A total of 53.3 million U.S. households (43.3 percent) own mutual funds with a \$103,000 in median mutual fund assets of fund-owning households.

ADVANTAGES AND DISADVANTAGES OF MUTUAL FUNDS

Mutual funds have both advantages and disadvantages compared to direct investing in individual assets or securities. For example, mutual funds are often the simplest and least expensive way to gain access to different markets and securities. The fund management company handles buying and selling of assets, as well as collecting any dividends and income, thus providing service and convenience to investors. When investment companies pool money from different investors, the shareholders may experience savings because they are sharing the costs and benefits from economies of scale, which allow for lower trading costs per dollar of investment. Mutual funds also enable some investors to participate in investments that may be available only to larger investors. Investing this way can potentially be less risky than directly buying shares

in individual companies due to the wider spread of investments in the portfolio. Thus, mutual fund investors can benefit from increased diversification. Another benefit is professional money management in which fund managers make the decisions about when to buy and sell assets. Additional advantages include transparency due to extensive disclosure requirements, daily valuation, liquidity, regulatory oversight and accountability, and ease of comparison. In the United States, mutual funds have limits on leverage, which reduce the possibility that a fund's liabilities will exceed the value of its assets.

A broad range of mutual funds is available that invest in different assets with different strategies. Morningstar's database classifies funds into more than 65 categories. However, most mutual funds specialize in one category of the securities markets such as high-yield bonds or large cap growth stocks. Although a single fund may achieve diversification within a category, investors usually need at least several funds in a portfolio of diversified styles or asset exposures within asset classes to implement their strategies. The median number of mutual funds held by U.S. households was four (Investment Company Institute 2015). With so many choices available, determining the best vehicles to use and how to allocate among them can be difficult for any investor managing a portfolio.

In 2014, the number of mutual funds worldwide was 79,669 consisting of 22,962 funds in the Americas including 7,923 in the United States, 35,163 in Europe, 20,373 in Asia and Pacific, and 1,171 in Africa (Investment Company Institute 2015). The scope of mutual funds can be international, regional, or country-specific, whereas others are specialist funds investing in a specific type of company such as a property or technology fund. Not surprisingly, funds take different levels of risk from relatively low risk (e.g., they might invest mostly in cash) to very risky (e.g., investing in new, uncertain companies or markets) to everything in between.

Despite their appeal, mutual funds have disadvantages. Perhaps the greatest drawback involves fees and expenses. Investing in mutual funds is not free. Funds pass various costs to investors that diminish returns. These expenses fall into five categories: (1) distribution charges (sales loads and 12b-1 fees), (2) management fees, (3) other fund expenses, (4) shareholder transaction fees, and (5) securities transaction fees. Some of these expenses reduce the value of an investor's account while others are paid by the fund and reduce the NAV. Other disadvantages of investing in mutual funds include a loss of control over timing of recognizing gains, less predictable income, and no opportunity to customize.

ACTIVE VERSUS PASSIVE FUND MANAGEMENT

Most mutual funds engage in active fund management but some follow a passive approach. For actively managed funds, the fund manager is paid to research the market and to buy the assets that fit the fund's overall objective. Depending on the fund's objective, the fund manager may try to achieve better-than-average growth for the fund, to outperform certain benchmarks such as the S&P 500 index, or to get steadier returns than possible by tracking the markets. On a risk-adjusted basis, few fund managers consistently beat the market or even match it (Grinblatt, Titman, and Wermers 1995; Carhart 1997; Kosowski, Timmermann, White, and Wermers 2006; Fama and French

2010). Further, superior past performance does not guarantee continued levels of high performance in the future.

By contrast, the investment objective of an *index mutual fund* typically is to achieve approximately the same return as a particular market index. Some index funds, however, do not actually invest in the market they track but use a mixture of other investments and derivatives designed to mimic the market. These “synthetic trackers” are more risky. Because passively managed funds engage in less trading, this not only reduces costs but also limits taxable capital gains, which the fund distributes to its shareholders with the tax liability. The lower costs incurred by index funds help to explain why they tend to outperform their actively managed counterparts over the long term (Kacperczyk, Sialm, and Zheng 2005; Cremers and Petajisto 2009; Petajisto 2013). To beat index-tracking funds, fund managers must add more to returns than the cost of running the fund, which is difficult to do.

OTHER TYPES OF INVESTMENT COMPANIES

Other types of investment companies include ETFs, CEFs, and UITs. Each type offers both advantages and disadvantages.

Exchange-Traded Funds

An *exchange-traded fund* (ETF) is a type of an investment company, typically structured as an open-end fund or UIT, whose shares are traded intraday on stock exchanges at market-determined prices. Like shares of any publicly traded company, investors can buy or sell ETF shares through a broker. Most ETFs are pegged to financial indices and seek to replicate the performance of specific domestic, sector, regional, or international indexes.

In 1989, the first ETF showed up in Canada as the Toronto index Participation Fund (TIP 35). State Street Global Advisors introduced the well-known Standard & Poor's Depository Receipts (SPDRs) on the AMEX in January 1993. This ETF tracked the performance of the S&P 500 index and became the largest ETF in the world. In 1999, the first ETF introduced in Asia was the Hong Kong Tracker Fund. By the end of 2014, the U.S. ETF market with 1,411 funds with \$1.974 trillion in net assets under management (AUM) was the largest in the world, accounting for 73 percent of the \$2.7 trillion in ETF assets worldwide (Investment Company Institute 2015).

Various benefits explain the surge in the popularity of ETFs including coverage, costs, flexibility, leverage, tax efficiency, and transparency. First, ETFs provide easy access to broad spheres of the market. Second, they have low administrative costs compared to other investment products because the majority of them pursue a passive management investment strategy. Although ETFs are sometimes cheaper than their index-fund counterparts, investors pay a commission each time they buy or sell shares. Third, ETFs are flexible because investors can buy and sell them at current market prices throughout the trading day. Mutual funds can only be traded at the end of the day. Unlike some index funds that have high investment minimums, investors in ETFs have the flexibility of buying one or more shares. Fourth, ETFs offer leverage because investors can buy them on margin and sell them short. This feature allows investors to use ETFs in hedging. Fifth, they are tax-efficient because of low turnover resulting in fewer taxable

gains. Finally, ETFs offer transparency. They are priced at frequent intervals throughout the trading day and most ETFs publish their holdings daily. By contrast, mutual funds are only priced at the end of the day.

ETFs are a hybrid. Similar to CEFs, ETFs trade on stock exchanges at prices that may be different from their NAVs but the magnitude of such differences tends to be small making the market for ETFs relatively efficient. Concerns about using ETFs as an investment vehicle often center on cash drag effects caused by small cash holdings in the ETF structure as well as dividend taxes, bid-ask spreads, and geographic distance between ETFs and the underlying assets.

Although advocates place much attention on the advantages of ETFs compared to mutual funds, mutual funds have some important advantages over ETFs that are likely to give them a net asset advantage for many years to come. Mutual funds are permitted in many retirement and pension funds while some plans do not allow ETFs. Mutual funds also offer the active management option that most ETFs lack due to being passively managed funds. Although actively managed funds are more likely to underperform passively managed funds when market frictions are considered, some actively managed funds have proven track records of outperformance over longer time intervals. In 2008, however, actively managed ETFs started operating (Hohorst 2014) and hence such ETFs do not track an index.

Closed-End Funds

A *closed-end fund* is a type of investment company whose shares are listed on a stock exchange or traded in the over-the-counter (OTC) market. CEFs issue a fixed number of shares that trade intraday at market-determined prices. After an initial public offering (IPO), CEFs can engage in additional public offerings of shares to raise more capital. A professional investment manager oversees the portfolio, buying and selling securities according to the fund's objectives and policies. Besides issuing common shares, CEFs also issue preferred shares to raise capital. Unlike common stockholders, preferred shareholders receive dividends and do not share in a fund's gains and losses.

Like investors in any publicly traded company, investors in a CEF use a broker to buy or sell shares in the open market. Unlike mutual funds, the price may differ from the NAV and is determined by supply and demand in the marketplace. Thus, the shares may sell at a premium to the NAV but more often they sell at a discount. Compared with mutual funds, CEFs often have more flexibility to invest in less liquid portfolio securities but have limited flexibility in borrowing against their assets to leverage their position.

Compared with mutual funds, the number and total net assets of CEFs in 2014 are much smaller with 568 funds and \$289 billion, respectively. The number of CEFs remains below its peak of 662 at the end of 2007 as a result of the effects of mergers, liquidations, and conversions. At year-end 2014, closed-end bond funds held \$170 billion or 59 percent of the total net assets with the remainder held in closed-end equity funds (Investment Company Institute 2015).

Unit Investment Trusts

A *unit investment trust* (UIT) is a type of fund that issues redeemable shares to the public when it is created and generally has a limited life span. UITs have some unique

characteristics. Unlike open-end and closed-end funds, UITs do not have a professional investment manager that actively trades its investment portfolio. Instead, their portfolio of securities is established at the creation of the UIT and typically does not change. That is, UITs follow a buy-and-hold investment strategy. On a preset termination date, the dissolution of the trust occurs and the shareholders receive the proceeds from the sale of the assets.

UITs are a hybrid sharing some characteristics with mutual funds and some with CEFs. Like CEFs, UITs typically issue only a specific, fixed number of shares called *units*. Investors can redeem the units directly with the fund at any time as with an open-end fund or wait to redeem on termination of the trust. Although less common, investors can sell their shares in the open market. Unlike mutual funds, the UIT sponsor typically maintains a secondary market in the units so redemptions do not deplete the UIT's assets. At year-end 2014, there were 5,381 UITs in the United States with combined assets of \$101 billion (Investment Company Institute 2015).

Purpose and Scope

The investment landscape continues to evolve and become more complex. The rapid structural, technological, and regulatory changes affecting the securities industry worldwide also affect various investment vehicles. The causes of these changes are multifaceted and thus require a level of depth and breadth that can be provided by a new book—*Mutual Funds and Exchange-Traded Funds: Building Blocks to Wealth*. This book offers a synthesis of the theoretical and empirical literature primarily on mutual funds but also discusses related investment vehicles, especially ETFs. It is not intended to be a “how to” book but takes a more scholarly and in-depth approach to these subjects. Although the book places greater attention on these different types of investments in the United States, it also examines them in a global context.

In today's financial environment, mutual funds and ETFs are dynamic areas that continue to develop at a rapid pace. Because the flow of materials on the subject is voluminous, this book, by necessity, must be selective because it cannot cover every aspect of this field. However, readers can gain important insights about each investment vehicle including its structure and uses, performance, and measurement. Beyond these core topics and issues, the book also examines the latest trends, cutting-edge developments, and real-world situations. In particular, this book should help investors make key asset allocation decisions while capturing the benefits of a highly diversified, well-constructed, lower cost portfolio of complementary strategies that enhance financial wealth.

This is a “contributed chapter” book in which noted scholars and practitioners write chapters in their areas of expertise. It interweaves the contributions of multiple authors into an authoritative synthesis of important but selective topics. Readers can learn about mutual funds and ETFs from experts from around the world. Additionally, discussion of research permeates the book.

In summary, *Mutual Funds and Exchange-Traded Funds: Building Blocks to Wealth* provides a fresh look at this intriguing but often complex subject. Its coverage spans the gamut from theoretical to practical, while attempting to offer a useful balance of detailed

and user-friendly coverage. Those interested in a broad survey can benefit as well those looking for more thorough presentations of specific areas within this field of study. It is the sixth book in the Financial Markets and Investments Series by Oxford University Press.

Distinctive Features

This book has several distinguishing features.

- The book provides a detailed look at mutual funds and ETFs including the latest trends.
- It skillfully blends the contributions of scholars and practitioners into a single review of some of the most critical topics involving these investment vehicles. The varied backgrounds of the contributors assure different perspectives and a rich interplay of ideas.
- While retaining the content and perspectives of the many contributors, the book follows an internally consistent approach in format and style. Similar to a choir that contains many voices, this book has numerous chapter authors with their own separate voices. A goal of both a choir and this book is to have the many voices sing together harmoniously. Thus, the book is much more than simply a collection of chapters from an array of different authors.
- When discussing the results of empirical studies that link theory and practice, the objective is to distill them to their essential content so they are understandable to a wide range of readers with different backgrounds.
- All of the following chapters contain discussion questions that help to reinforce key concepts with guideline answers presented at the end of the book. This feature should be especially important to faculty and students using the book in classes.

Intended Audience

Given its broad scope, this practical and comprehensive book should appeal to investors, investment professionals, academics, and others interested in mutual funds and ETFs. For example, investors and investment professionals can use this book to provide guidance in helping them navigate through the key areas involving these markets and investments. For academics the book provides the basis for gaining a better understanding of the topics covered and as a springboard for future research. They can also use the book as a stand-alone or supplementary resource for advanced undergraduate or graduate courses in investments. Others including students and libraries should find this book suitable as a reference. Thus, *Mutual Funds and Exchange-Traded Funds: Building Blocks to Wealth* should be essential reading for anyone who needs a better understanding of mutual funds and related investment vehicles from seasoned professionals to those aspiring to enter the demanding world of finance.

Structure of the Book

The remaining 29 chapters are divided into six parts. A brief overview of each chapter follows.

PART ONE BACKGROUND

Besides Chapter 1, the first part has three additional chapters. These chapters examine the economics of mutual funds, role of mutual funds in retirement and education savings, and the structure and regulation of mutual funds.

Chapter 2 The Economics of Mutual Funds: Rewards and Risks (David M. Smith)

Mutual funds offer benefits over direct security investments, providing access to professionally managed, well-diversified, tax-efficient portfolios at low cost. For wealthy and sophisticated investors, these benefits make mutual funds an excellent vehicle. For less wealthy and less savvy investors, the fund landscape can be a minefield. Many benefits can be lost to brokers and fund sponsors who levy high fees upon initial investment, throughout the duration of the holding period, and also upon redemption. Thus, mutual fund investors need to be wary of various fees and loads. Relentless marketing efforts by the highest cost fund sponsors are aimed at the least sophisticated investors, ultimately producing inferior performance. Despite the fact that many rewards are available from the judicious use of funds, inherent conflicts of interest create difficulty for fund sponsors to carry out their fiduciary duty to shareholders. Partially due to scale economies, sponsors are tempted to seek investor flows in pursuit of higher profits. Although institutional investors “vote with their feet” when facing high fees and inferior risk-adjusted performance, retail investors generally do not.

Chapter 3 The Role of Mutual Funds in Retirement and Education Savings (Sarah A. Holden)

This chapter explores the role of mutual funds in U.S. households’ retirement and education savings. Nearly three-quarters of mutual-fund-owning households in mid-2013 showed that saving for retirement is their household’s primary financial goal. With the rise in individual account-based retirement savings, mutual funds’ role in U.S. households’ retirement planning has risen over the past few decades. At year-end 2013, U.S. investors had \$23.3 trillion earmarked for retirement, with more than half held in individual account-based retirement savings with about half of those accounts invested in mutual funds, mainly in equity funds. One-quarter of mutual fund-owning households reported that saving for education is one of their household’s financial goals. Specifically earmarked education savings totaled more than \$234 billion at year-end 2013, mainly in 529 savings plans, which invest in mutual funds.

Chapter 4 The Structure and Regulation of Mutual Funds (Robert Grohowski and Sean Collins)

Mutual funds are subject to a comprehensive regulatory regime designed to protect fund shareholders. This chapter discusses the history, origins, and core principles of

that regime, describing ways the structure, operation, and regulation of mutual funds protect shareholders. The chapter briefly introduces other similarly regulated pooled investment products available in the United States—CEFs, ETFs, and UITs—before returning to the legal, organizational, and operational structure of a mutual fund. The chapter summarizes the core principles of the Investment Company Act of 1940, the main federal securities law regulating mutual funds. These core principles relate to fund transparency, valuation, liquidity, leverage, diversification, custody, and conflicts of interest. While the Investment Company Act of 1940 is fundamentally about protecting fund shareholders, many of the Act’s key provisions also mitigate potential systemic risk, which has become an area of heightened regulatory focus.

PART TWO MUTUAL FUNDS AND OTHER FUND TYPES

This part consists of six chapters that examine various types of funds involving pooled investments. Specifically, it examines mutual funds, target-date funds, funds-of-funds, CEFs, ETFs, leverage ETFs, and inverse ETFs.

Chapter 5 Open-End Funds (Conrad S. Ciccotello)

Mutual funds, which are open-end funds, remain the mainstay of the portfolio investment vehicles serving “mass affluent” investors in the United States. This chapter provides an overview of the key features of mutual funds such as daily liquidity at the NAV with the fund itself as the counterparty to the trade, active management, and fund family structure. The chapter then proceeds to examine the current issues facing mutual funds. These issues include the daily computation of the NAV, performance assessment in terms of time- and dollar-weighting, and the competitive environment for mutual funds both inside and outside of retirement plans. This overview chapter concludes with some predictions about the future of mutual funds and calls for research of interest to both academics and practitioners.

Chapter 6 Target-Date Funds and Other Funds-of-Funds (Alistair Byrne and Trevor Oliver)

This chapter discusses target-date funds (TDFs) and funds-of-funds (FoFs). The use of TDFs is growing rapidly in defined contribution pension plans. TDFs provide a “one-stop shop” for investing for unengaged plan participants. TDFs have grown in the United States since being included in the safe harbor provisions in the Pension Protection Act 2006. A key feature of the target date approach is *lifecycle investing*, which involves a switch in asset allocation from equities and other growth assets to bonds as the expected retirement date approaches. This glidepath can be managed to or through the retirement date in which case it keeps evolving after retirement. The glidepath can be strategic or managed dynamically. Some plan sponsors specify their own custom glidepath to suit particular plan participants. TDFs are structured as FoFs but other FoFs are also available where the asset allocation does not follow a glidepath.

Chapter 7 Closed-End Funds (Z. Jay Wang)

U.S. CEFs are publicly traded investment companies managing \$279 billion total assets at year-end 2013, compared to \$15 trillion assets managed by the open-end mutual

funds. Despite the relatively small size, the closed-fund structure and the use of leverage make a CEF a useful vehicle for investing in less liquid asset classes. The long-standing *CEF discount puzzle*, which is the fact that fund shares can trade at a discount relative to the fund's NAV, has led to a large body of theoretical and empirical research based on both behavioral and rational explanations. The various agency conflicts between shareholders and fund managers also make the CEF industry a rich setting for corporate governance studies. In particular, the extant literature has investigated the relationship between agency problems, the effectiveness of internal and external governance mechanisms, and the CEF discount.

Chapter 8 Non-U.S. Closed-End Funds (Dimitris Andriosopoulos, Mary Fletcher, and Andrew Marshall)

This chapter reviews research into non-U.S. CEFs focusing particularly on the United Kingdom, which has a well-established and substantial CEF sector. It discusses the current structure and regulation of U.K. CEFs, usually called investment trusts in the United Kingdom, and focuses on the differences in regulation between the United Kingdom and the United States. CEFs in terms of income retention, investment areas, and ownership. The chapter also analyzes existing research evidence involving key aspects of the CEF discount puzzle in non-U.S. CEFs which refers to the initial CEF premium at the time of the IPO and the subsequent price fall leading to a discount and fluctuations in the discount. Additionally, this chapter assesses recent contributions in the areas of performance and trading strategies of non-U.S. CEFs.

Chapter 9 Exchange-Traded Funds (Ehsan Nikbakht, Keith Pareti, and Andrew C. Spieler)

This chapter discusses the origin and features of ETFs. It discusses not only the legal framework, structure, and description of available ETFs but also the past, present, and future of the ETF industry. Both similarities and differences exist between mutual funds and ETFs. The four major differences involve intraday liquidity, transparency, tax efficiency, and cost. As a result, ETFs have become a key investment vehicle for institutions, trading desks, portfolio managers, and individual investors. Wide variation exists between available ETFs spanning the spectrum from passive management (passively tracking an index) to active management. This chapter highlights the nuances of ETFs including creation/redemption, tracking error, liquidity, and arbitrage. The chapter concludes with a discussion on the trend toward actively managed ETFs.

Chapter 10 Leveraged and Inverse Exchange-Traded Funds (Benjamin Aguilar, Michael Bianco, Christopher Milliken, and Andrew C. Spieler)

Leveraged and inverse exchange-traded funds (LIETFs) combine the properties of a traditional ETF with a non-traditional return objective. The goal of the fund is to produce a daily return that is a multiple (ranging between plus and minus three times) of the underlying reference. This goal is often accomplished through using derivative strategies and partnering with another ETF provider that offers a traditional ETF tracking the same underlying reference. The attractiveness of these strategies is a function of the ease with which investors can establish a short position and the degree of leverage investors can implement without needing additional capital. LIETFs are controversial

due to their complex mechanics and path-dependent returns. This chapter explores the current regulatory landscape surrounding LIETFs and their characteristics including risk and return and also discusses their potential effects on the capital markets.

PART THREE CLASSIFICATION OF FUNDS BY PRINCIPAL INVESTMENTS

This part includes five chapters that examine various types of investment funds. Specifically, it examines money market mutual funds, bond mutual funds, stock mutual funds, and socially responsible mutual funds.

Chapter 11 Money Market Mutual Funds (Anna Agapova)

Until 2011, money market mutual funds (MMMFs) represented the second largest category of the mutual fund industry in the United States. With \$2.7 trillion in total net assets (TNA) as of December 2013, MMMFs account for about 18 percent of the TNA held by mutual funds in the United States. MMMFs are an important investment vehicle for individual investors and are vital liquidity providers to financial intermediaries. Investors regard MMMFs as safe money market instrument investments that provide yields above those of bank deposits. The main difference between bank deposits and MMMFs is that the Federal Deposit Insurance Corporation (FDIC) does not insure MMMFs. As evidenced by the Lehman Brothers bankruptcy in 2008 and the 2011 European banking crisis, MMMFs may threaten the stability of the financial system. This chapter offers a general overview of the history, structure, performance measures, and role of MMMFs in the financial system.

Chapter 12 Bond Mutual Funds (Sandeep Singh)

This chapter reviews open-end and closed-end bond mutual funds. It discusses the unique challenges faced by managers of bond mutual funds. The chapter presents a comprehensive literature review on performance evaluation of bond mutual funds and also discusses various segments of the bond mutual fund market. Finally, it includes guidelines that can be useful to investors and investment managers for analyzing fixed-income funds catering to a particular segment of the bond market. Most of the evidence suggests that given the largely homogeneous nature of the bond market, consistently generating risk-adjusted returns over benchmark returns (alpha) is difficult for actively managed bond mutual funds. Empirical evidence supports investment in passively managed bond mutual funds given the nature of the bond market and the challenges in consistently generating alpha. However, given liquidity and transaction inefficiencies, difficulties remain in indexing bond portfolios to broad-based fixed-income indexes.

Chapter 13 Stock Mutual Funds (Grady Perdue)

This chapter examines recent academic research concerning performance evaluation of equity mutual funds. Investors seeking to reach their financial goals should include investments that enhance the risk and return characteristics of their portfolios, and equities are often considered a viable asset allocation. However, studies show that many equity funds fail to produce a positive alpha. The chapter also discusses alternate means of assessing performance besides alpha, such as the Sharpe ratio and performance

attribution, and problems associated with measuring alpha and other evaluation tools. Finally, it discusses the ability of managers to successfully engage in security selection for equity fund portfolios because this has a direct impact on their ability to generate positive risk-adjusted returns and manage risk.

Chapter 14 Socially Responsible Mutual Funds (Eddy Junarsin, Enrico Libert, and Frendy)

This chapter provides a broad overview of the development and structure of socially responsible mutual funds (SRMFs) and socially responsible investing (SRI). The chapter provides general definitions of SRMFs and SRIs, explains the investment paradigm of SRMFs and how mutual funds use environmental, social, and governance (ESG) criteria to screen assets in their portfolios. It covers ESG frameworks integration and performance measurement of SRMFs, reviews the academic literatures on SRMFs' performance and growth in North America, Europe, Australia, and Asia, and discusses future trends and development opportunities of SRMFs. The chapter also covers notable issues and challenges of SRMFs from the perspective of both investors and managers. It concludes with a discussion on the distinct challenges and future opportunities of researching and managing SRMFs in an increasingly socially conscious investing environment.

Chapter 15 Mutual Funds: Management Styles, Social Responsibility, Performance, and Efficiency (Tamas Barko and Luc Renneboog)

The mutual fund industry represents a substantial part of global financial markets with approximately 20 percent invested in mutual funds. Mutual funds offer a simple and easy-to-understand way to invest either into stocks or fixed-income products, both for retail and institutional investors. This chapter provides an overview of the literature on the performance of actively and passively managed mutual funds with special emphasis on socially responsible funds. First, the chapter offers insights into the mutual fund industry worldwide and discusses the characteristics of active and passive management. Then the chapter discusses a prominent management style—socially responsible investing. The final sections review the efficiency of the mutual fund industry, performance measurements, and sources of returns and outperformance.

PART FOUR ASSET ALLOCATION AND PERFORMANCE OF MUTUAL FUNDS

This part has six chapters that examine asset allocations and monitoring mutual funds. Specifically, it examines strategic asset allocation and rebalancing, building, analyzing, and monitoring mutual funds, predicting and evaluating mutual fund performance, and mutual fund risk.

Chapter 16 Strategic Asset Allocation and Rebalancing (Laura Andreu and José Luis Sarto)

This chapter reviews the importance of strategic asset allocations when defining a portfolio's investment policy and discusses the tactical asset allocations necessary for rebalancing portfolios. It also covers the relevance of determining an appropriate asset

mix according to the risk tolerance and investment horizon of mutual fund investors and how choosing appropriate benchmarks can help managers and investors accomplish their financial goals in terms of risk and return. The chapter concludes with an empirical application of the return-based style analysis for Spanish mutual funds. This application shows a tool used to determine the strategic asset allocation of a financial instrument such as mutual funds. It also shows the value added by managing portfolios in different market scenarios by rebalancing portfolios in accordance with their investment policies.

Chapter 17 Building and Monitoring Mutual Fund Portfolios (Larry J. Prather, Han-Sheng Chen, and Ying-Chou Lin)

The process of building a mutual fund portfolio is an important topic because mutual funds are the predominant investment choice for employer-sponsored retirement plans and individual retirement accounts. This chapter discusses sources of mutual fund information, important fund characteristics, and steps in mutual fund portfolio construction such as screening funds that meet desired characteristics, determining an investor's risk tolerance, assessing historical risk and return, evaluating the benefits of diversification, and adjusting risk to optimize an investor's utility. Once the portfolio is built, it needs to be monitored and rebalanced. The chapter concludes by discussing factors that investors should consider when rebalancing such as changes in the fund's management, investor's risk tolerance, goals, and return differentials that have caused a substantial alteration in asset allocation.

Chapter 18 Analyzing Mutual Funds (Bruce A. Costa and Keith Jakob)

This chapter reviews the most widely used metrics to analyze mutual fund performance. It covers tools, risk metrics, and rating criteria popular with both academics and practitioners. Measurement of relative fund performance is tested with a set of dimensionless ratios including the coefficient of variation, Sharpe ratio, and Treynor ratio. Interpreting the precise amount of relative under- or over-performance is difficult with dimensionless ratios. In response to this drawback of using such measures, several researchers developed mutual fund performance metrics that quantify risk-adjusted performance to a greater degree. For example, the M^2 measure, Jensen's alpha, and the Carhart model are useful in quantifying risk-adjusted performance in percentage terms. The chapter presents recent extensions or enhancements to the Carhart model and also discusses the quantitative and qualitative risk metrics available from Morningstar.

Chapter 19 Predicting Mutual Fund Performance (Matthew R. Morey)

This chapter reviews the literature on factors that consistently predict mutual fund outperformance in U.S. equity funds. The factors examined include expenses, loads, turnover, past performance, mutual fund ratings, fund activeness, fund size, fund family size, fund governance, and fund manager characteristics. The research evidence suggests that for funds investing in smaller firms, smaller size mutual funds outperform larger funds. It also finds that funds with redemption and/or manager incentive fees show enhanced performance. Finally, the findings show strong past performance over the previous two quarters or less predicts future short-term performance. Along with these results, much dissonance occurs in the literature. For example, a study might find

robust evidence of a certain factor predicting fund outperformance while another might report contradictory or statistically insignificant evidence for that factor.

Chapter 20 Evaluating Mutual Fund Performance within the Stochastic Discount Framework (Jonathan Fletcher)

Some view performance measures based on the stochastic discount factor approach as having a stronger theoretical basis than traditional performance measures. The stochastic discount factor approach can be used to evaluate mutual fund performance using linear factor models, nonlinear models, and measures based on weaker economic restrictions than required by a full asset pricing model. The stochastic discount factor approach can address investor heterogeneity, as investors can evaluate the value added by a fund differently from one another. This chapter provides an overview of the stochastic discount factor approach to evaluate mutual fund performance. The chapter discusses alternative approaches used to construct stochastic discount factors to evaluate fund performance and reviews empirical evidence on mutual fund performance using the stochastic discount factor approach.

Chapter 21 Mutual Fund Risk (Roberto Savona, Oreste Auleta, and Filippo Stefanini)

This chapter discusses mutual fund risk from both theoretical and operational viewpoints. It deals with the complex risk decomposition evaluation process comprising two main risk categories: (1) market risks relating to market dynamics and mutual fund exposure and (2) operational risks relating to the governance structure and the procedures of client protection assumed by the legal entity. The chapter offers an overview of the quantitative risk measurement architecture based on multifactor asset pricing modeling for which mutual funds are evaluated relative to their benchmarks. The quantitative analysis of mutual fund risks is summarized in the financial due diligence section, while the qualitative risk assessment of mutual funds is contained within the operational due diligence section. Both sections help guide managers to take the appropriate investment decision while controlling all connected risk sources.

PART FIVE FUND STRUCTURE

This section includes five chapters that focus on fund structure. Topics include the manner in which funds are organized and structured, how distributions occur, disclosure and protective features, ethical standards by which they are defined, and emerging developments within the industry.

Chapter 22 Organization, Structure, and Services of Mutual Funds (Mark Potter)

Mutual fund companies and fund families strive to perform well, control risk, and create a portfolio of complementary services and products. Funds are designed and organized around improving efficiency, creating value for customers, and improving market position in the face of increased competition from within and beyond the mutual fund world. This chapter describes the structure and set up of mutual funds and fund firms within the backdrop of industrial organization performance. It also explains the linkages

between structure and performance, organization and fund services, competition and performance, and strategic advantages of the many shapes in which fund firms operate. Finally, the chapter discusses how fund structures are likely to migrate going forward. Most notably, fund companies are likely to see opportunities for growth in the areas of integrated services, analytics that involve big data, and funds that specifically match client needs in terms of their investment horizons or risk profiles.

Chapter 23 Selected Topics in Mutual Fund Distribution (John A. Haslem)

This chapter examines the channels through which mutual fund shares are distributed to investors: (1) direct, (2) advice, (3) retirement plan, (4) supermarket, and (5) institutional. The first four channels mainly serve individual investors. In the direct and institutional channels, fund distributors transact directly with investors in the sale and redemption of fund shares. In the other indirect channels, fund shareholders transact with funds through financial intermediaries. In 1980, the Securities and Exchange Commission (SEC) adopted Rule 12b-1, which emphasizes the role of independent fund directors in monitoring fund use of assets for distribution. The rule also addresses conflicts of interest between funds and fund advisers when funds pay distribution fees to grow fund assets. This chapter investigates whether introducing and adopting 12b-1 plans have benefited shareholders and fund managers.

Chapter 24 Mutual Fund Disclosure and Related Fund Investor Protection Features (Joseph A. Franco)

This chapter discusses the principal features of mutual fund disclosure regulation in the United States and the challenges faced by the SEC in designing a disclosure regime that meets the needs of retail investors and promotes investor protection. The chapter notes that, unlike conventional public companies, mutual funds are engaged in continuous offerings of securities to the public. As a result, fund disclosure, including fund advertising, is subject to ongoing regulatory requirements in terms of format and content, especially as it relates to disclosure of fund performance. The chapter then explains why regulators have been successful in making disclosure easier to understand, but face far greater challenges in designing disclosure requirements that promote rational investment decision-making given well-established behavioral biases of retail investors.

Chapter 25 New Developments in Exchange-Traded Funds (Ojwang' George Omondi)

This chapter examines ETFs since their inception and discusses their future prospects. ETFs originated in 1993 in the United States and in 1999 in Europe as passively managed index-based investment vehicles. Actively managed ETFs emerged in 2008. ETFs initially tracked established indexes such as the S&P 500 and FTSE 100. Their popularity with investors emanates from low fees, tax efficiency, and flexibility, and the ability to track specific indexes. Emerging markets are prime targets for ETFs because of their ever-expanding middle class capable of sustaining investments, especially in commodities and pharmaceuticals. Adequate legislation allows ETFs access to retirement account resources and to expand into fixed-income securities, emerging markets, commodities, and currencies. Increased competition for passive investments, growth in active ETFs,

and a globalized market place with new competitive models call for coherent product designs, pricing, and distribution strategies to satisfy investors' unmet evolving needs.

Chapter 26 Ethical Standards in Mutual Funds (Rosa Adamo)

The role of ethics in finance is an issue that has begun to take on greater importance. Investors are showing increased interest in financial instruments that display ethical criteria within their structure and operation. Financial instruments incorporating ethical standards can shun short-term logic and display a tendency to be stabilizing to investors who depend on them as a long-term security. Particularly, mutual funds pursuing ethical standards represent an important sign of the restoration and reaffirmation of ethical and social values by the financial world. Some mutual funds pursue a goal of a more social nature with investments established based on the premise of transparency, trust, and social responsibility. By following ethical standards, mutual funds can reduce conflicts of interest and provide allocative efficiency within the financial markets.

PART SIX MUTUAL FUNDS WORLDWIDE

This section contains four chapters including the latest developments in emerging and developing markets, performance of global mutual funds and ETFs, and future trends within the industry.

Chapter 27 Mutual Funds in Emerging and Developing Markets (Parvez Ahmed)

This chapter outlines the market for mutual funds in emerging markets. Two types of funds to consider when describing emerging market mutual funds (EMMFs) are the funds in the United States that invest in emerging markets and funds in emerging markets that invest in their own domestic markets. This chapter provides descriptive statistics, performance evaluation, and performance persistence for funds that invest in emerging markets both domiciled in the United States and those domiciled in their home countries. The chapter also examines the factors that may explain both the persistence and determinants of performance and the performance of hedge funds. With greater public scrutiny and disclosure of hedge funds, some attention must be devoted to their performance in emerging countries. Hedge funds are increasingly popular among investors in private equity.

Chapter 28 Performance of Global Mutual Funds (Tarik Bazgour, Laurent Bodson, and Danielle Sougné)

Global and international mutual funds provide U.S. investors with an effective way to gain from international diversification. However, due to the complexity of international markets, performance evaluation of these funds is much more complex than that of U.S. domestic funds. This chapter reviews the appropriate measures for evaluating global portfolios' performance and some key properties and issues associated with each measure. It also examines the evidence these measures have produced on the stock selection and market-timing skills of global and international actively managed mutual funds. The chapter covers global and international equity funds, bond funds, and asset allocation funds. Additionally, it reviews the empirical evidence on whether global

funds provide diversification benefits to U.S. investors as well as the evidence on the relationship between the performance of global mutual funds and their characteristics.

Chapter 29 Performance of Exchange-Traded Funds (Panagiotis Schizas)

This chapter documents that an ETF can provide a broadly diversified investment tool for investors that is typically designed to mimic an underlying index. Index management may appear to be a simple type of investment management but in practice its implementation is not necessarily straightforward. Such factors as tracking error, liquidity, and the difference between the closing price and the NAV may influence the choice of a performance measure. However, other factors can lead to a divergence in ETFs' performance from the underlying index. The chapter documents that international ETFs outperformed the market between 2001 and 2014 but failed to provide sufficient diversification. A single index model produces positive excess returns and risk-adjusted performance as measured by the Sortino and Omega ratios. The chapter also documents this outperformance. ETFs' outperformance becomes less pronounced after the financial crisis of 2007–2008.

Chapter 30 Issues, Trends, and Future Developments in the Mutual Fund Industry (Hunter Holzhauser)

This chapter focuses on important issues and trends in the mutual fund industry. It begins by providing an historical and global context for the current state of the industry. Next, the chapter discusses current competition from other fund types such as CEFs and ETFs. Particular attention is given to possible strategies for dealing with competition. Current trends in the overall mutual fund industry are explored including increased domestic and global demand and changes to fund sponsors. The penultimate section discusses recent trends and specific issues for a wide array of mutual fund types including bond funds, TDFs, hybrid funds, index funds, and MMMFs. The last subsection develops a case for regulatory risk as a future concern for MMMFs. The final section offers a brief conclusion focused primarily on the need for the mutual fund industry to focus on investor demand to remain relevant.

Summary and Conclusions

Mutual funds and related investment vehicles are undergoing dramatic change. The increasing popularity of ETFs has created opportunities for investors to gain exposures to a wider array of investment vehicles to broaden their opportunity set with the possibility of enhancing risk-adjusted performance. With such innovation, *Mutual Funds and Exchange-Traded Funds: Building Blocks to Wealth* provides timely information about various options for investment vehicles, classification frameworks, and structures and also explores performance and innovations occurring within the industry. The book endeavors to interweave the contributions of both scholars and practitioners into a single review of important but selective topics.

Such investment options provide an important service offering investors an opportunity to obtain diversification and professional management expertise starting at relatively low initial investment levels. This service allows individuals to achieve

financial goals including retirement planning and funding for children's education costs. Many choices of investment outlets exist that require potential investors to obtain baseline knowledge to make educated choices based on their goals. As the mutual fund industry works to improve fund efficiency, reduce costs, enhance educational outreach, and increase fund options, the investing public led by aging baby boomers can find a haven for achieving their financial goals by increasing their wealth. As Ron Chernow states "mutual funds give people the sense that they're investing with the big boys and that they're really not at a disadvantage entering the stock market."

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The Economics of Mutual Funds: Rewards and Risks

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Introduction

Mutual funds offer solutions to various challenges facing investors. By investing in individual stocks and bonds, small investors often cannot diversify their holdings, face high transaction costs, and suffer the effects of a range of portfolio management errors. Mutual funds provide investors with advantages such as efficient diversification, low transaction costs, timely portfolio rebalancing, index tracking, and accurate record-keeping. Financial advisors and brokers who distribute mutual funds also offer attendant services that investors consider to be valuable, such as financial planning and portfolio monitoring. The mutual fund industry has grown as investors recognize that they cannot get the same array of advantages from other sources. As of 2013, 46 percent of all U.S. households owned mutual funds (Investment Company Institute 2014).

This chapter discusses the principal economic roles that mutual funds play, the structure and characteristics of the mutual fund industry, and economic problems associated with mutual funds. Much debate remains over the fund company, manager, and portfolio management characteristics that are most strongly associated with superior performance. The following sections present these in detail.

The Global Mutual Fund Industry

The assets managed by the mutual fund industry worldwide exceed \$28 trillion. Khorana, Servaes, and Tufano (2005) investigate the determinants of the size of each country's mutual fund industry in 56 countries. Industry size is positively related to the number of years since its inception, strength of its regulations protecting investors, and education and prosperity of the country's residents. They find industry size to be negatively related to the time required to bring a mutual fund to market. Table 2.1 lists the assets under management (AUM) by open-end mutual funds, referred to in this chapter

Table 2.1 Size of the Mutual Fund Industry and Expenses Charged Worldwide

<i>Country</i>	<i>Mutual Funds</i>	<i>Total Assets (billions \$)</i>	<i>Expense Ratio (%)</i>	<i>Management Fee (%)</i>
United States	7,679	13,674.47	1.00	0.66
Luxembourg	9,227	3,172.73	1.61	1.12
United Kingdom	2,715	1,478.87	1.37	1.06
Brazil	10,214	1,366.97	2.41	
Ireland	2,022	1,262.00	1.38	1.02
Canada	2,877	1,132.10	—	1.70
France	5,141	1,058.03	1.67	1.15
China	1,490	575.08	2.49	1.03
Japan	4,770	541.80	—	0.56
Australia	1,924	416.03	—	1.35
Germany	1,537	411.87	1.52	1.03
South Korea	12,386	358.07	1.18	0.36
Sweden	670	334.48	1.70	1.19
Spain	5,174	285.63	0.76	1.28
Switzerland	1,000	283.20	1.02	0.80
Italy	735	244.09	1.80	1.29
South Africa	1,047	161.72	1.66	1.05
India	822	145.11	1.80	0.85
Mexico	530	133.88	1.00	0.58
Denmark	586	126.25	1.19	1.42
Norway	352	117.97	0.98	0.91
Austria	1,224	114.84	1.46	1.08
Belgium	932	105.65	1.11	0.95
Finland	472	93.92	1.50	1.23
Thailand	1,416	89.72	1.35	1.00
Israel	1,259	69.50	—	0.99
Netherlands	279	66.62	1.77	0.83
Taiwan	626	62.31	1.61	1.42
Cayman Islands	204	46.52	1.72	1.38
Chile	508	41.86	2.68	—
Malaysia	590	41.61	1.56	1.34

continued

Table 2.1 (continued)

<i>Country</i>	<i>Mutual Funds</i>	<i>Total Assets (billions \$)</i>	<i>Expense Ratio (%)</i>	<i>Management Fee (%)</i>
Hong Kong	170	41.36	1.39	1.21
Liechtenstein	513	32.79	2.25	1.24
Total	84,044	28,344.90	1.44	1.01
77 countries				

Note: The table lists the number of distinct mutual funds, total AUM, and average expense ratios and management fees for countries with more than \$30 billion in mutual fund assets as of November 2014. Funds are listed by country of domicile, and asset values are converted to U.S. dollars at current exchange rates. Blank cells indicate that Morningstar does not report the item for that market.

Source: Morningstar Direct 2014.

as OEFs, in the 33 countries for which assets exceed \$3 billion as of November 2014. The AUM of OEFs in the United States is larger than those of the next 20 countries combined.

Khorana, Servaes, and Tufano (2008) find that management fees and expense ratios are lower in countries that offer greater investor protection. Investor protection is measured by the efficiency of the judicial system, whether regulatory approval is required to start up a fund, and whether an independent custodian is required to hold securities. The rightmost columns in Table 2.1 show average expense ratios and management fees by country. Although fees in Switzerland and Mexico are comparable to those in the United States, Canada is an outlier, with a 1.70 percent average annual management fee. Expense ratios in Brazil and China are also far above those of most other countries on the list.

Structure of the U.S. Mutual Fund Industry

Investment companies come in at least four types. Mutual funds or OEFs are the most prominent type. In the United States, these comprise over \$15 trillion in assets as of December 2013. Exchange-traded funds (ETFs) are a second type of investment company with assets of about \$1.7 trillion at year-end 2013. A third type is closed-end mutual funds (CEFs) with \$280 billion and unit investment trusts (UITs) are the fourth type with \$86 billion. Given the dominance of OEFs and the United States as the principal venue for mutual fund management and investment, the balance of this chapter covers OEFs in the U.S. market.

At the center of the mutual fund industry are investment managers who are hired annually by fund boards. Well-known companies such as Fidelity and Vanguard do not own the mutual funds that bear their names. Rather, the individual funds' boards decide each year whether these firms should be retained as advisors to manage the portfolio and provide administrative services. The incumbent manager is retained almost 100 percent of the time. Tufano and Sevick (1997) note only three cases to the contrary in 30 years.

The fund sponsor frequently hires a subadvisor to manage or help manage the fund. The *subadvisor* is a professional or firm that is not a direct employee of the fund’s advisor. According to the Morningstar Direct database, 38 percent of U.S. mutual funds (2,906 of 7,679) use a subadvisor.

The Investment Company Institute (2014) reports that between 2003 and 2013, AUM of investment companies experienced a 7.3 percent annualized rate of increase. Of the \$15 billion total, equity funds constitute about \$8 trillion, balanced and bond funds represent \$4.5 trillion, and money market funds are \$2.7 trillion. The total number of distinct funds decreased from 8,125 to 7,707. Figure 2.1 shows how these series change over the years. The mix of bond, stock, and hybrid funds has also shifted over time. Figure 2.2 summarizes the changes. One of the strongest recent trends is the popularity of target-date funds. A *target-date fund* is a hybrid fund that invests in a blend of equity and fixed-income assets whose allocations change according to a predetermined schedule to achieve a specific return and risk objective.

Table 2.2 shows the market shares of the 10 largest firms. Vanguard Group is the largest, with about 15 percent market share as of November 2014. The top two firms have about a 25 percent market share, and the top nine firms have about 50 percent. Thereafter, market shares fall off dramatically and the remaining 825 companies comprise the other 50 percent of the market. The Herfindahl index for the mutual fund sector is 480. This contrasts with a minimum possible Herfindahl index of 12 if market

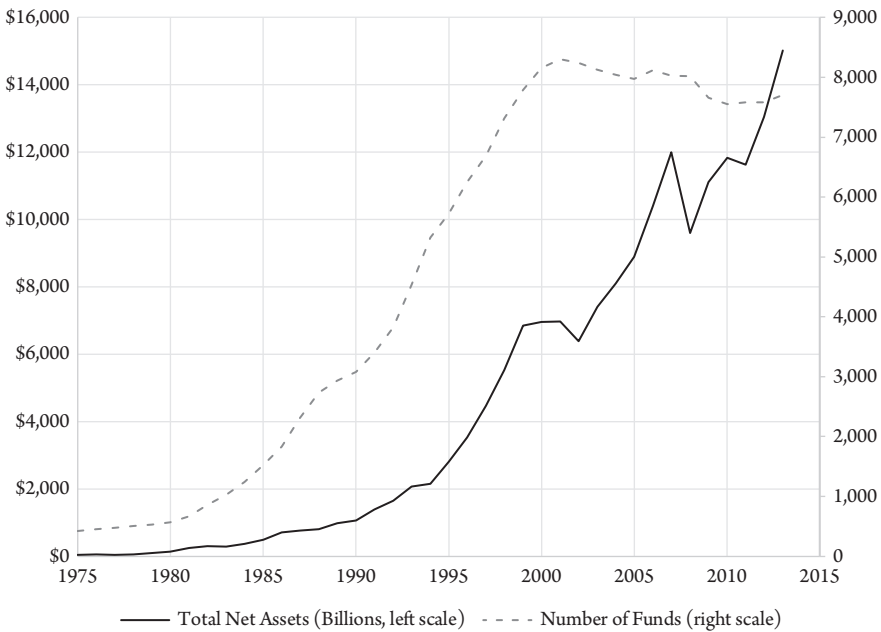


Figure 2.1 NUMBER OF U.S. MUTUAL FUNDS AND TOTAL ASSETS UNDER MANAGEMENT. The graph shows the total AUM by U.S. mutual funds in billions of U.S. dollars (left axis) and the total number of funds (right axis). Funds with multiple share classes are counted only once. Source: Investment Company Institute 2014.

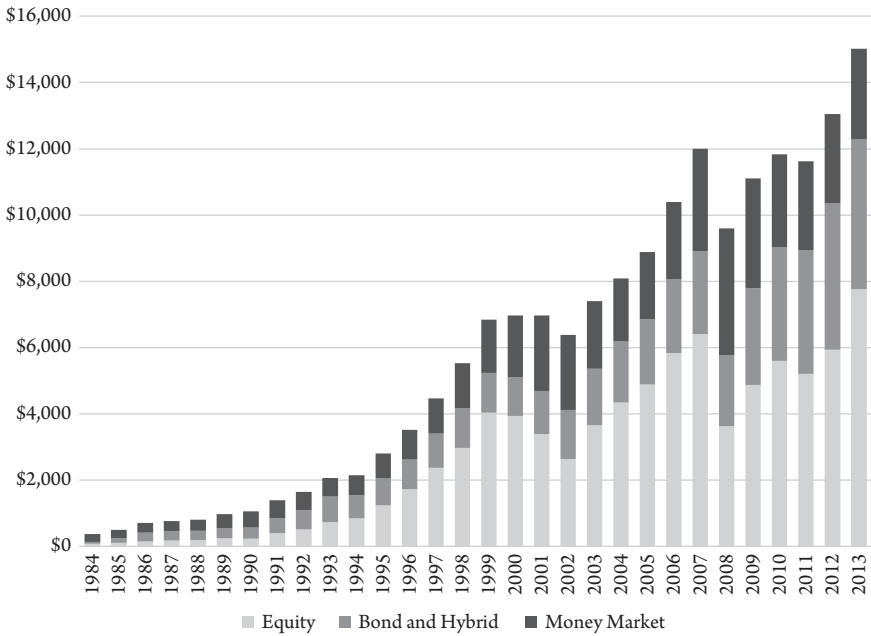


Figure 2.2 ASSETS UNDER MANAGEMENT FOR VARIOUS TYPES OF U.S. MUTUAL FUNDS. The graph shows the total volume in billions of U.S. dollars of various types of mutual funds. Source: Investment Company Institute 2014.

Table 2.2 Assets Under Management and Market Share of Mutual Funds for the Top 10 U.S. Advisory Firms

<i>Advisor Firm</i>	<i>Total AUM (US\$ billions)</i>	<i>Market Share (%)</i>	<i>Distinct Funds</i>
Vanguard Group, Inc.	1,906	15.41	83
Capital Group (American Funds)	1,131	9.15	57
Fidelity Management and Research Company	1,009	8.15	199
PIMCO	588	4.75	95
T. Rowe Price Associates, Inc.	533	4.31	125
Franklin Advisers, Inc.	310	2.51	78
Strategic Advisers, Inc.	280	2.26	99
JP Morgan Investment Management Inc.	247	2.00	119
Dimensional Fund Advisors LP	236	1.91	85
Wellington Management Company, LLP	214	1.73	7

Note: The table shows the total AUM and market share in November 2014 for the top 10 advisory firms to OEFs.

Source: Morningstar Direct 2014.

shares were uniform in this industry of 834 firms. The industry is becoming more concentrated over time, as the current Herfindahl value that is 40 times its theoretical minimum contrasts with a multiple of 38 in 2008 and 23 in 1998.

Distribution Channels

Investors obtain mutual fund shares in three major ways. Sales of funds by financial advisors and brokers represent one distribution channel. Employer-sponsored retirement programs are a second channel. Within these two channels, investment professionals serve as sales intermediaries between funds and investors. The third channel is direct purchases of mutual funds by investors. According to Investment Company Institute (2014), the first and second channels represented about 80 percent of the dollar volume of mutual fund sales in 2013. Thus, mutual funds appear to be mostly sold rather than bought. Direct purchases are about 12 percent of the total, and the distribution channel is unknown for 7 percent of fund purchases.

The distribution channel has a major impact on the profitability of fund investments. Bergstresser, Chalmers, and Tufano (2009) find that broker-sold funds underperform direct-sold funds. They conclude that brokers apparently provide services whose value is not reflected in fund returns but also that brokers have substantial conflicts of interest. Evans and Fahlenbrach (2012) provide related results in their comparison of funds that have both retail and institutional classes versus those with only retail classes. Fund sponsors serve different investors by providing access to the portfolio through different fund classes. Institutional share classes allow large investors to buy shares in high dollar amounts and pay a low expense ratio. Retail share classes provide smaller investors access to the same portfolio, but given the greater cost of servicing a retail account, the expense ratio is higher. Evans and Fahlenbrach find that institutional investors' flows are more sensitive to fees and performance than are retail investors. Retail funds with an institutional counterpart are better performers than single class funds offered to retail investors, but the launch of a new institutional class improves the performance of the associated retail class. Evans and Fahlenbrach conclude that their results are not due to institutional investors gravitating toward more successful funds but are explained by the superior monitoring of the portfolio managers provided by institutional investors.

Del Guercio and Reuter (2014) find that similar performance differences apply within the retail arena. Their results show that after-fee alphas for direct-sold actively managed funds are slightly positive. These active managers do not underperform index fund managers. In contrast, the alpha for actively managed funds sold through the broker channel is about 115 basis points a year lower than that of their direct-sold counterparts. Del Guercio and Reuter also conclude that the flows from fund shareholders who invest through the broker channel are substantially less sensitive to risk-adjusted return than are those of direct investors. But flows from the former group of investors are particularly sensitive to raw return, while flows from direct investors are not. One explanation for this result is that less sophisticated retail investors do not fully understand the concept of risk-adjusted returns. Another argument is that retail investors place a value on the financial planning and portfolio monitoring services provided by brokers that is sufficient to cause them to overlook poor risk-adjusted performance.

The Classification and Impact of Expenses, Loads, and Other Costs

Mutual fund investors bear costs that take various forms. The most universal form is the expense ratio, but substantial costs also come in other forms such as loads and trading costs.

EXPENSE RATIOS

The expense ratio contains fees paid to the fund management company for various services it provides to fund shareholders. Each fund's board annually determines the expense ratio, which is levied on shareholders daily. At the end of the trading day, each fund's net asset value (NAV) is decreased by the daily expense ratio. According to Morningstar Direct (2014), across all 29,440 U.S. mutual fund share classes (representing 7,679 unique funds), the unweighted average expense ratio is 1.27 percent and the median is 1.18 percent.

As Table 2.3 shows, actively managed funds' expense ratios are 40 to 70 basis points higher than those of funds that track a passive benchmark. Similarly, retail funds' expense ratios are also higher than those of otherwise similar institutional class funds by 40 to 70 basis points. The former comparison involves distinct funds, while the latter comparison could involve two fund classes that simply represent different routes to accessing the same underlying portfolio. As a basis for comparison, consider the average expense ratios of Vanguard funds. Even for actively managed retail funds, Vanguard's average expense ratio is 0.27 percent, and for its retail index funds the expense ratio averages 0.17 percent. The firm charges no loads or 12b-1 fees. The 27 basis points represent a rough lower bound breakeven point for the industry, suggesting that many competitors' operations are extremely profitable.

The difference between expenses for active and passive funds is consistent with French's (2008) conclusion that the pursuit of superior returns from active management costs investors 67 basis points per year in return. Related to this, Wermers (2000) finds that active equity fund managers possess stock-picking talent that allows them to beat benchmark indexes before fees. Yet, after taking account of fees and inferior returns to cash and bonds held to satisfy potential redemption requests, Wermers finds that the return advantages from superior stock-picking are more than reversed. Put differently, fund managers have the talent to outperform, but on average they fail to share those benefits with fund shareholders. Studies of active share show that the portfolios of many active managers maintain high similarity to those implied by their performance benchmarks. Miller (2007) finds that active share across the Morningstar equity universe is only about 22 percent and the implied cost of managing that active share is about 7 percent per year. This 7 percent cost of active share is strikingly similar to that reported by Smith (2014) for equity-oriented hedge funds.

Components of the Expense Ratio

Table 2.4 shows the fees that typically comprise an expense ratio, listed in descending order of prevalence. Virtually all funds report a *management fee*, which is a fee

Table 2.3 Prevalence and Levels of Loads and Fees for Mutual Funds

Fee or Load	Characteristic	Fund Class Type				All (%)
		Retail Active (%)	Institutional Active (%)	Retail Passive (%)	Institutional Passive (%)	
Expense ratio	Average	1.38	0.96	1.00	0.37	1.27
	Median	1.29	0.89	0.87	0.22	1.18
Front-end load	Percent of Funds with the Load	20.00	0.10	14.00	0.00	15.00
	Average Load Level	4.87	0.47	4.90	0.00	4.86
	Median Load Level	5.50	0.50	5.25	0.00	5.50
Deferred load	Percent of Funds with the Load	22.00	0.00	11.00	0.00	16.00
	Average Load Level	2.11	—	1.88	—	2.11
	Median Load Level	1.00	—	1.00	—	1.00
12b-1 fee	Percent of Funds with the Fee	78.00	3.00	62.00	7.00	61.00
	Average Fee Level	0.49	0.24	0.43	0.18	0.48
	Median Fee Level	0.25	0.25	0.25	0.15	0.25
Performance fee	Percent of Funds with the Fee	2.00	1.00	0.00	0.00	1.00
Redemption Fee	Percent of Funds with the Fee	11.00	15.00	10.00	11.00	12.00
	Average Fee Level	1.57	1.50	1.44	1.27	1.54
	Median Fee Level	2.00	2.00	1.50	1.00	2.00
Minimum Initial Investment	Percent of Funds Requiring a Minimum	77%	84%	76%	74%	78%
	Average Minimum Investment	\$9,936	\$2.68 million	\$4,444	\$7.52 million	\$0.66 million
	Median Minimum Investment	\$1,000	\$1.00 million	\$2,500	\$1.00 million	\$1,000

Note: The table shows the proportion of mutual funds (measured as 29,408 classes) that have fees and loads of various types, and the fee levels, November 2014.

Source: Morningstar Direct 2014.

Table 2.4 Common Components of the Expense Ratio for Mutual Funds

Fee Type	Percent of Funds that Report Charging the Fee	Fee Level (% of Fund Assets)		
		25th Percentile	Median	75th Percentile
Expense ratio	100.00	0.86	1.18	1.58
Management fee	97.35	0.43	0.65	0.85
Board of directors fee	72.31	0.00	0.00	0.01
Custodian fee	67.64	0.00	0.01	0.04
Transfer agency fee	65.45	0.06	0.13	0.23
Distribution fee	60.89	0.25	0.25	0.75
Registration fee	58.30	0.01	0.02	0.07
Shareholder reporting fee	56.82	0.01	0.01	0.03
Administrator fee	48.84	0.04	0.08	0.15
Professional fee	36.09	0.00	0.01	0.04
Auditor fee	26.31	0.00	0.01	0.04
Legal fee	23.62	0.00	0.01	0.03
Accounting fee	22.11	0.01	0.02	0.05
Insurance fee	11.28	0.00	0.00	0.01

Note: The table shows the fees that comprise the expense ratio for many U.S. mutual funds. The data include 29,408 mutual fund classes for 7,679 distinct funds as of November 2014. Cells containing 0.00 percent actually reflect nonzero costs that are below 1/100th of 1 percent of fund assets.

Source: Morningstar Direct 2014.

that the fund sponsor charges for portfolio management services. The median level is 0.65 percent. The reported level reflects the maximum management fee that the fund sponsor can charge. Table 2.5 shows that many sponsors offer discounts as the amount invested grows large, but the management fee decreases slowly. Most funds also charge a *board of directors fee*, which reflects compensation paid to the fund board for its work. This is typically a small percent of total assets. The *custodian fee* reflects payments to a bank that independently holds the portfolio's securities for safekeeping. The *transfer agency fee* is paid to the organization that the fund hires to provide services such as maintaining fund shareholder records, preparing quarterly reports, and responding to investor inquiries. This fee, which is sometimes termed an *administrator fee* (also listed near the bottom of Table 2.4), is one of the larger components of the expense ratio. *Registration fees* reflect expenses associated with meeting regulatory requirements involving registering the fund for sale in separate jurisdictions, such as in different states. The names for *auditor* and *legal fees* are self-explanatory, and these categories are sometimes grouped and called a *professional fee*, which appears directly above them in Table 2.4.

Table 2.5 Breakpoints and Resulting Fees and Loads for Mutual Funds

<i>Fee or Load</i>	<i>Basis for Breakpoint</i>	<i>Breakpoint Number</i>	<i>Breakpoint</i>	<i>Next Fee or Load (Median) (%)</i>
Front Load	Initial investment by investor	Initial		5.50
		First	\$50,000	4.50
		Second	\$100,000	3.50
		Third	\$250,000	2.50
		Fourth	\$500,000	2.00
		Fifth	\$1,000,000	0.00
Deferred Load	Years investment held	Initial		5.00
		First	1 years	4.00
		Second	2 years	3.00
		Third	4 years	2.00
		Fourth	5 years	1.00
		Fifth	6 years	0.00
Management Fee	Total fund size	Initial		0.65
		First	\$500 million	0.65
		Second	\$1,000 million	0.60
		Third	\$2,500 million	0.57
		Fourth	\$5,000 million	0.55
		Fifth	\$6,000 million	0.50
		Sixth	\$10,000 million	0.45
		Seventh	\$20,000 million	0.36
Redemption Fee	Days investment held	Initial		2.00
		First	30 days	0.00

Note: The table shows the median load and fee levels and their typical breakpoints as of November 2014.

Source: Morningstar Direct 2014.

12B-1 FEES

Many share classes charge a 12b-1 fee, the name of which is derived from SEC Rule 12b-1 of the Investment Company Act of 1940. The *12b-1 fee* is a fixed-percent annual fee that is paid from fund assets. It is charged to all investors of the fund and pays for marketing, compensation of brokers, printing and mailing of prospectuses and sales literature, and other shareholder services. The intent of the fee was to provide funds the ability to advertise and attract more investor flows, thus growing in AUM

and reducing the percent expense ratio charged of all shareholders. The maximum that can be charged for shareholder services is 0.25 percent of the fund's assets, whereas the charge for marketing and distribution expenses cannot exceed 0.75 percent. Many funds charge the maximum 0.25 percent fee for shareholder services and are still allowed to advertise as being "no load."

Of the fund classes in existence in October 2014, 61 percent have 12b-1 fees. The average 12b-1 fee is 0.48 percent, and the median is 0.25 percent. This type of a fee is a fixture of the retail market, as 77 percent of such funds have it and only 3 percent of institutional classes do. Some contend that 12b-1 fees charged by no load mutual funds actually constitute a type of load. Just over 30 percent of funds call themselves "no load" yet they still maintain 12b-1 fees. More surprising, approximately one-sixth of all funds are both closed to new investors and maintain 12b-1 fees. Given the initial intention of helping a fund grow its assets by attracting new investors, continued existence of such fees in a competitive market remains a puzzle. Ferris and Chance (1987) conclude that 12b-1 fees are a deadweight loss to investors. They speculate that the fee's existence initially derived from investors being unfamiliar with its presence and negative impact. More than a quarter of a century later, the fee persists merely because most investors have not become better informed and demanded its cessation.

Walsh (2004) finds that although 12b-1 fees have helped to increase fund assets, expenses paid by incumbent shareholders have not decreased enough to justify their continued payment of 12b-1 fees. Increasing fund size may or may not benefit shareholders through a drop in the expense ratio. However, increases in size will unquestionably lead to an increase in revenues to the fund sponsor. Freeman (2007) notes that the application of the 12b-1 fee has produced a severe conflict in which current shareholders are forced to pay a marketing fee that the fund sponsor might normally be expected to pay. Freeman also argues that the goal of the fee, which is attracting the money of new shareholders, is a dubious one that magnifies conflicts of interest between fund managers and the shareholders to whom they owe a fiduciary duty.

TRADING COSTS

Trading costs for mutual funds can be substantial, but they do not appear in the expense ratio. Karceski, Livingston, and O'Neal (2004) estimate that explicit and implicit trading costs amount to almost 1 percent of total assets. Analyzing the individual portfolio holdings of 1,706 domestic equity funds, Edelen, Evans, and Kadlec (2007) report that average annual trading costs exceed the expense ratio (144 to 132 basis points). Thus, the sum of these two costs exceeds 2.5 percent annually. Trading costs have several components including explicit brokerage commissions, the bid-ask spread, and price-pressure effects caused by mutual funds' large trades. Although numerous studies document that trading costs are significant, mutual funds are not required to disclose the magnitude of trading costs to investors. As Mahoney (2004) notes, the estimates of brokerage commissions are well above what discount brokerage firms charged at the time. Apparently, mutual funds participated actively in soft dollar arrangements with their brokers. *Soft dollar arrangements* involve paying more than the market rate for services, but receiving a rebate from the broker in the form of research or other resources.

FUND CLASSES AND LOADS

Another traditional cost to fund shareholders is the front-end and deferred load. *Front-end loads* are charged when investors purchase mutual fund shares, and *deferred loads* are charged when investors redeem shares. The front-end load is expressed as a percent of the initial purchase amount. The deferred load is typically the lower of the initial purchase amount and the final sales amount. The identity of the fund class is an important determinant of whether a fund charges a load. Loads are far more commonly imposed on retail class funds than on institutional class funds. As Table 2.3 shows, few institutional class shares have front-end or deferred loads.

Mutual funds available to retail investors and purchased through a broker are typically available in three share classes: A, B, and C. The different share classes are usually distinguished by their loads, with A classes imposing front-end loads, B classes imposing deferred loads, and C classes imposing level loads.

To attract large investors such as 401(k) plans and pension funds, mutual fund companies have created institutional share classes that charge lower fees. Outside of 401(k) plans, the emergence of mutual fund supermarkets and discount brokers has decreased costs to investors as well. Gil-Bazo and Ruiz-Verdu (2009) show that mutual fund performance is negatively correlated to expenses even before the fees are charged. Their results reinforce that investors should avoid additional fees and expenses.

Licensed investment professionals market their ability to make suitable recommendations based on a client's needs, goals, investment time horizon, and other portfolio constraints. For many advisors, asset allocation is the main focus of suitability. Even if an investor's asset allocation is risk appropriate, multiple mutual fund fee structures must be navigated. According to O'Neal (1999), a direct conflict of interest often exists between a broker's incentives and the client's needs. This conflict results from the fact that brokers are often compensated in greater amounts for funds that cost their clients more. Hogue and Wellman (2007) conjecture that this conflict of interest results from mutual fund companies directly targeting inexperienced investors with higher overall fees. If a broker suggests that a client use a "C" share class of a mutual fund rather than an "A" or "B" share class, a client should have a basic understanding of the costs of different load structures. A shareholder's allocation and fee structure should be based on his or her goals, investment constraints, and current portfolio holdings.

Front-End Loads

The maximum front-end load that the U.S. Financial Industry Regulatory Authority permits funds to charge is 8.5 percent. As Table 2.3 shows, only 15 percent of fund classes charge a front-end load. The average (median) front-end load for funds that have one is 4.86 percent (5.50 percent). Front-end loads are also sometimes referred to as *sales charges*.

According to Investment Company Institute (2014), mutual fund investors have become more cognizant of up-front fees and costs and as a result have invested much less money in front-end load funds in recent years. "A" share class mutual funds charge a front-end load, and usually also charge a small 12b-1 fee of approximately 0.25 percent throughout the life of the fund. An example of an A share class is the American Growth Fund Series One A class (ticker AMRAX). This fund charges a 5.75 percent front-end