CHAPTER 1

Introduction

Chapter Outline

1.1 INTRODUCTION TO THE INVESTMENT INDUSTRY

The investment business offers the potential for an exciting career. The stakes are high and the competition is keen. Investment firms are paid a management fee to invest other people's money and their clients expect expert care and superior performance. Managing other people's money is a serious endeavor. Individuals entrust their life savings and their dreams for attractive homes, their children's educations, and comfortable retirements. Foundations and endowments hand over responsibility for the assets that support their missions. Corporations delegate management of the funds that will pay future pension benefits for their employees. Successful managers and their clients enjoy very substantial financial rewards, but sustained poor performance can undermine the well-being of the client and leave the manager searching for a new career.

Many bright and hard-working people are attracted to this challenging industry. Since their competitors are working so hard, portfolio managers must always be at their best, and continue to improve their skills and knowledge base. For most portfolio managers, investing is a highly stimulating vocation, requiring constant learning and self-improvement. Clients are demanding, especially when results are disappointing. While considered a stressful job by many people, it is not unheard of for professionals to manage money into their eighties or nineties.[1]

Portfolio management is becoming increasingly more sophisticated due to the ongoing advancement of theory and the growing complexity of practice, led by a number of trends, including:

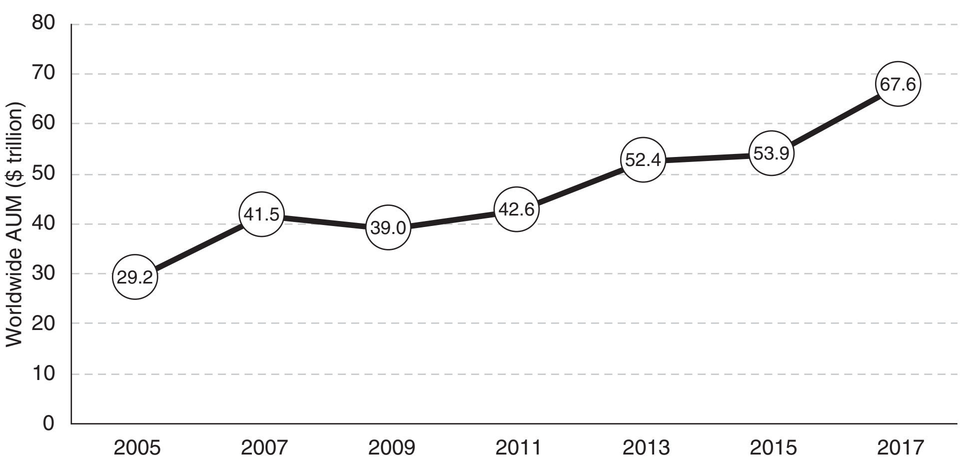
1. Advances in modern portfolio theory.
2. More complex instruments.

3. Increased demands for performance.
4. Increased client sophistication.
5. Rising retirement costs, and the growing trend toward individual responsibility for those costs.
6. Dramatic growth in assets under management.

These trends parallel the growing use of mathematics in economics, the improvements in investment education of many savers, and the increasing competitiveness of the industry. Assets controlled by individual investors have grown rapidly. In 2016, just under half of all U.S. households owned stock, but fewer than 14 percent directly owned individual stocks.[2] By year-end 2017, U.S.-registered investment company assets under management had expanded to \$22.5 trillion from \$2.8 trillion in 1995, managed over 16,800 funds, and employed an estimated 178,000 people.[3] The global money management business has grown in parallel. Exhibit 1.1 shows that worldwide assets under management have expanded over 2.5× from 2005 to 2017.

Portfolio management is based on three key variables: the objective for the investment plan, the initial principal of the investment, and the cumulative total return on that principal. The investment plan, or strategy, is tailored to provide a pattern of expected returns consistent with meeting investment objectives within acceptable levels of risk. This investment strategy should be formed by first evaluating the requirements of the client, including their willingness and ability to take risk, their cash-flow needs, and identifying any constraints, such as legal restrictions. Given the cash flow needs and acceptable expected risk-and-return outcomes, the allocation between broad asset classes is set in coordination with funding and spending policies. Once investment vehicles are selected and the plan is implemented, subsequent performance should be analyzed to determine the strategy's level of success. Ongoing review and adjustment of the portfolio is required to ensure that it continues to meet the client's objectives.

EXHIBIT 1.1 Total Worldwide Assets Under Management



Source: Based on data from Pension & Investments.

THEORY IN PRACTICE: FAMOUS LAST WORDS—"IT'S DIFFERENT THIS TIME."

The year 2008 was a terrible one for the markets. The S&P 500 fell nearly 40 percent, high-yield bonds declined over 25 percent, and in December Bernie Madoff admitted to what he claimed was a $50 billion Ponzi scheme. While these numbers are shocking, they are not unprecedented and the reasons behind them are not new. Security values can change drastically, sometimes with surprising speed. Declining values can be a response to peaking long-term market cycles, short-term economic shocks, or the idiosyncratic risk of an individual security.

Market cycles can take months or years to develop and resolve. The dot-com bubble lasted from 1995 to 2001. The March 2000 peak was followed by a 65+ percent multiyear decline in the NASDAQ index as once-lofty earnings growth forecasts failed to materialize. The S&P 500 dropped over 40 percent in 1973 and 1974 as the economy entered a period of stagflation following the boom of the 1960s and the shock of the OPEC oil embargo. Black Monday, October 19, 1987, saw global equity markets fall over 20 percent in the course of a single day. The collapse of Enron destroyed more than $2 billion in employee retirement assets and more than $60 billion in equity market value. While the true cost may never be known, economists at the Federal Reserve of Dallas conservatively estimate the cost of the 2007–09 financial crisis to the U.S. alone was $6–$14 trillion.[4]

Each of these examples had a different cause and a different time horizon, but in each case the potential portfolio losses were significant. To assist investors, this book outlines the basic—and not so basic—principles of sound portfolio management. These techniques should prepare the investor to weather market swings. The broad themes include:

- Creating and following an investment plan to help maintain discipline. Investors often appear driven by fear and greed. The aim should be to avoid panicking when markets sell off suddenly (1974, 1987) and risk missing the potential recovery, or overallocating to hot sectors (the dot-com bubble) or stocks (Enron) and being hurt when the market reverts.
- Focus on total return and not yield or cost.
- Establishing and following a proper risk management discipline. Diversification and rebalancing of positions help avoid outsized exposures to particular systematic or idiosyncratic risks. Performance measurement and attribution provide insight into the risks and the sources of return for an investment strategy.
- Not investing in what you do not understand. In addition to surprisingly good performance that could not be explained, there were additional red flags, such as lack of transparency, in the Enron and Madoff cases.
- Behave ethically and insist others do, too.

(*Continued*)

Although attractive or even positive returns cannot be guaranteed, following the principles of sound portfolio management can improve the likelihood of achieving the investor's long-range goals.

This book presents effective portfolio management *practice*, not simply portfolio *theory*. The goal is to provide a primer for people who wish to run money professionally. The book includes the information a serious portfolio manager would learn over a 20-year career—grounded in academic rigor, yet reflecting real business practice and presented in an efficient format. Importantly, this book presents tools to help manage portfolios into the future; that is what a portfolio manager is paid to do. Although the book discusses the value of historical data, it guides the reader to think more about its implications for the future. Simply relying on historical records and relationships is a sure way to disappoint clients.

This is not a cook-book or collection of unrelated essays; the chapters tell a unified story. This book presents techniques that the reader may use to address real situations. A working knowledge of investments including derivatives, securities analysis, and fixed income is assumed, as well as basic proficiency in Excel. Where necessary, the book presents careful development of new tools that typically would not be covered in an MBA curriculum.

1.2 WHAT IS A PORTFOLIO MANAGER?

Investment management firms employ many investment professionals. They include a CEO to manage the business, portfolio managers supported by research analysts, salespeople to help attract and retain clients, and a chief investment officer to supervise the portfolio managers. There are many more people behind the scenes, such as risk officers and accounting professionals, to make sure the money is safe. A portfolio manager may be defined by three characteristics:

1. Responsible for delivering investment performance.
2. Full authority to make at least some investment decisions.
3. Accountable for investment results.

Investment decisions involve setting weights of asset classes, individual securities, or both, to yield desired future investment performance. *Full authority* means the individual has control over these decisions. For example, portfolio managers do not need the approval of a committee or superior before directing allocation changes. In fact, on more than one occasion portfolio managers have resigned after their full discretion was restricted. A chief investment officer has authority, not over security selection, but over the portfolio manager's employment, making the chief investment officer a portfolio manager for the purposes of this book. A fund-of-funds manager retains control over the weights of the underlying fund managers and therefore is a portfolio manager. The typical mutual fund manager who issues orders for individual equity, fixed income, or derivative securities is the most visible form of portfolio manager.

A portfolio manager is held *accountable* for her performance whether or not it meets expectations. Portfolio managers typically have benchmarks, in the form of a market index or group of peers, and their performance results are compared with these benchmarks for client relationship, compensation, and career advancement purposes. Portfolio managers do not necessarily follow an active investment process. Managers of passive portfolios are portfolio managers because they are responsible and held accountable to their clients and firm for their portfolio returns. If performance does not meet client expectations, at some point the portfolio manager will be terminated.[5] If results exceed expectations, clients may increase the level of their commitment, thereby generating higher management fees for the portfolio manager's firm. In these cases the portfolio manager will likely see career advancement.

Investment analysts may be held accountable for their recommendations, in some cases with precise performance calculations. However, they do not set security weights in portfolios and are not ultimately responsible for live performance. Portfolio managers may use analysts' recommendations in decision making, but the ultimate security selection is under their control. Although analysts are not portfolio managers based on the definition here, they can obviously benefit from understanding the job of the portfolio manager.

Risk officers are responsible for identifying, measuring, analyzing, and monitoring portfolio and firm risks. While they may have discretion to execute trades to bring portfolios into compliance, they are not portfolio managers. They do not bear the same responsibility and accountability for performance. In fact, it is recommended that portfolio management and risk functions be separated to avoid potential conflicts of interest.

1.3 WHAT INVESTMENT PROBLEMS DO PORTFOLIO MANAGERS SEEK TO SOLVE?

Asset Allocation and Asset Class Portfolio Responsibilities

The job of a portfolio manager is to help clients meet their wealth accumulation and spending needs. Many clients expect to preserve the real value of the original principal and spend only the real return. Some have well-defined cash inflows and outflows. Virtually all clients want their portfolio managers to maximize the value of their savings and protect from falling short of their needs.

The **asset allocation problem** requires portfolio managers to select the weights of asset classes, such as equities, bonds, and cash, through time to meet their clients' monetary needs. Asset allocation determines a large portion of the level and pattern of investment performance. The remainder is determined by the individual asset class vehicle(s) and their underlying holdings. The goals of asset allocation are to manage variability, provide for cash flow needs, and generate asset growth—in other words, risk and return, either absolute or relative to a target or benchmark. Clients are diversified in most situations by holding investments in several reasonably uncorrelated assets. Derivative instruments may help with this process. Asset allocation may also be a source of excess performance, with the portfolio manager actively adjusting weights to take advantage of perceived under- and overvaluations in the market.

Many portfolio managers do not make asset allocation decisions. Instead, they are hired to run a pool of money in a single asset class, or style within an asset class. They may have a narrowly defined benchmark and limited latitude to select securities outside of a prespecified universe—such as a small-cap value manager or distressed-high-yield-bond manager. In most cases, the strategy or style is independent of clients—the portfolio manager follows his or her investment process regardless of clients' broader wealth and spending needs. In fewer cases, portfolios are customized to clients' needs. For example, immunized fixed income portfolios involve customized duration matching and equity completeness funds are customized to provide dynamic, specialized sector and style characteristics.

Representative Investment Problems

Client relationships are typically defined by formal documents with stated investment objectives that include return goals, income needs, and risk parameters. Objectives and related guidelines are determined by the client type and individual situation and preferences.

More and more individual investors are seeking the support of professional portfolio managers. Retail mutual funds began growing rapidly in the bull market of the 1980s. There are now more mutual funds than stocks on the New York Stock Exchange, and hundreds of Exchange-Traded Funds (ETFs), all directed by portfolio managers. In many cases these managers are charged with individual asset class management, although the number of hybrid funds, requiring management of asset class weights, has grown rapidly since 2009. Currently popular horizon-based funds, which ended 2017 with $1.1 trillion in assets, are made up of multiple asset classes whose weights change through time in a prespecified fashion. Such funds require two levels of allocation—one determining the asset class weights and the other the fund or security weights within the individual asset classes.

The high-net-worth business has grown rapidly, with the level of service tied to client asset levels. Clients with more than $5 million in assets typically receive face-to-face advice on asset allocation and manager selection that is supplemented by other money-related services. Smaller clients receive a lower level of service through online questionnaires and phone conversations.

A defined benefit (DB) pension plan represents a pool of money set aside by a company, government institution, or union to pay workers a stipend in retirement determined by prespecified wage-based formulas. A DB plan is characterized by a schedule of forecast future cash flows whose shape is determined by the sponsor's employee demographics. The present value of this stream of payments, or liability, varies with interest rates. A portfolio manager's goal is to set both asset allocation and funding policies to meet these cash flow needs at the lowest possible cost and lowest risk of falling short of the required outflows. Plans frequently hire pension consultants[6] to help them with in-house asset allocation, or in some cases hire external DB asset allocation managers. Accounting standards require U.S. corporations to include on their financial statements the effect of changes in liability present values relative to changes in the market values of the assets held to offset them. This requires close management of the relationship between assets and liabilities, and many companies are replacing their DB plans with alternative forms of employee retirement programs to avoid the inherent risk.

The most popular replacement vehicle is the defined contribution (401(k) or DC) plan. The DC plan is a hybrid program, combining company sponsors with individual users of the program. Individual employees decide how much to save and how to invest it and companies support the effort with contribution matching and advisory support services. Portfolio managers are hired by companies to provide diversified multi-asset investment options, individual asset class product management, and customized asset allocation advice and vehicle selection.

Portfolio managers are responsible for underlying asset class portfolios on a stand-alone basis and within multi-asset class products. Seldom are they the same as the asset allocators, since security-level portfolio management tends to involve a greater degree of specialization within the asset class; for example, high-yield bonds trade differently than investment-grade bonds, both of which trade differently than emerging market bonds. In most cases there are active and passive managers operating in the same asset class, though less liquid markets generally have fewer index funds. Asset classes with higher potential risk-adjusted active return (alpha) and less liquidity command higher fees and portfolio manager compensation for the same asset sizes. In these portfolios the managers are responsible for setting security weights, but they must also seek out available securities and be conscious of the ability to sell their positions.

1.4 SPECTRUM OF PORTFOLIO MANAGERS

Financial advisors provide individual and institutional clients with asset allocation recommendations, manager search capabilities, manager monitoring, and performance and risk analysis. Registered investment advisors (RIA) cater to high-net-worth investors and may also provide tax guidance, insurance strategy, estate planning, and expense management services. In some cases, sophisticated RIAs may be defined as *money therapists*, helping clients process their feelings about wealth, charitable giving, and handling money within their family. High-end advisors typically charge basis point fees that decline with increasing asset levels. *Family offices* may provide services beyond strict money management, even providing travel agent functions.

Pension consultants recommend investments and managers for institutional investors. They tend to be more rigorous in their process than managers of high-net-worth assets—for example, studying liability dynamics when proposing asset allocation and funding policies for a DB plan. Although RIAs may have earned their Certified Financial Planner® designation, which includes topics in estate planning and tax policy, many pension consultants will have earned their Chartered Financial Analyst® charter, a more rigorous professional certification. Many pension consulting firms have one or more liability actuaries on staff as well. Pension consultants talk in terms of benchmarks and portfolio risk, whereas advisors to smaller individual investors may focus on total assets. Although they are sophisticated, there is still a need to manage relations with pension clients. They may need to be educated about asset liability management, introduced to new asset classes, or supported in periods of unhealthy funding status. Pension plans, foundations, and endowments are known to blame (that is replace) their investment consultants when overall results are subpar.

Fund-of-funds managers take investment advice a step further, taking full discretion of assets, placing them with individual securities managers, and in many cases charging a performance fee for doing so. Funds-of-funds became popular in the new millennium by providing simultaneous exposure to a diversified mix of hedge funds.

Over the last two decades, traditional brokerage firms, or *wire houses*, have transitioned from commission-based to fee-based businesses, providing basic asset allocation services and in-house mutual fund products. They walk a fine line, balancing their clients' investment objectives with their own needs to sell their employer's products. *Wrap accounts*, popularized in the mid-1990s, are offered by brokerage houses and are composed of individual securities or mutual fund holdings. They offer separate accounting and flat basis point fee structures, including trading commissions. *Trust banks*, or trust departments of banks, are a smaller part of the business today but continue to manage pools of assets passed down between generations within trust vehicles. As banks have grown through consolidation, their trust management has become more centralized and standardized.

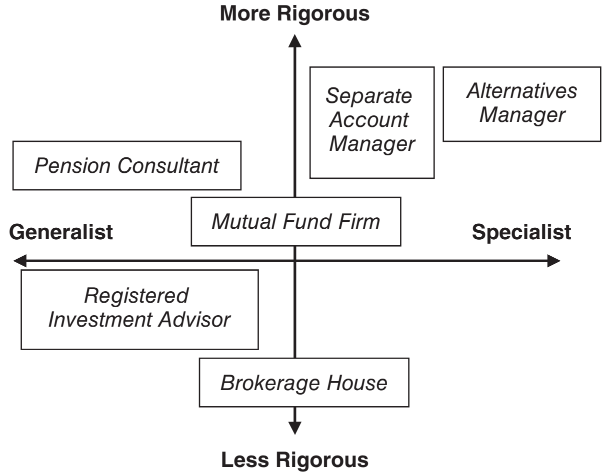
The mutual fund industry grew rapidly during the post-1981 equity and later bond bull markets. Individual investors returned to equity funds in droves during that period after withdrawing assets during the 1970s bear market. In the 1990s mutual fund firms sought to capture the growing DC market, as companies began favoring 401(k) plans over traditional DB programs. Mutual fund companies competed with investment performance,[7] low-cost packages offering *recordkeeping* (asset collection, safekeeping, distribution, and reporting); cafeteria-style investment programs (individual mutual fund, balanced products, and brokerage); and by the late 1990s, full menus offering any investment option, including competitors' funds. Lifestyle and horizon-based products were introduced during that period, meeting the need for automatic diversification for the growing 401(k) balances. The percent of U.S. households invested in mutual funds grew from less than 10 percent in 1980 to close to 45 percent in 2017, with 94 percent of those households holding mutual fund shares inside employer-sponsored retirement plans, individual retirement accounts, and variable annuities.[8]

Separate account money managers tend to specialize in a few investment disciplines, though larger firms have diversified beyond their original discipline or even asset class. Their clients are mainly institutional investors, but smaller firms also have high-net-worth investors. Sometimes large firms specialize in an asset class attractive to individual investors, such as municipal bonds.[9] Institutional investors, frequently with the help of consultants, will select specialist managers to fill out their asset allocation profiles.

Alternative investment firms, including hedge funds and private equity funds, manage more complicated portfolios than mutual fund and traditional separate account managers. They may assume short security positions, trade derivatives, and use leverage. In addition, they can restrict client liquidity and can limit transparency. Alternative investment vehicles include commingled *limited partnerships* and separate accounts.

Portfolio managers may be categorized by investment process rigor and level of specialization, as shown in Exhibit 1.2.

EXHIBIT 1.2 Profile of Portfolio Managers by Rigor and Level of Specialization



1.5 LAYOUT OF THIS BOOK

Portfolio managers are charged with setting the weights of asset classes and individual securities. They need tools that will help them balance the returns and risks of investing in these assets through time. In many cases, risk and return are measured relative to a benchmark; in others, absolute return is the objective. Some portfolio managers prefer to make decisions based on *fundamental* information while others prefer utilizing mathematical models. In the following chapters, this book provides the basic tools for helping set investment weights for each of these scenarios. Several chapters use some mathematics to introduce the models; this approach is intended to help the reader develop the intuition needed to make effective decisions on asset and security selection. It also supports the development of the Excel-based tools designed to provide immediate, hands-on experience in applying key concepts.

Chapters 3–5 introduce and develop the tools for setting efficient asset allocations; Chapter 12 explains how to rebalance these weights through time. The techniques for setting weights of individual securities within asset classes are presented for equity and fixed income portfolios in Chapters 7–10. A discussion of alternative asset classes is the focus of Chapter 11. Chapter 6 reviews the key ingredients for any successful active or passive investment strategy involving asset allocation or security selection.

Portfolio managers must be aware of important incentives and responsibilities to meet their clients' needs. This book explains how the investment business works, including a review of business incentives that may motivate healthy or inappropriate behavior. This is the focus of Chapter 14.

The investment business would not exist without clients. Clients have money they want to grow. They have liquidity needs. They are willing to pay a fee to portfolio managers if the managers can help them meet these goals, but they will not hesitate to terminate a relationship if the manager fails to deliver. Success is often measured based on risk and return, but ultimately it is terminal wealth that counts. Chapter 2 provides a detailed summary of investment objectives and guidelines for the majority of investors. Tools for analyzing investment results are presented in Chapter 13. To help portfolio managers understand how to land and keep their clients, Chapter 15 reviews investor and client behavior, and Chapter 16 discusses managing client relationships. Once you secure your first clients and begin running money professionally, you will want to do your best to keep them.

PROBLEMS

1. List the most common names in the investment management business. What type of portfolio manager are they?
2. List one popular portfolio management firm for each type of portfolio manager listed in Exhibit 1.2.
3. Go online and list the top- and worst-performing mutual funds for the last 12 months. What approach do they follow for managing money?
4. List three common rules of thumb for investing for retirement. How valid do you think is each one?
5. Consider the following simple case:
   Jean is a retired widow with approximately $700,000 in assets. Jean earns a small amount of income from a part-time job, receives Social Security payments, and collects income from investments. Jean owns a home and leads a modest lifestyle. Jean needs to decide how to invest her assets and set a realistic spending policy.
   The following exhibit lists key data to help answer these questions and frame the problem:

Assets	
TOTAL EQUITIES	$ 415,000
TOTAL BONDS	$ 125,000
HOME	$ 130,000
Income	
Assets	$ 12,000
Other	$ 11,000
Expenses	$ 26,500

   a. What information is needed to advise her effectively?
   b. What needs to be done to determine the best course of action for her assets?
   c. Based on the limited information, does Jean appear to be a sophisticated investor?
   d. How much risk (consider one definition) is Jean willing to assume, both financially and emotionally?
   e. What is Jean's investment horizon?
   f. How should these things influence the recommended asset allocation and asset class selection?
   g. Propose a mix of stocks, bonds, and cash for Jean. What's a reasonable spending policy? From where will the cash flow come?

ENDNOTES

1. Consider Charlie Munger, born in 1924, who is six years older than his investing partner, Warren Buffett.
2. Edward Wolff, "Household Wealth Trends in the United States, 1962 to 2016: Has Middle Class Wealth Recovered?" NBER Working Paper No. 24085, November 2017.
3. Investment Company Institute Factbook, 2018.
4. https://www.dallasfed.org/~/media/documents/research/staff/staff1301.pdf.
5. Some investors feel someone is not a true investment professional until he or she has been fired by at least one client, and therefore understands the seriousness and challenge of this responsibility.
6. Smaller pension plans, foundations, and endowments may hire outsourced chief investment officers (OCIOs).
7. Interestingly, in the mid-1990s, when Vanguard's passive fixed income performance and a competitor's active equity performance dominated the mutual fund business, Vanguard introduced the idea of offering a competitor's mutual funds, in this case equity funds, combined with its own bond funds in a single program. Before that event, 401(k) plans tended to include only one management firm.
8. Investment Company Institute, 2018 Factsheet.
9. Appleton Partners, a $9.1 billion money manager, specializes in municipals for wealthy individuals as well as institutional investors.