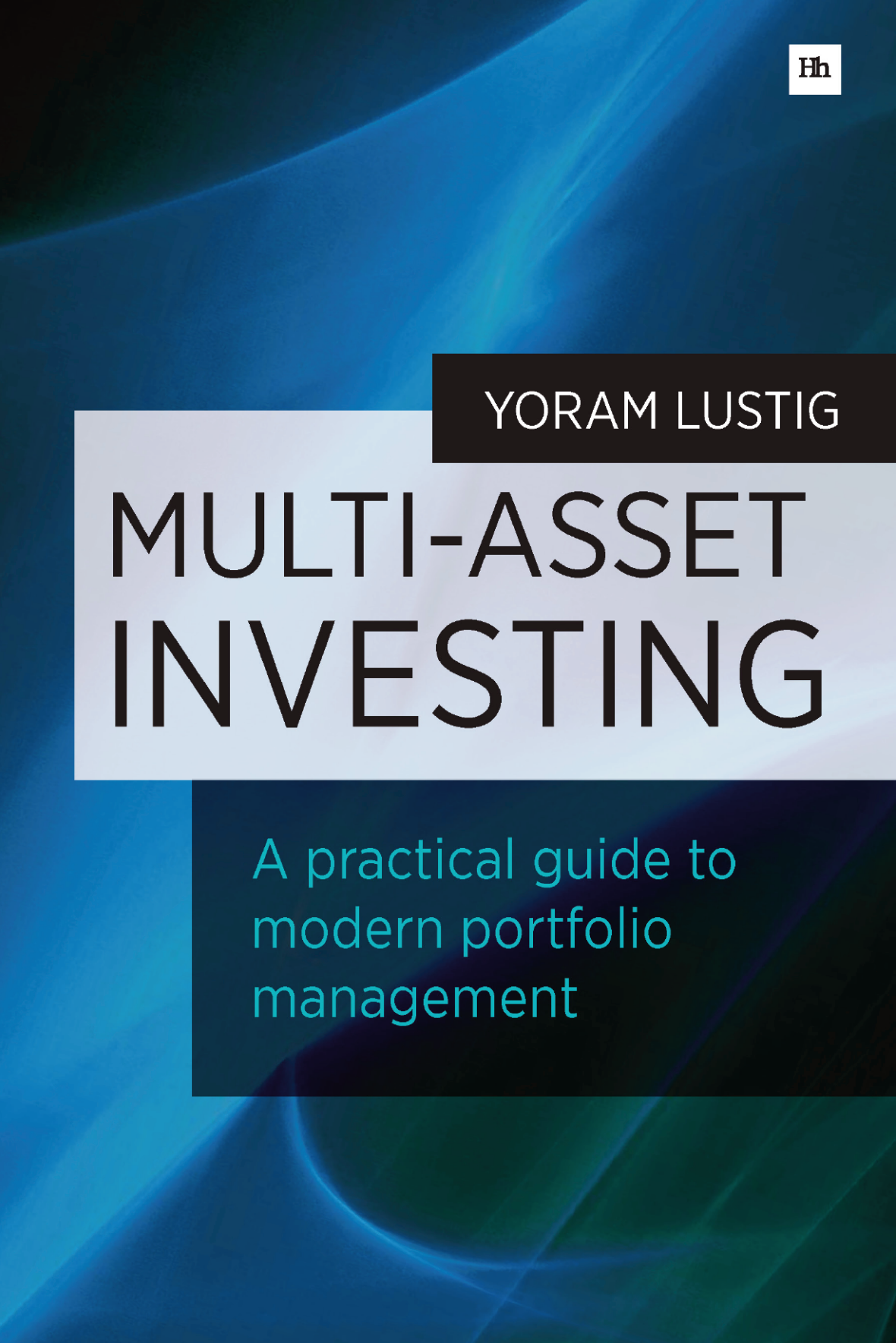
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YORAM LUSTIG
MULTI-ASSET INVESTING
A practical guide to modern portfolio management

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Multi-Asset Investing

A practical guide to modern portfolio management

by Yoram Lustig

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About the Author

Yoram Lustig has been managing multi-asset portfolios for over a decade. During his seven years at Merrill Lynch, as Head of Portfolio Construction EMEA, he was responsible for managing multi-asset portfolios, selecting investments, setting investment strategy, managing portfolio risk, producing performance analytics and advising customers. In his current role, as Head of Multi-Asset Funds at an asset management arm of one of the largest insurance companies, Yoram leads the multi-asset fund team, overseeing over 120 multi-asset funds with assets under management of over £70 billion. Before turning to investment management, Yoram practised commercial and finance law.

Yoram has diverse experience and deep knowledge of all the types of asset classes ranging across equities, bonds, real estate and the full spectrum of alternative investments. His understanding of the business motivations and legal aspects related to fund management, as well as to the requirements of investors, are unique and give him a broad perspective on the subject of multi-asset investing.

Disclaimer

The views and opinions expressed in this book are those of the author in his private capacity and do not necessarily reflect those of any organisation or other person.

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I have been fortunate to learn from many wise people over the years and I wish to thank them. Peter Stanyer, my first boss at Merrill Lynch, introduced me to investment management. Ben Guyatt and Andrew Keegan, my team members at Merrill. Steve Fedor with whom I have taken the Global Selects journey. My partners in the global philanthropic consulting group Ricardo Ferreira and Roger Matloff. My phenomenal multi-asset fund (MAF) team at Aviva Investors: Justin Onuekwusi, Nick Samouilhan, Gavin Counsell and Andrew Ridgers. Other colleagues at Aviva Investors, including Jonathan Abrahams, Mirko Cardinale, Adrian Jarvis and Jason Josefs. My family, my children Yoav and Yael, and my wife Mika. Whatever you read in this book, the bottom line is that the real objective of everything, including investments, is the welfare of the family and loved ones.

Preface

The objectives of this book

Multi-asset investing is relevant to almost all investors, whether they are private individuals or institutions. This book is intended for private investors, financial advisors, people with investment roles at institutional investment firms, investment managers and anyone who wishes to learn more about multi-asset investing.

The book aims to offer a better understanding of the different aspects of managing multi-asset portfolios. The objectives are to educate, share experiences and knowledge, and encourage investors to look beyond the numbers and investment marketing materials. It is not claimed that this book is comprehensive, as it would require multiple books to definitively cover the topic. Instead, we will move slowly from defining investment objectives, through formulating an investment strategy and the steps of selecting investments, to constructing and managing multi-asset portfolios.

There are plenty of risks along the way, as we do not know what is going to happen in the future. Had I been able to predict the future, I would not have written this book, but rather managed a multibillion hedge fund; I would now be sitting on the beach in Bermuda, drinking a margarita under a coconut tree. But as I cannot predict the future, I have shared with you what I have been learning over more than a decade. While there are many uncertainties, unknowns and risks in investment management, there are ways to properly manage investments, reduce risks and follow guidelines, rooted in common sense and practicality, to increase the probability of meeting clearly defined investment objectives. This is the knowledge that I have included in this book.

Investment management is a science, but not a very scientific one. Economists, economic theories and financial theories explain markets and provide insights into understanding them, but they usually fail in predicting market movements. So mathematical formulas and financial theories are necessary but insufficient – behavioural finance, market psychology, sentiment and emotions also play key roles in investment management. Therefore, it is commonly said that investment management is an *art and a science*. This book uses economic and financial theories as its basis, but takes a practical approach to investment management. Intuition, experience and grey hair all lead to common sense and judgment, which are so critical for success.

This book does include mathematics, technicalities and financial theories. However, I have tried to keep this fairly straightforward, with references to additional materials for readers who wish to learn more. As Leonardo da Vinci elegantly said "simplicity is the ultimate sophistication."[1]

The book's focus is not on multi-asset portfolios whose objective is generating returns to beat a benchmark through selecting securities and financial instruments across different asset classes. The book does not provide insights on *security selection* to beat the market. Such portfolios can be components within a multi-asset portfolio that is linked to the investor objectives. This book does provide insights on *investment selection*. Multi-asset portfolios utilise different investments, some of which include active security selection.

While the book includes original ideas, processes and methodologies, it is based on the work and research of the giants of investing from both academia and practice. As Sir Isaac Newton said, "if I have seen a little further it is by standing on the shoulders of giants". The bottom line is that I have been looking for this book for a long time and since I could not find it, I wrote it myself. I hope that you will find it useful and enjoyable.

Book structure

This book is in four parts that follow the four stages of the multi-asset investment management process:

1. Establishing objectives
2. Setting an investment strategy
3. Implementing a solution
4. Reviewing

At the end of each of these four parts there is a summary of the main points covered, or the bottom line.

All charts, diagrams, tables and analytics were created by the author unless otherwise stated. Where external data was used the sources for this have been given. Most charts, tables and analytics are based on the financial markets in the United States since they offer the most readily available history. However, the book covers global multi-asset investing and is applicable to investors in any country.

Introduction

Multi-asset investing demands a book. A multi-asset approach can provide diversification benefits, enhance risk-adjusted returns and link portfolios[2] with a wide range of investment objectives. The objectives vary, from generating returns or income, through matching liabilities or saving for retirement, to providing for the family. Multi-asset investing can be a solution for all these diverse investment objectives.

When using a multi-asset approach, investors need to consider their assets, liabilities, return objectives, risk appetite, specific circumstances, geographic location and, in the case of individuals, their investor psychology. These factors, together with the current economic and capital market conditions, allow investors to construct multi-asset portfolios to meet their specific investment objectives. This is what this book is all about.

Multi-asset investing has gained popularity in recent years and some have questioned whether it is here to stay or just a passing fad. The fact is that both individual and institutional investors invest in multi-asset portfolios to preserve and/or grow wealth or assets. Multi-asset portfolios are everywhere, they always have been and they are here to stay. Multi-asset portfolios are the past, present and future of investment management and they are certainly not a passing fad, as much as investing itself is not.

What is multi-asset investing?

Multi-asset investing is managing portfolios that include investments in more than a single asset class. There is no definitive definition of an asset class, but broadly it is a group of investments that share similar risk and return characteristics, perform similarly in certain market environments, respond similarly to financial events, and are subject to similar legal and regulatory definitions. Equities, bonds and cash are examples of traditional asset classes.

A relatively simple multi-asset portfolio may invest in equities and bonds in a fixed target allocation; for example, 60% domestic equities and 40% government bonds. Such portfolios are commonly referred to as a *balanced fund*. A complex multi-asset portfolio may invest in a range of globally diversified asset classes, use multiple investment vehicles, managed by different portfolio managers, include strategic and tactical asset allocations, and utilise derivatives, with all activities dynamically managed. This is commonly called a *multi-asset fund*.

A proper multi-asset portfolio is truly diversified across a range of asset classes, asset allocation is dynamically managed to position the portfolio to current market conditions and investment selection covers the full spectrum of investment choices. Multi-asset investing has moved a long way from the traditional, now old fashioned, equity-bond mix. Investors now expect investment solutions tailored to their financial needs, not just portfolios aiming to outperform a market index, such as the S&P 500 or FTSE 100. Beating an index is not part of any investor's real investment needs. Multi-asset investing should be linked to the real investment needs or objectives.

The activities of managing multi-asset portfolios include top-down asset allocation, bottom-up investment selection, portfolio construction to put everything together, and implementation, as well as risk management and performance reporting. These activities are typically more complicated for a multi-asset portfolio than they are for a single asset class, long-only portfolio.

Multi-asset portfolios tend to invest globally rather than solely domestically, as do many single asset class portfolios. Equity portfolios whose investment universe is the S&P 500, FTSE 100 or DAX 30 Index invest in stocks of companies registered in a single country[3] with a single currency. Multi-asset portfolios typically invest across multiple countries and multiple currencies, while they normally have a single base currency. This introduces additional complexities of cross-border investing, across different time zones and currencies.

Multi-asset investing covers many investment disciplines. It is markedly different to managing an active, single asset class portfolio, the objective of which is outperforming an index or a peer group sector. When an equity portfolio manager aims to outperform an index, the main activities are selecting favourable securities, ensuring that the portfolio is different from the benchmark and trying to outperform it within the risk parameters and investment constraints. A multi-asset portfolio manager, however, often focuses on asset allocation and selecting the managers who select securities, rather than the securities themselves.

The benchmark is sometimes a fuzzy composite of a few indices and is not as clearly defined as a published equity index, such as the S&P 500 Index. The risk objectives can combine various parameters and the return objective can be more than outperforming a benchmark. Multi-asset investing is clarifying and stipulating the investment objectives and combining different activities with the aim of meeting these objectives.

Multi-asset portfolios can be large, complex and can cover many asset classes. A single person, as skilled and talented as they may be, normally does not have all the necessary skills to manage such portfolios. Managing multi-asset portfolios often requires a multidisciplinary team approach. It requires a joint effort from portfolio managers, strategists, asset allocators, implementers, risk managers and performance analysts.

An equity portfolio manager directly controls the security selection decisions. While a multi-asset portfolio management team must have the ultimate responsibly and accountability for the entire portfolio, the team may not have direct control over all the investment decisions. Some decisions, such as security selection, may be delegated to other portfolio managers or outsourced to external managers. The multi-asset portfolio manager must have the flexibility to hire and fire underlying portfolio managers. However, the success or failure of a multi-asset portfolio depends on the joint efforts of all parties involved in managing the portfolio.

The list of activities for managing multi-asset portfolios is long and multi-asset investors must prioritise based on the importance of the different elements (judged by contribution to risk and return to the overall portfolio) and the available resources. Asset allocation is one of the most important investment decisions and should be given the appropriate attention since it links portfolios with investors' long-term investment objectives. Security selection, while critical to the overall success of multi-asset portfolios, can be delegated to other portfolio managers, outsourced to external managers and/or accessed through passive investments where and when appropriate. Multi-asset investors must have a robust manager and investment selection process. Success depends on successful investments.

Multi-asset investor types

Most private and institutional investors invest in multi-asset portfolios. An individual's pension plan is probably diversified across a few asset classes, such as equities, bonds and cash (if not, the individual may consider seeking a better financial advisor[4]). Including a residential house, whether it is considered an investment or a home, the individual has exposure to real estate as well. Human capital (future income) is another asset class, which may be considered as part of a portfolio (although it is tricky to do so). Most individuals are, therefore, multi-asset investors.

Private investors are different from institutional investors in many aspects, such as different investment objectives, constraints and psychologies. Emotions play an important role with private investors, in particular since their portfolios are typically their personal wealth and savings, which have been accumulated through hard work or inheritance and will determine their future and that of their families. When the family's welfare is involved, individuals get emotional; and rightly so.

Most institutional investors, such as pension plans, insurance companies, banks, endowments and foundations, are multi-asset investors. They invest money on behalf of their investors or customers. Most institutions have liabilities and a

portion of their assets should be managed with the objective of meeting those liabilities:

- A *defined benefit pension plan*[5] needs to pay current and future pension benefits to its beneficiaries.
- An *insurance company* needs to hold sufficient assets to pay insurance claims when they arise and maintain its solvency.
- A *bank* holds a diversified portfolio, including deposits, loans and a messy capital structure, and one of its primary objectives is maintaining adequate capitalisation to weather financial stress.
- An *endowment* manages assets to meet its spending needs in line with its mission.

All these institutional investors typically hold a portfolio consisting of different asset classes with the objective of generating sufficient cash flows to meet current liabilities, while aiming to grow the value of assets (above the rate of inflation) to be able to meet future liabilities. The process of managing assets in line with liabilities is different to managing assets without considering liabilities and requires a different investment strategy. This will be covered later in the book.

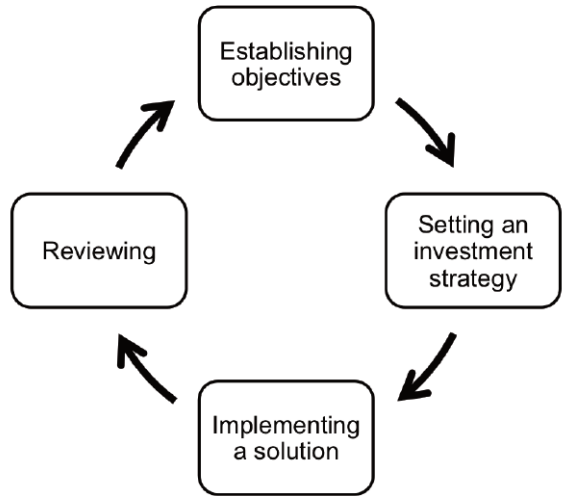
Multi-asset investment management process

The multi-asset investment management process has four main stages:

1. Establishing objectives
2. Setting an investment strategy
3. Implementing a solution
4. Reviewing

The process is a never-ending, circular process. After the reviewing stage is completed, the process goes back to the investment objectives as they need to be regularly evaluated and updated, depending on market conditions and investor circumstances.

The multi-asset investment management process



Establishing objectives

We start with the *establishing objectives* stage. The investment objectives define the starting point for planning and setting a portfolio's investment strategy. The objectives describe what the investor wants to achieve (return); what the investor should realistically expect to achieve given the distribution of potential outcomes (risk); and under what constraints the portfolio should be managed.

Portfolios should have a *benchmark*. It can be a *composite benchmark*[6], which sets the portfolio's neutral asset allocations across different asset classes. It is normally determined by a *strategic asset allocation* so the benchmark is aligned with the long-term investment objectives or policy; a *peer group* benchmark if the aim is beating competitors; the cash or inflation rate; an absolute percentage return; or the investment objectives expressed in some other form. Helping investors to formulate and articulate their investment objectives is one of the roles of financial advisors.

The benchmark anchors the portfolio to the investment objectives and constraints and should be aligned with them. The benchmark is used to evaluate the portfolio's performance; decide whether the portfolio is a success or failure; and monitor how it performs relative to the stated investment objectives.

Setting an investment strategy

Once the investment objectives and benchmark are set, the next stage in the multi-asset investment management process is *setting an investment strategy*. Multi-asset portfolios use three primary sources of return and risk:

1. *Strategic asset allocation* (*SAA*)
2. *Tactical asset allocation* (*TAA*)
3. *Investment selection*

SAA focuses on the long term (5 to 10 years) while TAA focuses on the short term (3 to 12 months). Investment strategy is the plan for achieving the investment objectives, combining long-term SAA with appropriate TAA short-term adjustments.

Implementing a solution

With the strategy formulated, the next stage is *implementing a solution*. Investment selection focuses on accessing asset classes and generating outperformance (or *alpha*) through security selection. Asset allocation defines how the portfolio is divided across different asset classes. Investment selection fills each asset class with appropriate investments. *Portfolio construction* puts everything together, considering interactions across asset classes. *Risk budgeting* allocates the portfolio's total risk to the three sources of risk and return.

The investment management process provides a framework to guide decisions. The multi-asset investor needs to set an appropriate investment management process for both the overall multi-asset portfolio and each one of the sources of return and risk. For example, the multi-asset investor decides on the universe of asset classes, the frequency of SAA reviews, and the rules for when and how SAA changes are implemented. Decisions under TAA include the way to get exposure to TAA, as well as TAA methodology, investment horizon and implementation (e.g. a derivative overlay, standalone TAA vehicle, trading exchange traded funds (ETFs), trading underlying physical investments, or a combination of all four). For investment selection the multi-asset investor needs to decide on the portfolio construction across all asset classes (e.g. number of investments, split between active and passive management, single-manager or multi-manager, investment styles, and so on).

The *implementing a solution* stage of the investment management process concludes with implementation of all the investment decisions. This step includes portfolio rebalancing, which is critical to keep the risk level of the portfolio in line with its target; cash management; and turning the theoretical target portfolio into a reality.

Reviewing

Once all the decisions are made and implemented the next and final stage of the investment management process is *reviewing*. *Performance attribution* explains how each activity contributed to the overall performance. All investment decisions and their implementation need to be regularly monitored and reviewed. As investor objectives, market conditions and investment performance are dynamic, the entire process must be dynamic as well and adjusted to changes. Simple examples include the need to rebalance asset allocation, manage cash flows, review SAA as *capital market assumptions* (expected return, risk and correlations across asset classes) change, and monitor and potentially change underlying investments as opportunities arise or managers fall out of favour.

This book covers all these stages, activities and elements of managing multi-asset portfolios.

Advantages of multi-asset investing

The advantages of multi-asset investing are numerous. A well-diversified, dynamically managed multi-asset portfolio offers the risk reduction benefits of diversification. Controlled risk taking, holistic *risk management* and disciplined rebalancing help preserve capital over time and link the portfolio to the investor's *risk tolerance*. A multi-asset portfolio can combine different *alpha* sources, such as tactical asset allocation and investment selection, to enhance returns.

Importantly, a multi-asset portfolio can aim to deliver on the comprehensive investment objectives of investors. Only by combining different investments across different asset classes can investors exploit the full investment opportunity set[7].

Professional standards

Asset managers, trustees overseeing portfolios or financial advisors advising customers are likely to have some level of responsibility for multi-asset portfolios and are subject to a set of professional standards and duties. This book aims to provide helpful insights on how to professionally fulfil the duties of a fiduciary.

Prudent Investor Rule

The Prudent Man Rule is based on the 1830 Harvard College v. Amory Massachusetts court decision[8]. The rule directs trustees "to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds,

considering the probable income, as well as the probable safety of the capital to be invested".

The Prudent Investor Rule, which was adopted in 1992 in the US Uniform Prudent Investor Act (UPIA), adds to the Prudent Man Rule and sets out guidelines for trustees to follow when investing trust assets. The UPIA made five fundamental alternations in the former criteria for prudent investing[9]:

1. The standard of prudence was applied to any investment as part of the total portfolio, rather than to individual investments.
2. The tradeoff in all investing between risk and return was identified as the fiduciary's central consideration.
3. All categoric restrictions on types of investments were abrogated; the trustee can invest in anything that plays an appropriate role in achieving the risk/return objectives of the trust and that meets the other requirements of prudent investing.
4. The long-familiar requirement that fiduciaries diversify their investments was integrated into the definition of prudent investing.
5. The much criticised former rule of trust law forbidding the trustee to delegate investment and management functions was reversed. Delegation is now permitted, subject to safeguards.

According to the Prudent Investor Rule the total portfolio is considered when determining the prudence of each individual investment (portfolio context). A fiduciary is not held liable for individual investment losses, so long as the investment, at the time of investment, is consistent with the overall portfolio objectives and the risk/return trade-off was considered.

No category or type of investment is deemed inherently imprudent. Instead, suitability to the portfolio's purposes and beneficiaries' needs is considered the determinant. As a result, derivatives, for example, are not considered imprudent per se. However, while the fiduciary is now permitted, even encouraged, to develop greater flexibility in overall portfolio management, speculation and outright risk taking are not sanctioned by the rule either, and they remain subject to criticism and possible liability. Diversification is explicitly required as a duty for prudent fiduciary investing. A fiduciary is permitted to delegate investment management and other functions to third parties.

The requirements and guidance of the Prudent Investor Rule are completely in line with the principles of multi-asset investing. Evaluating investments in portfolio context, considering the risk/return trade-off of investments, diversifying, and selecting professional investment managers are all part of the multi-asset investing principles and process. If a trustee follows these principles, adherence to the Prudent Investor Rule's requirements is likely.

The Retail Distribution Review (RDR)

In June 2006 the UK FSA (Financial Services Authority) created its Retail Distribution Review (RDR) programme with the aim of ensuring that[10]:

1. Consumers are offered a transparent and fair charging system for the advice they receive;
2. Consumers are clear about the service they receive; and
3. Consumers receive advice from highly respected professionals.

If you are an IFA (Independent Financial Advisor) your customers probably invest in multi-asset portfolios or they should do so. Their portfolios should be well diversified, properly managed and match their investment objectives, in particular their risk profile. They need to be clear about the service that they receive and understand the rationale behind each investment decision in their portfolios if so they wish.

Asset allocation, investment selection, risk management and performance reporting are all important components of the service that you need to deliver. Your customers entrust you with their wealth, savings and family's future. One objective of this book is to help you fulfil your responsibility to your customers in a professional way.

The most important trait of any financial advisor or professional investment manager is being a *mensch*. Mensch, a word in Yiddish, means *a person of integrity and honour*[11]. If you take good care of your customers, think about their interests above anything else, and apply professionalism and prudence to managing their investments, you are fulfilling your obligation and you are a person of integrity[12].

PART 1

ESTABLISHING OBJECTIVES

Part 1 starts with the first step in multi-asset investing: establishing objectives.

The goals of Part 1 are to cover investment objectives and also to introduce the topics that will serve as the basis for the rest of the book.

INTRODUCTION

Investment objectives are the starting point. Before formulating and executing an investment strategy the investment objectives must be established. The objectives define the required results, the desired outcomes and the accepted risks. All the following stages of the investment management process and all the investment decisions are guided by the investment objectives and the ultimate goal of meeting them. For example, if the objective is generating current income, choosing an illiquid investment that does not pay income, attractive as it may be, does not fit the objective.

Only when the objectives are clearly defined can an investment strategy be developed to plan how the objectives can be achieved, what risks are permitted and within what constraints the portfolio is to be managed.

The investment strategy for a multi-asset portfolio typically includes:

1. Strategic asset allocation (defining the universe of asset classes and deciding how investments are allocated across them over the long-term).
2. Tactical asset allocation (adjusting the strategic asset allocation to short-term risks and opportunities).
3. Investment selection (choosing appropriate investments under each asset class).

All these activities are intended to help achieve the objectives.

Return objectives and risk objectives

Investment objectives come in different shapes. The two sides of objectives are *return* and *risk*. One of the fundamental principles of investing is that the higher the risk the higher the expected return. Higher target return requires a higher risk level (no pain no gain, no guts no glory). In other words, without accepting enough risk the portfolio will not generate corresponding returns.

Therefore, there are two sets of investment objectives: *return objectives* and *risk objectives*. The two are related and should align. Investors should not expect a certain level of return without accepting the corresponding level of risk.

Investment constraints

Alongside the objectives, there are five categories of *investment constraints*:

1. Investment horizon
2. Liquidity
3. Tax considerations
4. Legal and regulatory factors
5. Special circumstances

The investment objectives and constraints guide investors in planning, constructing, managing and reviewing portfolios. The investment objectives and constraints set the rules of the investment management process. Meeting the investment objectives within the investment constraints should be used as a metric for evaluating success or failure.

Summary

- Investment objectives are the starting point and must be defined before formulating an investment strategy.
- Investment objectives describe the *return* that investors aim to achieve, the acceptable *risk* and the *constraints* within which investments should be managed.
- The fundamental principle of investing is that higher (lower) expected return requires a higher (lower) level of risk.
- Investment objectives include return objective and risk objectives. Investment constraints include investment horizon, liquidity, tax considerations, legal and regulatory factors and special circumstances.
- The investment objectives and constraints guide all the investment decisions and form the metric for evaluating success or failure.

1. RETURN OBJECTIVES

The reason for investing is to make money. Generating a return from investments is the objective on which most investors focus. Most investors care less about the specific methods that portfolio managers use and care more about whether the outcome matches their investment objectives and expectations.

The amount of money that investors wish to earn can be articulated in terms of monetary value (such as $100) or percentage (such as 10%). The advantage of using a percentage measure is that it relates the money earned to the money or capital invested[13]. Clearly, earning $1000 on a $1 million portfolio (1% of 1% or 1 basis point, which is 1/10,000) is easier relative to earning $1000 on a $1000 portfolio (100% return). The monetary return is the same but the percentage return is materially different.

Return is also time dependent. It must be linked with a time period over which it should be generated. Earning 10% over one year is very different to earning 10% over three years[14]. Therefore, return should be stated with a clear reference to a time period.

For example, an individual investor has a portfolio of $1 million. The investor requires $50,000 income per annum (5%) and aims to grow the portfolio by $20,000 or 2% per annum above inflation (the expected annual inflation rate is 2%). The required total return to pay income, grow the capital and maintain the portfolio's purchasing power is 9% per annum. This allows for 5% paid out as income, 2% reinvested for capital growth and 2% reinvested for increasing the portfolio's value in line with inflation. This is a simple example of setting a return objective in *total return* terms and linking monetary values with a percentage return and a time period.

Maintaining purchasing power and meeting spending needs are often institutional investors' fundamental long-term investment objectives. Let's take as an example a not-for-profit organisation that exists to promote its mission.

A charity with a mission of fighting cancer, for instance, may sponsor research to find a cure for cancer, support people with cancer and their families, and advertise ways to reduce the risks of contracting the disease. The charity needs funding for its activities from two sources: contributions and return on the charity's portfolio (endowment).

The charity raises contributions, which are added to its portfolio, through fund raising activities. The charity spends a certain amount of money each year to promote its mission (spending rate, which can be stated as a percentage of the portfolio's net asset value). In some countries not-for-profits need to spend a minimum amount each year by law in order to keep their favourable tax status. The aim of the law is preventing not-for-profits from accumulating assets without promoting their mission.

The charity needs to balance promoting its mission in the present and in the future (some organisations have a finite life, but others need to support a mission in perpetuity). Balancing current and future spending is required to ensure that assets are not completely depleted due to excessive spending at present at the expense of future generations.[15] James Tobin wrote that "the trustees of endowed institutions are the guardians of the future against the claims of the present. Their task in managing the endowment is to preserve equity among generations"[16]. Therefore, maintaining the purchasing power of the portfolio and aiming to grow it in real terms (above inflation) is important, in particular when the investment horizon is long.

The total return objective of a not-for-profit is calculated using the formula:

$$\text{Required Total Return} = \text{Spending Rate} + \text{Inflation} + \text{Real Return} - \text{Contributions} + \text{Expenses}$$

For example, the total return objective can be 5% (spending rate) + 2.5% (inflation) + 2.5% (real growth) - 3% (contributions as a percentage of the portfolio's value) + 1% (expenses) = 8%.

The portfolio needs to generate an average target return of 8% per annum. In some years the return may be higher and in others lower. In this example the charity needs equity-like returns and must take corresponding investment risk.

Not all investors have specific return objectives in mind. Investors may just wish to grow their portfolio without specific cash outflow needs or a required return. For example, an individual saving for retirement aims to accumulate as much in assets as possible. The objectives are maintaining the purchasing power of investments, growing their real value and avoiding losses as much as possible. This individual focuses on long-term accumulation of assets (capital preservation and growth) without thinking of a long-term specific target return. The objective focuses more on risk than on a specific return since the main concern is avoiding risks that may materially reduce the portfolio's value, preventing a sustainable source of income after retirement to maintain a minimum standard of living.

Caution is needed, however, when deriving investment objectives by assessing the willingness to take risk, as this may be misleading. Investors may be greatly affected by emotions of recent events, such as the fear of a bear market or the greed of a bull market. Their real risk aversion may thus be distorted.

Investors should try to project the annual withdrawals from the portfolio, the required minimum portfolio value (e.g. capital requirements for an insurance company or a bank) and derive the required return. They should evaluate what happens if the objectives are not met. This is the first step of assessing investment risk. The risk of not meeting the required cash flows and portfolio's value levels should be minimised. Investors need to think of contingency plans (such as repositioning the portfolio or changing the investment objectives) for if and when the portfolio is not on track to meet its objectives.

Total return versus income

Total return and income are two different ways of thinking about return objectives. Income includes payments in the form of interest on bonds, dividends on equities and rent on property. Total return includes appreciation in the value of investments (capital gains) as well as the reinvestment of income. Income is often stated as yield, which is income as a percentage of investment price (e.g. 10% yield means an income of $100 from a $1000 investment, or 5% dividend yield means that a stock priced at $100 pays $5 in annual dividends).

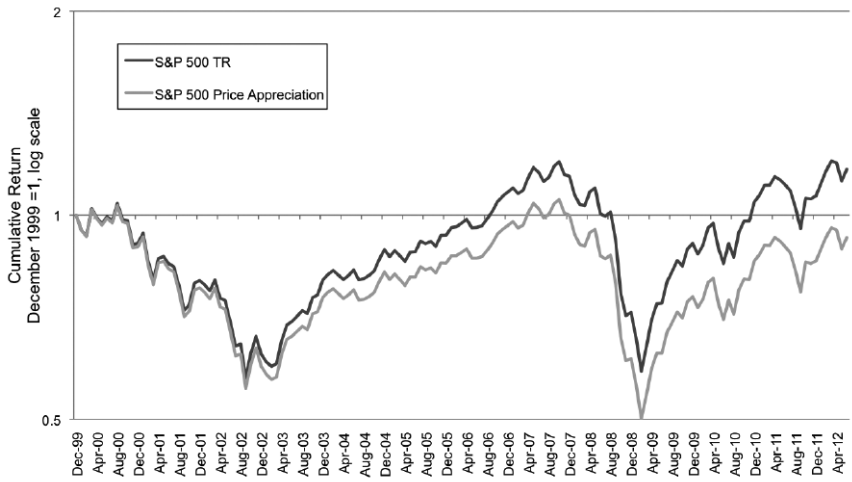
Some investors require income from their portfolio. For example, retired investors may focus on generating income to supplement retirement benefits or as a sole source of income. On the other hand, an employed investor, who earns a regular salary, may wish to focus more on the portfolio's capital appreciation since regular income from the portfolio is not required.

When investors are more focused on capital appreciation, interest and dividends should be reinvested to generate additional returns in the future. When income is removed from a portfolio it depletes its assets and potential future returns are diminished. When income is reinvested, future growth potential is higher. When the return on reinvested income is not as high as expected (e.g. due to falling interest rates) investors face reinvestment risk and total return may disappoint.

Over long time periods, the difference between price appreciation (excluding reinvestment of income) and total return (including reinvestment of income) may be significant. It is important, for example, to use total return indices when comparing portfolio returns with those of benchmarks[17].

Figure 1.1 compares the cumulative price appreciation and total return of the S&P 500 Index from January 2000 to June 2012. The chart uses a log scale so a percentage return has the same impact irrespective of its position on the y-axis. As can be seen, the difference is material and becomes more so as the investment horizon gets longer. Total return over the period is 16.9% and price appreciation is -7.3%, a difference of 24.2% due to reinvestment of dividends. Dividends were the main driver of equity returns over the last decade.

Figure 1.1 – cumulative price appreciation and total returns of the S&P 500 Index[18], January 2000 to June 2012



Source: Bloomberg, S&P 500.

Portfolios can generate income not sourced from interest or dividends, but rather from selling or liquidating some assets and paying the proceeds as income. There are some differences, however, between generating income via interest and dividends, and liquidating assets; most notably taxation and transaction costs. Liquidating assets may attract capital gains tax (CGT), which may differ from the tax rate on interest and dividends (it could be higher or lower). Liquidating assets may involve transaction costs. For example, selling real estate may be a costly and long process. When relying on liquidating assets liquidity must be considered as selling certain investments may take time and involve material costs.

Cultural and economic conditions may have an impact on investors' tendency to focus on income or total returns. Investors in Japan, for example, often focus on a portfolio's income because of the low interest rates on deposits and savings in Japan. The aging population, which requires income generation in retirement, and the diminished ability of the working force to support the retired population are also factors in this – such investors are less focused on capital preservation and more on high income. Another example is an endowment, focused on income to pay for ongoing projects and expenses to promote its mission.

Unless income is an explicit objective, return objectives should be expressed in total returns.

Desired versus required return

The distinction between a desired and required return depends on the specific needs and circumstances of each investor. A *desired return* is nice to have, but not a must. It is an aspiration, not a necessity. For example, achieving a return for buying a fancy yacht may be desired, but not required (unless the yacht is required for a skipper's livelihood). Another example is a desire to achieve a return that places a portfolio manager in the top quartile among peers, while a place above median would be sufficient for the health of the portfolio manager's business.

A *required return*, as its name implies, is necessary to achieve. Not achieving it would have an adverse impact on the well-being of private investors or severe business consequences for institutional investors. For example, achieving a return to make a payment on a mortgage is required, not only desired, as missing the payment may lead to foreclosure of the residential home. A return that places a portfolio manager above the median of the peer group may be required to keep the portfolio manager in business. An insurance company must be able to meet payments on insurance claims. This is the reason that regulators impose strict rules for capital adequacy for organisations such as insurance companies, pension plans and banks; to reduce their insolvency risk. Meeting these capital requirements is required for survival, not only desired.

When setting investment objectives required and desired returns should be clearly distinguished. Every effort should be made to achieve required returns. This may mean purchasing bonds whose maturity and principle match expected cash outflows (e.g. a $10,000 mortgage repayment in a year's time can be met by purchasing a one year maturity bond with a $10,000 principle) or assuming a risk level to materially increase the likelihood of meeting required return objectives. On the other hand, excessive risk taking to meet desired returns should be avoided, in particular if it reduces the probability of meeting required returns.

Absolute versus relative return

Return objectives can be set in either absolute or relative terms. *Absolute* return can be a stated percentage return per time period (target return) either without a reference to any variable rate (e.g. 5% per annum) or with a reference to a variable rate, such as cash or inflation (e.g. 5% above LIBOR[19] per annum). The latter is often known as a *cash-plus* or *inflation-plus* objective.

A return objective in *relative* terms is a goal to outperform an agreed benchmark. This type of return objective can be stated as a percentage return per time period over an agreed benchmark (e.g. 3% per annum above the S&P 500 Index or FTSE 100 Index). Most actively-managed, long-only[20] portfolios have a relative return objective.

The choice between absolute and relative return is critical. It determines the risk level of the portfolio, its shape, the behaviour of the portfolio manager and investment results.

The term *absolute* return may be confusing. Sometimes it is interpreted as a promise to generate a positive return (i.e. avoiding negative returns) year after year, but at other times it refers to a target total return objective that is not relative to any benchmark (e.g. 5% per annum over a rolling three years). In this second case negative returns in some years should be expected and the aim is to generate the target absolute return over the investment horizon. Instead of absolute return this second approach should be labelled *irrelative return*. These different ways of thinking about absolute return objectives may be misleading and the difference between positive and a target total return must be clarified.

A cash-plus or inflation-plus absolute return portfolio often needs to assume substantial levels of risk to achieve its objectives. For example, when the cash rate is 4% and the return target is 4% above it after fees, the portfolio is targeting 8% net of fees (i.e. 9% or 10% gross of fees). This return is similar to that of equities and the portfolio needs to assume equity-like risk to have a chance of meeting its target return. This portfolio is likely to have years of negative returns. Investors who expect this absolute return portfolio to deliver a positive return are bound to eventually be disappointed and possibly pursue legal action for the portfolio being mis-sold as low risk with a guaranteed positive return. Clarifying the return objectives and risk level of such a portfolio from the outset is crucial.

During the 2008 credit crunch and financial crisis, for example, the value of many investments, such as equities, corporate bonds, hedge funds and commodities, substantially fell. Many absolute return portfolios delivered large negative returns, ending up with many very disappointed investors. When most asset classes fall together, multi-asset, diversified, absolute return portfolios normally fall as well.

In relative return space there are two sets of risk: absolute and relative. Either increasing or decreasing absolute risk (i.e. risk without a reference to a benchmark) may increase relative risk (i.e. risk with reference to a benchmark). For example, changing the asset allocation to 60% equities and 40% bonds, when the benchmark is 50% equities and 50% bonds, increases both absolute and relative risk (the higher allocation to equities increases absolute risk and the portfolio's asset allocation does not match that of the benchmark, hence higher relative risk). Conversely, changing the asset allocation to 40% equities and 60% bonds reduces absolute risk but still increases relative risk compared to the benchmark allocation of 50% equities and 50% bonds.

In absolute return space, on the other hand, the portfolio is *benchmark agnostic* and relative risk to a benchmark is irrelevant. Reducing absolute risk is a risk reduction exercise since relative risk is not a consideration. However, low risk level may result in *regret risk* or *opportunity cost* if markets rally and the portfolio

does not participate as much as it would have done with an appropriate risk level. Not taking enough risk is a risk in itself.

Portfolios with a relative return objective should have a benchmark as a starting point, anchor and constraint, as well as for performance evaluation. Portfolios with an absolute return objective have no benchmark to constrain them (unconstrained portfolio). The shape of a relative return portfolio is defined by its benchmark. The risk of a relative portfolio should be set relative to its benchmark (i.e. relative risk) and the portfolio normally has broadly similar risk characteristics to those of its benchmark. The portfolio's relative risk level sets the allowed deviations from the benchmark.

There are advantages and disadvantages to both constrained (relative return) and unconstrained (absolute return) approaches (most decisions in investment management have advantages and disadvantages). Unconstrained portfolios allow more flexibility to portfolio managers, but normally have loose risk controls. Constrained portfolios, on the other hand, are tied to a benchmark and normally have tight risk controls. For example, a corporate bond portfolio with a relative return objective can have high exposure to financials[21] due to their high exposure in the benchmark. An absolute return portfolio can avoid such a concentrated exposure to financials since it does not need to follow the benchmark as closely as the constrained portfolio does.

Skilled portfolio managers should be able to deliver better investment results from unconstrained portfolios. However, unskilled managers may take excessive risks in unconstrained portfolios, causing damage. Some institutional investors must put constraints on their portfolios to meet legal obligations (e.g. limit holdings in certain risky assets). The choice depends on the investor's objectives and level of trust in the manager.

The investment process and decisions of absolute return portfolios with the goal of positive returns are different from those of relative return portfolios. Absolute return portfolios need to protect the downside and hedge the risks of falling markets. These portfolios should use short selling, derivatives or high allocations to cash to try to generate positive returns even when markets are falling, independently of market conditions. The focus is on *capital preservation*.

Relative return portfolios, on the other hand, normally have limitations on shorting, use of derivatives and maximum levels of cash. The portfolio manager should maintain limited deviations from the benchmark while trying to outperform it or meet the return objectives. If a manager in relative space has concerns that markets are to fall, moving large portions to cash to preserve capital may not be an option since it may materially increase relative risk, causing a breach of relative risk objectives.

The decision on whether to use relative or absolute objectives, therefore, has an impact on the behaviour of portfolio managers. Managers seeking relative returns

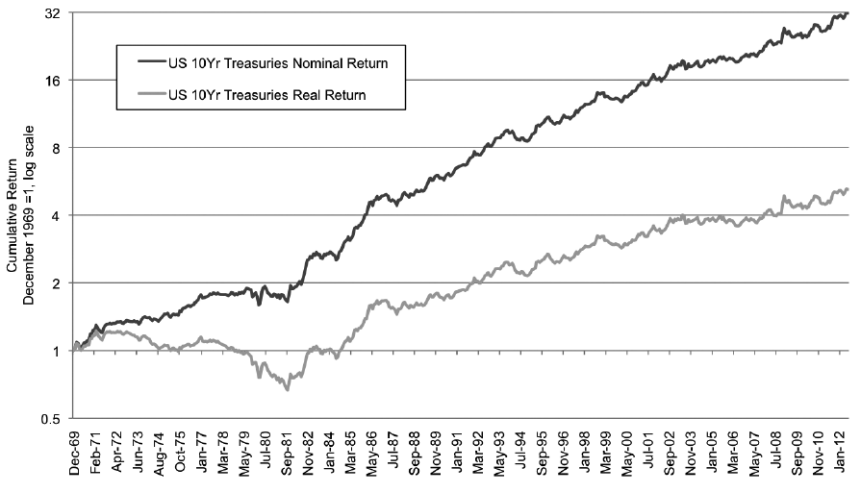
will think twice before reducing the portfolio's absolute risk in falling markets or during weakening economic conditions because of the concern of underperforming the benchmark. In contrast, managers seeking absolute returns may be less hesitant to take risk off the table during times of weakening investment prospects to protect the portfolio's downside. These managers are less concerned about the portfolio's relative return and have more freedom to position the portfolio in a way that should protect the investors' money.

Inflation

For investors with a long investment horizon a fundamental objective is maintaining or increasing their assets' purchasing power[22]. Central to this objective is keeping a check on inflation, as inflation erodes purchasing power over time. For instance, $100 today will not buy the same amount of goods and services in a year's time because of the effects of inflation. With an annual inflation rate of 2%, $100 will be worth only $98 after a year. After 10 years, with a 2% inflation rate per annum, $100 will be worth $82[23]. This $100 portfolio has lost 18% from its purchasing power in 10 years. Inflation can have devastating effects on wealth over long time periods, in particular when inflation is high and even worse during hyperinflation. Therefore, return objectives should explicitly distinguish between *real* (after taking account of inflation) and *nominal* (before taking account of inflation) returns.

Figure 1.2 shows the cumulative total return of US 10-year Treasury bonds from January 1970 to June 2012 in nominal terms and adjusted for US inflation (real terms). The chart vividly shows the perils of inflation. While in nominal terms bonds have returned 8.5% per annum, the return was only 4.0% per annum in real terms.

Figure 1.2 – cumulative nominal and real total returns of US 10-year Treasury bonds[24], January 1970 to June 2012



Source: Global Financial Data, USA 10-year Government Bond Total Return Index, US inflation.

Since inflation is an unknown at the outset of managing the portfolio or at the beginning of the performance measurement period, real return includes a variable element (e.g. real return of 5% may mean a total return of 7% when inflation is 2% or 10% when inflation jumps to 5%). Indeed, many absolute return portfolios state their return objective as a percentage return above inflation, instead of cash. This return objective aims to increase the portfolio's purchasing power and grow assets in real terms. Some asset classes should keep up with inflation (real assets such as inflation-linked bonds and real estate). Relative return objectives with respect to a benchmark including such asset classes have a real return element (i.e. inflation hedge).

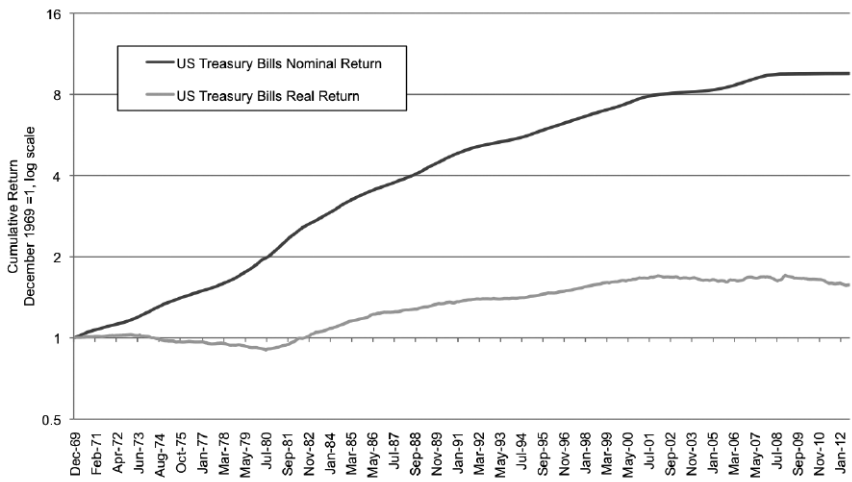
Nominal return is not adjusted to inflation and already includes inflation in it (e.g. 5% nominal return includes 2% inflation rate and 3% real return). Nominal return objectives may turn out to be a negative real return. For example, a nominal return objective of 4% per annum, when the realised inflation at the end of the measuring period was 5%, results in -1%[25] real return. While the portfolio met its nominal return objectives, the realised return has not even maintained the portfolio's purchasing power.

This example demonstrates the importance of setting up return objectives to reflect the investor's true needs. Investors should think carefully about whether meeting the investment objectives will indeed satisfy their requirements from the portfolio, in particular beating inflation. To do so, investors should assume a sufficient risk level so the expected return would be likely to beat realised inflation, on average. Keeping the portfolio in cash is unlikely to beat inflation.

Indeed inflation is one of the motivations for investing and not holding cash. Investors should consider including real assets, which are positively correlated with inflation, to protect or hedge the portfolio against inflation.

Figure 1.3 shows the cumulative nominal total return of cash (US Treasury bills) from January 1970 to June 2012, as well as cash's inflation adjusted real returns. A stable return of 5.5% per annum has dropped to a measly return of 1.1% per annum when inflation is considered. Nothing more vividly illustrates the impact of inflation.

Figure 1.3 – cumulative nominal and real total returns of US Treasury Bills[26], January 1970 to June 2012



Source: Global Financial Data, USA Total Return T-Bill Index, US inflation.

Fees and costs

An important dimension of returns is fees and costs. When a portfolio manager is hired to professionally manage a portfolio, fees are normally paid to compensate the manager for the investment management services. Fees can range from a few basis points for a passive portfolio tracking a developed equity market (e.g. 5 basis points per annum) to a couple of percentage points for a hedge fund (e.g. 2% per annum). Upfront fees on some retail funds can be as high as 5% (i.e. for every $100 the investor has $95 invested).

Investment management involves other costs such as transaction costs, administration costs, custody costs and so on. Some of these costs depend on the level of portfolio activity or turnover (e.g. transaction costs of trading), others

are *ad valorem* and depend on assets under management (e.g. 2% per annum of the portfolio's net asset value or *NAV*), some are linked to performance (e.g. 20% of the excess return over a benchmark or agreed minimum return) and some funds use a combination of these. For instance, many hedge funds use a 2/20 fee structure, meaning 2% asset-based fee and 20% performance fee. Some costs are variable while others are fixed.

The measure of the total fees and costs of running a fund is the *Total Expense Ratio* (TER). The TER should reflect all the expenses, including fees (annual management charge or *AMC*) and costs (e.g. administration, depositary and custodian costs). However, TERs sometimes do not include all the fees (e.g. performance fee) and costs (e.g. transaction costs) and must be carefully scrutinised. Investors should ask portfolio managers whether there are any additional costs that the TER excludes.

Over recent decades the investment management industry has shifted away from a commission-based compensation linked to trading activity to a fee linked to assets under management (AUM). Asset-based fees should be a disincentive to portfolio managers to *churn* portfolios or increase their turnover to generate higher trading commissions (and consequently higher transaction costs) without necessarily benefiting investors[27]. Actively-managed portfolios are expected to have a turnover to add value via changing the portfolio[28]. However, turnover should be in line with the investment management process and objectives, and not excessive. High relative return objectives may require higher turnover than that of lower return objectives, all else being equal (depending on the investment style or strategy).

Investors care about final returns, after fees and costs; this is the net return. A reduction in fees and costs can be a riskless enhancement to net performance and a clear benefit to investors. Nevertheless, reducing fees may be risky if it compromises the quality of the portfolio manager by hiring a less skilled manager (*you pay peanuts you get monkeys*). Negotiating fees, keeping an eye on portfolio turnover and drafting an Investment Management Agreement (IMA) that correctly incentivises portfolio managers to reduce costs are a few of the ways to enhance investment results without assuming additional investment risk.

Compensation structures for managers

Compensation structures influence the motivation and incentives of portfolio managers. One aspect is *principal-agent* issues. In law, an agency relationship is one in which a person (the principal) hires another person (the agent) to perform a task. Because the principal and agent have different preferences or objectives for unobservable actions (e.g. efforts), there is a fundamental conflict that does not arise in the standard economic competitive model, in which all conflicts are internalised through the price system[29].

Professional portfolio managers (agents) manage investments for investors (principals), who delegate to the portfolio managers the authority and responsibility for managing the investments and risks. Investors expect that their preferences will be reflected in the portfolio managers' decisions. The two difficulties are that portfolio managers may not know the investors' preferences and the preferences of portfolio managers may be different from those of the investors.

The first difficulty is relatively readily tackled through clearly defining the investment objectives or the preferences. The second difficulty, however, is the crux of the principal-agent issue as the interests of the principal (the investors) and the agent (the portfolio managers) may be misaligned. Investors must design a compensation structure that rewards managers for acting in line with the investors' preferences and penalises managers for acting contrary to those preferences.

The essence of the principal-agent problem arises when not only the interests are misaligned, but also when there is incomplete and asymmetric information. Under these circumstances the principal cannot properly monitor the agent's behaviour. Designing a suitable compensation structure then becomes more challenging. For example, measuring the outcomes of investment management activities may be difficult and uncertain. Hence, the outcomes may not reflect the agent's efforts. Rewarding performance may reward luck and not skill.

Performance-related fees

While a performance-based fee aims to align the interests of investors and portfolio managers by rewarding managers for outperformance, this fee structure may have an adverse effect on the managers' behaviour and lead managers to take inappropriate risks. Managers essentially have a *put option* and a long position on the AUM (i.e. limited downside with uncapped upside potential). If a manager outperforms there is a reward (fee). If a manager underperforms the loss is limited; potentially the manager is terminated or fired by the investor. Within investment management firms, portfolio managers should receive a bonus when they meet outperformance targets. When there is a severe underperformance they may lose their job, without a claw back on previous bonuses. The downside for the manager is limited to employment and reputation.

When a portfolio continuously underperforms, termination of the portfolio manager is likely. However, if the manager outperforms strongly, by taking higher risks, a turnaround in performance may occur, the manager may still get the portfolio back to positive territory and gain a performance fee. During times of underperformance managers may be incentivised to take more risks (they have almost nothing to lose) to increase the chances of gaining performance-based fees once more. On the other hand, if the portfolio has a good performance and

year-end is getting closer, the manager is incentivised to reduce risk, not risking the outperformance, to finish the year ahead of benchmark and earn a performance fee. These portfolio manager's behaviours are misaligned with investor's interests.

Hedge funds commonly use a *high watermark*. This means that performance fees are paid only if the portfolio's NAV is above its peak (i.e. historic maximum NAV). The aim is to ensure that managers do not get performance fees for poor performance. If the portfolio falls and then recovers, but the recovery does not bring the portfolio back above previous peaks, performance fees are not paid. Prolonged and severe underperformance may incline managers to close funds and open new ones with a new watermark since they know that it can take years to get the old funds back above their peaks and gain performance fees again.

Performance fees versus asset-based fees

Performance-based fees are designed to motivate portfolio managers to outperform since outperformance is rewarded. However, as managers accumulate more assets within their portfolios their hunger to generate outperformance diminishes since the asset-based fee increases. If the asset-based fee is attractive enough, managers will be motivated to accumulate more assets, rather than generating more outperformance. In many instances, accumulating assets is easier for managers with a successful track record than continuing to generate attractive returns.

Another angle of large AUM is that more assets impact the ability to capitalise on investment opportunities as the portfolio reaches its capacity, in particular when it invests in illiquid investments. The amount of capital that can be invested in some investment opportunities, such as small capitalisation stocks and *arbitrage*[30] trades, is limited (too much money chasing too few investments). Therefore, in some cases it is easier to increase the AUM of very large portfolios than to generate outperformance. Portfolios are often closed to new investments when capacity is reached to continue generating outperformance and protecting investors' interests. Asset-based and performance-based fees should balance to ensure the motivation of managers is to make investment decisions with the interests of investors in mind.

An ideal compensation structure is based on a fee adjusted for the risk taken. However, this is challenging to stipulate in an agreement and difficult to measure.

Performance objectives and fee levels

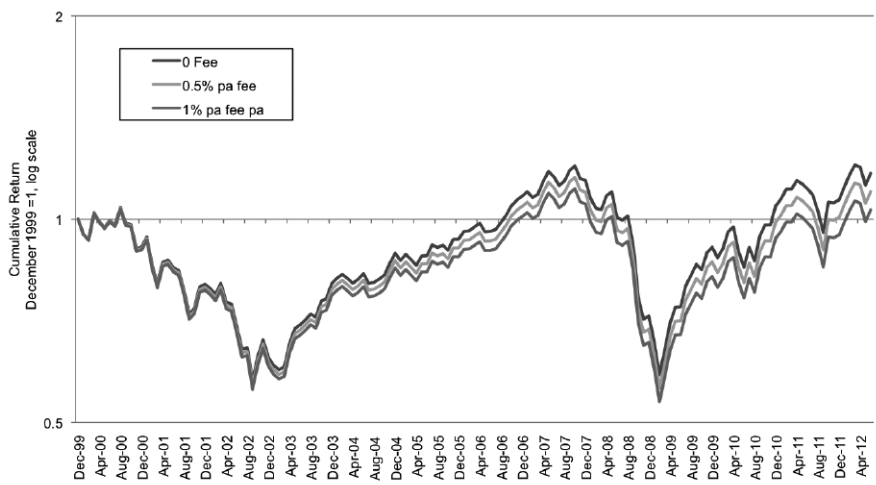
Usually, agreed performance objectives with portfolio managers are set net of fees. For example, outperforming a benchmark by 2% per annum net of 2% management fees translates to a 4% outperformance target gross of fees. One of

the reasons for hiring an active manager is beating a benchmark after fees. The fees are the *hurdle rate* that the portfolio must pass. Otherwise, a relatively inexpensive passive portfolio can be used, reducing fees, eliminating the potential for outperformance, as well as reducing the risk of underperformance.

Passive portfolios are bound to underperform the benchmark after fees, although activities such as *securities lending* can enhance returns (and add certain risks). The proliferation of passive investments provides a choice between active and passive investments in most asset classes, except for some investments such as direct real estate, private equity and hedge funds, where passive choices are unavailable or very limited, or manager skill is a factor justifying the investment. Therefore, net of fees investment objectives are sensible as active managers are required to generate sufficient returns to cover fees and generate outperformance.

Fee level has a material impact on investment results, in particular over the long term. Figure 1.4 shows the effects of a fixed fee of 50 basis points and 1% per annum on the performance of the S&P 500 Index from January 2000 to June 2012. Over this time period 50 basis points per annum have accumulated to a total cost of 7.1% and 1.0% per annum to a total cost of 13.7%. Without fees the total return of the index was 16.9%, with a 50 basis points annual fee the total return dropped to 9.8% and with a 1% annual fee the total return was only 3.2%. Even small fees have a large impact when compounded over the years. It is claimed that Albert Einstein once described compounded interest – of which these compound fees are an example – as "the most powerful force in the universe".

Figure 1.4 – cumulative total returns of the S&P 500 Index without fees and with 50bp and 1% fee per annum, January 2000 to June 2012



Source: Bloomberg, S&P 500.

Taxes

Taxes are a subgroup of costs. As final investment returns are hit by fees and costs, so they are hit by taxes where applicable. As the famous old saying of Benjamin Franklin goes "in this world nothing can be said to be certain, except death and taxes".

Some portfolios are more tax efficient than others. *Buy and hold* portfolios, holding positions without selling them and consequently not realising capital gains, may be more tax efficient than actively-managed portfolios, buying and selling positions and potentially realising capital gain taxes (CGT). On the other hand, actively-managed portfolios may sell investments at a loss to benefit from loss carry forward to offset CGT liabilities (tax gain/loss harvesting). Investors should use tax-minimising investment strategies when possible.

Tax efficient investments offer more attractive after-tax returns. For example, in the United States local authorities issue municipal bonds. US persons[31] who invest in these bonds are often exempt from federal income tax and income tax of the state by which the bonds are issued. To compare the interest on municipal bonds with that of taxable bonds, which are issued by governments or corporations, the following adjustment is needed:

$$r_m = r_t(1-tax)$$

where r_m is the interest rate of the municipal bond; r_t is the interest rate of an equivalent (same coupon rate and maturity) taxable bond; and tax is the income tax rate on the interest from the taxable bond.

Assuming $r_t = 10\%$ and the tax rate is 30% then a municipal bond needs to have an interest rate of 7%[32] to pay an equivalent interest as that of the taxable bond (all else being equal, such as creditworthiness and liquidity). These bonds demonstrate the impact that taxes or lack thereof can have on final investment results.

All investors should aim to legally minimise their tax bill. This is another way, alongside reducing fees and costs, of enhancing returns without assuming additional investment risk. When formulating investment objectives, investors need to consider after-tax returns and design portfolios to minimise tax liabilities to enhance net of tax returns.

Some investors are taxable (e.g. private investors) and some are tax exempt (e.g. not-for-profit organisations, pension plans and trusts). Taxable investors can often use tax efficient wrappers, such as a retirement savings account, such as 401(k) in the United States, pension plans and Individual Saving Accounts (ISA) in the United Kingdom. Offshore banking[33] and tax avoidance schemes are other ways of minimising investment tax liabilities.

Tax exempt investors do not need to consider taxes, but do need to be careful and manage their investments and business so their favourable tax status is maintained. Taxable investors should consider holding only eligible investments in a tax efficient wrapper and utilising tax minimising strategies, or otherwise be prepared to pay full taxes on their investments.

Return objectives in the presence of liabilities

For pension funds, insurance companies and banks, establishing return objectives has an additional aspect since these investors have a stream of liabilities that must be funded. Usually such organisations use pension consultants or actuaries to determine their required returns as part of an asset liability management (ALM) modelling. ALM models the institution's liabilities based on a set of assumptions and determines the portfolio's required return and risk to match the liabilities and potentially grow the portfolio. ALM needs to account for the institution's liability profile and various risks, such as interest rate risk, inflation risk, credit risk, market risk and liquidity risk, as well as their interrelationships.

The basic idea behind ALM is minimising the mismatch between assets and liabilities, or *surplus volatility*. Surplus is the difference between the value of assets and the value of liabilities. Surplus volatility is the *tracking error*, or relative risk, between assets and liabilities. The objective is to immunise the portfolio against changes in interest rates and inflation. There is a strong relationship between the level of interest rates and the *Net Present Value* (*NPV*) of liabilities. For example, if the duration of the liabilities is 20 years and their NPV is $100 million, then it is expected that for every 1% decrease in interest rates the NPV of liabilities will rise by approximately 20% or $20 million. ALM aims to mitigate this risk by matching the duration of assets that are held to match liabilities with the duration of liabilities. The goal is keeping the value of a portion of the portfolio in line with the value of liabilities.

Return range

While not common, return objectives can be expressed as a range of target returns. For example, cash plus 2% to 5%. The advantage of a range, instead of a single return target, is that it allows for investors to target any point within the range based on market conditions and outlook. When the investor sees ample opportunities to generate returns, higher returns will be targeted. When the investor sees fewer opportunities or when risk level is elevated or uncertainty is high, the low end of the range is targeted. The range does not force the investor to take the same level of risk under all market conditions.

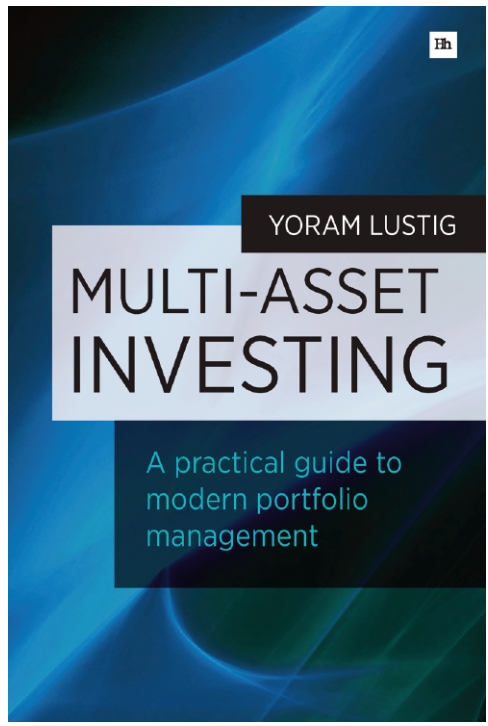
Summary

- Generating returns is the objective of investing.
- Return objectives should be defined in percentage terms of the portfolio value, with a time period over which they should be measured and met and preferably in total returns, unless income is a specific objective.
- Investors should project required cash withdrawals, and target real growth rate and expected inflation to derive the required return.
- Not all investors have a specific target return (e.g. individuals saving for retirement). The focus in this case should be on long-term risk (e.g. inflation risk and market risk).
- Price appreciation excludes reinvestment of income. Total return includes reinvestment of income (e.g. interest and dividends). Total return benchmarks should be used to evaluate portfolios.
- Desired and required returns should be distinguished. Portfolios should be designed to meet required returns. Desired returns are nice to have, but not a must.
- The choice between absolute or relative return objectives has an impact on risk, the portfolio's shape, the portfolio manager's behaviour and results.
- Absolute return portfolios are normally unconstrained while relative return portfolios are constrained as they are anchored to their benchmark. The choice between absolute and relative depends on the investment objectives and the portfolio manager's skill.
- A fundamental objective of every portfolio, if the investment horizon is long, is maintaining the purchasing power and keeping up with inflation.
- Fees, costs and taxes materially impact final returns and must be considered when defining return objectives and designing portfolios.
- Fee structure (asset or performance based) has an impact on the alignment of interests between investors and portfolio managers (agent-principal problem) and the incentives and risk taking of managers.
- Two of the ways to enhance returns without increasing investment risk are reducing fees and costs and minimising taxes.
- The presence of liabilities changes the way investors should think about return objectives. Return objectives should match the liabilities.
- Each investor has unique needs to which return objectives should be tailored. One size does not fit all.

Multi-Asset Investing

A practical guide to modern portfolio management

Yoram Lustig



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