

A PRIMER FOR INVESTMENT TRUSTEES

Understanding Investment Committee
Responsibilities



Jeffery V. Bailey, CFA, and Thomas M. Richards, CFA



CFA Institute
Research
Foundation

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Second Edition

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Research
Foundation

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Dedication

In memory of my mother, Joyce Keller
JVB

To Diane
TMR

Biographies

Jeffery V. Bailey, CFA, previously served as senior director, Benefits, at Target Corporation, where he supervised the investment programs and administration of the company's defined-benefit and defined-contribution plans, nonqualified retirement plans, and health and welfare plans. Formerly, Mr. Bailey was a managing partner of Richards & Tierney, a Chicago-based pension consulting firm specializing in quantitative risk control techniques. Prior to that position, he was assistant executive director of the Minnesota State Board of Investment, which manages the pension assets of Minnesota public employees. Mr. Bailey has published numerous articles about pension management. He co-authored the textbooks *Investments* and *Fundamentals of Investments* with William F. Sharpe and Gordon J. Alexander and co-authored the Research Foundation of CFA Institute publication *Controlling Misfit Risk in Multiple-Manager Investment Programs* with David E. Tierney. Mr. Bailey received a BA in economics from Oakland University and an MA in economics and MBA in finance from the University of Minnesota.

Thomas M. Richards, CFA, is co-founder of Richards & Tierney, an investment consulting firm that provided investment analytical services to institutional investment organizations. In 2007, Nuveen Investments acquired Richards & Tierney. During his investment career, Mr. Richards has published a variety of papers in the investment finance literature and has been a frequent speaker at investment conferences and seminars. He is a co-author of the chapter on performance evaluation published in the textbooks *Managing Investment Portfolios* and *Investment Performance Measurement*. Mr. Richards has been a trustee of the Research Foundation of CFA Institute and served as chair from 2009 to 2012. He earned a BS in mathematics from Bucknell University and an MS in finance from the Pennsylvania State University.

Contents

Acknowledgments	xi
Foreword	xiii
Introduction	1
Our Target Audience	1
Organization of the Book.....	3
Takeaways	9
Session 1. Governance Structure	11
Governance Basics	11
Roles and Responsibilities.....	13
Lines of Authority	19
Accountability Standards.....	21
Fiduciary Duty.....	22
More on the Trustees	24
Takeaways	25
Questions Molly Should Ask	26
Session 2. Investment Policy.....	30
The Importance of Investment Policy	30
Defining Investment Policy.....	30
Policy Asset Mix: Selection and Rebalancing	32
Investment Policy as a Stabilizer	33
Reviewing Investment Policy	34
The Investment Policy Statement	35
Takeaways	37
Questions Molly Should Ask	38
Session 3. The Fund’s Mission.....	40
The Fundamental Conflict	41
Liabilities	44
Contributions.....	45
Takeaways	47
Questions Molly Should Ask	47
Session 4. Investment Objectives	49
Criteria for Effective Investment Objectives.....	49
Examples of Investment Objectives.....	52
Takeaways	54
Questions Molly Should Ask	54
Session 5. Investment Risk Tolerance	56

Returns Are Only Half the Story	56
Types of Investment Risk.....	57
Measuring Risk.....	58
Relationship between Risk and Expected Return	60
Managing Risk through Diversification.....	61
Risk Budgeting.....	62
Investment Risk Tolerance	63
Takeaways	65
Questions Molly Should Ask	66
Session 6. Investment Assets.....	68
Types of Investment Assets.....	68
Diversifying across Asset Classes	69
Market Indexes.....	69
External and Internal Investment Management	72
Active and Passive Management	73
Separate Accounts and Commingled Funds.....	75
Alternative Investments.....	76
Fees and Expenses.....	78
Takeaways	80
Questions Molly Should Ask	81
Session 7. Defined-Contribution Plans	84
Investment Policy for the DC Plan.....	85
The Fund’s Mission for the DC Plan.....	87
Investment Assets in the DC Plan	87
Takeaways	89
Questions Molly Should Ask	89
Session 8. Performance Evaluation.....	91
The Importance of Performance Evaluation	91
Performance Measurement	92
Performance Benchmarks	94
Performance Attribution.....	95
Performance Appraisal	97
Putting It All Together.....	99
Takeaways	100
Questions Molly Should Ask	101
Session 9. Ethics in Investing	103
Recognized Principles of Trustee Ethical Conduct.....	103
Creating a Culture of Ethical Behavior	104
Takeaways	106
Questions Molly Should Ask	106

Appendix A. Lurinberg University Endowment Fund Governance	
Policy Statement	109
Investment Committee	109
Investment Staff	111
Investment Consultant(s)	111
Investment Managers	112
Custodian Bank	113
Appendix B. Lurinberg University Defined-Benefit Plan	
Investment Policy Statement	115
Background.....	115
The Fund’s Mission.....	115
Roles and Responsibilities.....	116
Risk Tolerance	117
Investment Objectives	117
Policy Asset Mix	118
Rebalancing the Policy Asset Mix	120
Asset Class Targets	120
Investment Manager Structure	120
Performance Evaluation.....	122
Fee Policy.....	123
Additional Investment Policy Issues.....	124
Appendix C. Lurinberg University Defined-Contribution Plan	
Investment Policy Statement	126
Background.....	126
The Fund’s Mission.....	126
Roles and Responsibilities.....	127
Investment Options	127
Selection of Investment Managers	129
Performance Evaluation.....	130
Additional Investment Guidelines	130
Fee Policy.....	131
Glossary of Investment Terms	133
Further Reading.....	141
Must-Reads	141
Further Education	141
Resources for Investment Committees	142
Ethical and Professional Standards	142
Textbooks and Articles	143

Acknowledgments

Since the first edition of *A Primer for Investment Trustees* (the *Primer*) was published, in 2011, we have participated in numerous meetings and seminars with investment committee members from all types of funds and others who work directly or indirectly with investment trustees. We have discussed the *Primer* and received positive feedback that confirmed our belief in the need for and value of investment trustee education. In the process, we enhanced our understanding of the perspectives, circumstances, and constraints that investment trustees face. Those insights led us to believe that additional material should be added to the *Primer*, including addressing the needs of smaller fund sponsors and the unique issues faced by trustees of defined-contribution retirement plans. We agreed that a second edition of the *Primer* would be a worthwhile effort.

We would first like to again thank all those who provided invaluable assistance in completing the first edition, including Beth Dubberley, Bruce Duncan, John Freeman, Doug Gorence, Scott Kennedy, Ed Kunzman, John Mulligan, John Nagorniak, and Dave Tierney. In particular, we would like to thank Jesse Phillips, who was a co-author of the first edition and whose contributions are greatly appreciated. This time around, we benefited from the comments, research, and reviews provided to us by a variety of interested individuals and organizations. For their assistance and support, we thank Ann Posey, Callan Associates; John Griswold, Commonfund; Matt Fleishman, COPIC Insurance; Gary Brinson, the Brinson Foundation; Bob Seng, Dorsey & Whitney; Henrik Sterin, Zibetto Espresso; and Larry Siegel, the CFA Institute Research Foundation.

Foreword

Approximately six years ago, I was asked to write the foreword for *A Primer for Investment Trustees* (the *Primer*). It was a monograph directed at investment trustees—in particular, those individuals who sit on investment committees and are responsible for the investment policy and strategy decisions of funds that have been set aside for the benefit of others. Such funds include retirement funds, endowments, and foundations. I agreed to write the foreword for two primary reasons.

First, for more than 40 years, I have had a strong commitment to support the CFA Institute Research Foundation. I believe their work in producing in-depth, high-quality discussions of topical investment issues is of great value to the investment community. Second, I believe that investment trustees are a very important but underserved constituency in the investment community.

Most investment trustees have had successful careers—but not necessarily in the investment field. In their capacities as trustees, they are not responsible for the day-to-day decision making of the funds they serve, but they do bear responsibility for setting investment and governance policy, understanding the fund’s mission, establishing objectives, and assessing performance. Very few publications discuss these responsibilities, and there is a dearth of education programs available for interested trustees.

The *Primer* is a powerful text that provides a comprehensive discussion of investment issues relevant to investment trustees. It examines these issues from the perspective of the investment trustee and avoids the use of complex investment terminology. The *Primer* is an “easy read,” which is particularly helpful to trustees who probably have other full-time jobs.

Although the *Primer*’s main audience is investment trustees, it also can be beneficial to investment professionals and other parties who work directly or indirectly with investment trustees. For example, the fund’s staff, outside consultants, professional investment managers, actuaries, accountants, custodian banks, lawyers, and others who interact with fund trustees can benefit by understanding the investment trustee’s perspective, circumstances, and responsibilities. Such an understanding will facilitate communications and allow all parties to work together more effectively.

Since the *Primer* was first published, in 2011, it has become one of the most popular monographs the CFA Institute Research Foundation has published. That popularity does not mean, however, that it cannot be improved. New investment products are created. New investment issues arise. And new insights are developed. In this second edition of the *Primer*, the authors

address these types of developments together with other issues identified by interested readers. Such issues include the needs of smaller funds with spending constraints and funds in which the beneficiaries bear the investment risk. In addition, this edition contains an expanded discussion of governance, investment risk tolerance, and investment assets.

As I did with the first edition, I wholeheartedly recommend the *Primer*. I believe it can be of great value to all investment trustees, to investment professionals who work with trustees, and to those who have an interest in understanding the role and responsibilities of a very important constituency of the investment community.

Gary P. Brinson, CFA
Chicago, Illinois
November 2016

Introduction

As the old saying goes, what wise men do in the beginning, fools do in the end.

—Warren Buffett

Let's face it. Few business assignments are more intimidating than being placed in a position of responsibility outside your area of expertise. Surrounded by subject-matter experts awaiting your direction, you find yourself actually expected to make decisions. Even though you are told in the beginning that there are no dumb questions, you don't want to provide the exception to the rule. A multitude of technical reports full of unfamiliar and complex concepts are quickly thrown at you. Your real day job keeps you busy and offers few opportunities for learning about your new position. So, you sit silently at meetings, lacking confidence, frustrated and concerned about your ability to contribute productively. Welcome to the world of the newly appointed investment trustee.

Our Target Audience

Over the years, we have been fortunate to work with trustees coming from many walks of life. Often, these individuals, although quite successful in their respective professions, possess little investment knowledge or experience. Yet, they take on responsibility for the oversight of financial assets that have a material impact on the welfare of their funds' beneficiaries. If you count yourself as one of these diligent laypeople, then you belong to the target audience for this book.

From the start, we want to put your mind at ease on one critical point: Extensive investment expertise is not required for you to serve effectively in a trustee role. Nevertheless, for you to exercise good judgment in making decisions, you should possess at least a working understanding of basic investment principles and concepts. We believe that you can acquire this knowledge with a modicum of effort. The purpose of this book is to provide trustees, particularly if they are new to their positions, with a primer that will help them begin to successfully fulfill their responsibilities.

Throughout the book, we use the term "trustee" broadly (and not in the legal sense of the word) to describe any person serving on a governing body who is charged with high-level supervision of investment assets. This governing body could be a pension investment committee at a corporation, an investment advisory council at a public retirement system, a board of trustees

at an endowment fund, or something similar. If you are a member of such a group, then for our purposes, you are an investment trustee, regardless of your particular title. Importantly, we recognize that you do not have day-to-day responsibility for *managing* investment portfolios. Instead, you periodically receive reports from and meet with the staff or outside adviser of the fund that you oversee to discuss broad issues related to investment policy and performance results. Therefore, the challenges and opportunities you face are quite different from those of the staff who must manage ongoing operations.

Our audience also extends to the investment professionals who directly interact with you and to other parties who have a special interest in your fund. These persons include the fund's staff, outside consultants, professional investment managers, actuaries, accountants, custodians, lawyers, and importantly, the beneficiaries of the fund. In most cases, the topics that we cover are familiar to investment professionals. Other interested parties may have little or no such knowledge. Nevertheless, both groups can benefit by taking your perspective and considering the learning curve and questions that you face, thereby gaining useful insights into how to work with you effectively.

Although many of the standard issues in investment finance have quantitative aspects, we avoid the use of formulas in this book and, instead, describe the relevant issues in a conceptual, straightforward manner (which, in many cases, is a harder task than presenting mathematical relationships). Our discussion will proceed as though we are having a conversation with a new trustee who has just become a member of a fund's investment committee. We will refer interchangeably to the "trustees" and the "investment committee."

The new trustee could be a representative of a company's human resources department who has been appointed to the retirement fund investment committee. She could be a retired judge who has been asked to serve as an investment trustee for a special asbestosis trust fund. He could be a college alumnus who started a successful technology company, earned a vast sum of money (a considerable amount of which he donated to his alma mater), and now serves on the board of directors of the school's endowment fund. She could be a union shop steward who has been chosen to serve on the investment committee of a union retirement fund. Or he could be a former professional wrestler who, as governor of a US state, has the responsibility of chairing the investment board of a multi-billion-dollar state pension fund.

We have had personal experience over the years with each of these types of individuals and many more. All of the trustees with whom we have worked earnestly desired to do a good job during their "watch." Just as you do, they wanted the fund to be in as sound or even better shape when they left the investment committee as it was when they joined it. Of course, this outcome

often depends on the performance of the capital markets, something over which you have no control. Nevertheless, favorable investment markets have a way of masking uninformed and poor trustee oversight, and weak investment markets often expose deficiencies and magnify a trustee's fiduciary risk. Our objective is to help you understand important investment issues and ensure that appropriate philosophies, policies, processes, and people are in place so that the fund may succeed regardless of the investment environment.

Organization of the Book

In this book, we focus on subjects critical to your success as a trustee. We believe that to create and maintain a well-managed investment program, you and your fellow trustees should have, at a minimum, a solid grasp of the following foundational topics as they apply to your fund: governance structure, investment policy, the fund's mission, investment objectives, investment risk tolerance, investment assets, performance evaluation, and ethics in investing.

We have divided this book into "sessions" dealing with each of these topics. In each session, we present the material in the form of an overview that the chair of the investment committee for the fund is providing to a new trustee—Molly Grove. Molly started a very successful company providing high-tech information services to medical doctors in small communities. Because of her success and philanthropy, she is held in high regard and has been named a regent of the state's university system. As part of her responsibilities as a regent, she has been assigned to serve on the university's investment committee. The investments of the university system include a defined-benefit (DB) retirement plan, a defined-contribution (DC) retirement plan, and an endowment fund. The investment committee has oversight responsibility for all of these funds. We refer to Molly and the rest of the investment committee as dealing with "the Fund." For the most part, the Fund may be any of the university's investment pools, because the trustee's role usually is not materially different among the specific types of funds involved. When we need to make a distinction regarding one fund or another, we specifically point out which fund is being discussed. We also devote a separate session to the DC plan to highlight some of the unique issues faced by trustees who oversee that type of fund.

Our conversation with Molly on each of the topics is followed by a session recap, called Takeaways. We then offer a set of questions that we believe would be useful for Molly to ask the investment committee chair, the investment staff, or the fund's outside advisers. Although these questions are not meant to be exhaustive, they do provide you with an opportunity to drill down further into each session topic. New trustees are often uncomfortable

asking questions of experienced investment staff or outside advisers. We want to assure you that not only are the example questions we provide (and others, of course) appropriate to ask but also the staff members or outside advisers may not necessarily have ready answers. Thus, both parties can learn through intelligent questions.

Before we begin the discussion between Molly and the investment staff, let's first conduct a brief overview of the topics that we will cover.

Governance Structure. Governance structure encompasses the responsibilities of the various types of decision makers within an investment program and how these decision makers relate to one another. In addition to you and the other trustees, decision makers include such groups as the investment staff, consultants, investment managers, custodians, and actuaries.

You will find that a solid governance structure effectively addresses three key areas: responsibility, authority, and accountability. Numerous questions flow from an examination of the governance structure, including the following: What functions are required to successfully run an investment program? What is their importance to the investment program? Who typically performs these functions? What sorts of reporting relationships exist among the decision makers? What are the incentive arrangements? Where does the buck stop—that is, where does the ultimate authority for making decisions and taking responsibility reside?

Within the governance framework, you, as a trustee, are positioned at the top. Trustee responsibilities may vary considerably from fund to fund. In part, these differences relate to the size and resources of the fund. Nevertheless, how you carry out your responsibilities does affect investment program performance. Trustee approaches can range from an unhealthy involvement in the smallest operational decisions to a similarly unproductive disengaged attitude. In our discussion, we will consider what your oversight responsibilities should entail, which decisions you should be responsible for, and which ones you should delegate.

As a trustee, you bear a fiduciary duty to act in the best interests of the fund's beneficiaries. You fulfill that duty by attending meetings, being fully informed, avoiding conflicts of interest, acting in a prudent and transparent manner, and establishing a reasonable decision-making process. In fact, the *process* by which you arrive at decisions is, in many ways, as important as the actual decisions. In particular, you should take ownership of your oversight responsibilities. You should clearly delegate to those who have the required expertise and experience the authority to do their jobs. And you should hold all parties accountable for actions that they take (or fail to take). We

believe this basic philosophy distinguishes strong governance structures from weak ones.

Investment Policy. Your most valuable contribution as a trustee will be setting investment policy for the fund. Although you don't manage the fund on a day-to-day basis, you do determine the key strategic priorities for the fund that are encompassed in the investment policy. Others may assist you in drafting that policy, but only the trustees can establish it as the roadmap for the fund.

In broad terms, investment policy defines how the investment program will be managed. Investment policy specifies the procedures, guidelines, and constraints for decision making and management. Ideally, you will thoroughly document those decisions in a written investment policy statement.

Your focus in setting investment policy should be on how you trade off expected return and risk in seeking to achieve the fund's objectives—essentially, the creation of a risk budget. A risk budget is a statement or policy expressing how much investment risk the fund is allowed to take in pursuit of return. In establishing this trade-off, you will be required to specify how the fund should be allocated to various types of assets and, within each of those types, what sorts of investment strategies should be used and what benchmarks the investment results will be assessed against.

You will find that investment policy serves its most useful role as a stabilizer in stressful markets. In good times, pressure rarely builds to change the investment program. Not so when the storm clouds roll in. People have a natural tendency to predict the worst will happen when times are bad and, conversely, to extrapolate good times and believe that they will last forever. The ability to stick to your established strategic priorities in periods when the temptation to alter the investment program is most intense will save you from counterproductive changes at just the wrong time.

The Fund's Mission. Among the key elements of investment policy is establishing the mission of the fund. A fund is a pool of assets created to accomplish certain society-enhancing goals. Simple as the task may sound, your first important job as a new trustee is to understand the fund's purpose. In a broad sense, all funds exist to provide payments to beneficiaries. For example, corporations and public entities establish DB or DC retirement plans to provide benefits to employees. Civic-minded persons contribute to endowment funds to grant long-term financial support to worthwhile causes. Insurance companies establish investment funds to pay future loss claims. Parents set up education trusts to fund their children's future schooling.

In simple terms, regardless of what type of fund you are working with, three things happen: (1) money—that is, contributions in various forms—flows into the fund from external sources, (2) the value of the fund increases or decreases depending on how the investment markets perform and how the fund’s assets are invested and managed, and (3) money flows out of the fund to pay the fund beneficiaries—that is, benefit payments in various forms are made. There are differences among funds with regard to the amount and certainty of the inflows and outflows, but you should understand how, why, and when money is expected to flow into and out of the investment fund.

A fund typically has numerous stakeholders, and their needs and desires may conflict with one another. Thus, a fundamental responsibility of a trustee is to articulate and prioritize these conflicting aspects of the fund’s mission.

Investment Objectives. Investment policy outlines the path that you wish your investment program to follow. As part of setting that direction, you need to express how you, as a trustee, define success for the program—that is, its objectives. You should specify what sorts of investment outcomes signal that the investment program has been successful. To avoid confusion and second-guessing, you will want these investment objectives to possess certain characteristics. Specifically, they should be clear, objective, measurable, attainable, reflective of the trustees’ willingness to bear risk, and specified in advance of the evaluation period.

Investment objectives play both a prospective and retrospective role. Prospectively, they help you structure your investment program in terms of the rewards that you expect and the risks that you are willing to take in order to meet the fund’s mission. Retrospectively, they assist you in assessing the effectiveness of the investment program and thereby suggest when to take corrective action and when to continue with current practices.

Investment Risk Tolerance. Many trustees focus solely on investment returns earned by their funds without taking the time to understand the investment risk involved in producing those returns. By “risk,” we mean the potential for serious losses in pursuit of the fund’s mission. The myopia regarding risk occurs because returns are visible but risk is not. Yet, you have little control over the returns earned by the fund. Instead, your responsibility is to engage with the other trustees to establish the investment committee’s collective risk tolerance and ensure that processes are in place to manage the fund’s risk consistent with that risk tolerance.

The staff and consultants will assist you in expressing the investment committee’s risk tolerance. They should also present you with procedures for measuring and controlling the amount of risk the fund is assuming. The process

of setting this risk budget can be formal and quantitative, or it can be subjective and qualitative. The key is that you recognize that higher expected returns come at the price of increased risk. Furthermore, taking more risk does not guarantee higher returns; it only makes such returns *possible*. You should periodically review reports that indicate whether the risk-budgeting procedures are being followed and whether the fund's risk management efforts are effective.

You will need to differentiate between your views about the appropriate risk level for your own investment portfolio and the appropriate risk level the investment committee should take as it invests the fund's assets. Your personal financial circumstances and investment time horizon will not be the same as those of the fund that you oversee. As a trustee, you must be able to set aside your personal opinions and consider only what is best for the investment program over the long run.

Investment Assets. You will want to be familiar with how different assets are categorized and managed. For investment policy purposes, fund decision makers divide the investment world into various asset types, called "asset classes." Typical asset class designations include equities, fixed income, real estate, and so on. The granularity of the categorizations varies widely among funds.

The grouping of investments into classes is supported by the availability of a broad array of market indexes representing publicly traded equity, fixed-income, and other types of securities, with each of these classes divided into seemingly uncountable variations. These indexes serve the valuable functions of defining the *opportunity set* for the investment program and providing a window on the risk-and-return history of specific asset classes. That history, in turn, becomes an important input for developing allocations to the various asset classes.

Regardless of the types of assets held, you will need to make decisions about the broad structural aspects of how the investment program is managed. You have the choice of assigning staff members to manage directly all or a portion of the fund's assets (internal management) or using outside investment firms (external management). Each type of management offers certain advantages and disadvantages, although external management tends to be the prevailing model.

Another important issue involves whether to manage the fund's asset class investments passively or actively. You can choose either to seek to match the performance of a given index (i.e., indexing or passive management) or to attempt to exceed the performance of that index (active management).

The higher expected returns of active management must be weighed against the associated additional risk and incremental cost.

In addition to the traditional investments in publicly traded stocks and bonds, funds often hold positions in various forms of less liquid assets, which are commonly referred to as “alternative investments.” These assets include, to name a few, real estate, venture capital, and hedge funds. Although these investments are more complex, less liquid, and more expensive to manage than the traditional kind, funds use them in the hope of earning a premium return by bearing the associated illiquidity risk and taking advantage of the opportunity to search among assets that are, potentially, less efficiently priced than traditional assets.

Defined-Contribution Plans. Defined-contribution (DC) plans differ from defined-benefit (DB) plans primarily in that DC plan participants, rather than the fund sponsor, bear the risk of the investment assets. The sponsor may make a regular contribution to the participants’ investment accounts during employment. The participants, however, decide how much they will contribute and how their accounts are invested. When the participants leave the workforce, the value of their available account balances will help pay for their retirement spending.

Although the fund sponsor is not directly responsible for the investment outcomes in the participants’ investment accounts, the sponsor, through its investment committee, does have a responsibility to offer investment options that provide the participants with the opportunity to achieve a variety of reasonable investment objectives.

Just as you should thoughtfully develop and document the investment policy for your DB plan, so too should you create a similarly thorough investment policy for your DC plan. The fundamental differences between DB and DC plans concern the focus of their respective investment policies. The focus of your DC investment policy will be on providing a high-quality, diversified, and cost-effective set of investment options to participants. What types of investment vehicles, whether to offer passive or active management, the number of investment options and how diversified those options will be—these are all issues that your DC investment policy should address.

Performance Evaluation. Performance evaluation provides a regular assessment of the fund’s results relative to your investment objectives. Properly conducted, performance evaluation reinforces the hierarchy of accountability, responsibility, and authority defined in the fund’s governance structure. Performance evaluation serves as a feedback-and-control mechanism by highlighting the investment program’s strengths and weaknesses.

Performance evaluation can be broken down into three primary components:

- *Performance measurement*—calculation of the returns earned by the fund and comparison of those returns with the returns of appropriate benchmarks.
- *Performance attribution*—identification of the factors that led to the fund’s performance relative to the benchmarks.
- *Performance appraisal*—assessment of the sustainability of the fund’s returns relative to those of the benchmarks.

Trustees sometimes confuse performance measurement with performance evaluation. But simply measuring returns is only the beginning of the evaluation process. By asking what caused the performance of the fund relative to that of appropriate benchmarks and by inquiring into the quality (i.e., magnitude and consistency) of that relative performance, you gain valuable insights into the effectiveness of the investment program.

Ethics in Investing. Trustees, together with all the other parties involved in the fund’s governance structure, should always be conscious of the question: Is this [action being contemplated] in the best interests of the fund’s beneficiaries? Unfortunately, the answer is not always obvious. Certain actions can be construed to profit a particular party other than the fund’s beneficiaries. A fine line often exists, which calls for carefully exercised discretion.

Our discussion of ethical investment practices is meant to create awareness of the subject’s importance. You don’t need an exhaustive list of “dos and don’ts.” Rather, your emphasis should be on the importance of the policies and procedures designed to be most advantageous to the fund’s beneficiaries. You should ensure that the fund has management controls that motivate ethical investment behavior—not only behavior of the trustees and investment staff but of all parties involved in the fund’s governance structure.

Takeaways

- We use the term “trustee” to broadly refer to any person serving on a governing body charged with high-level supervision of invested assets.
- Extensive investment experience is not required to serve effectively as a trustee.

- Nevertheless, a working knowledge of basic investment principles and concepts will help you exercise good judgment in making decisions in your trustee role.
- This book is divided into sessions dealing with the following foundational topics: governance structure, investment policy, the fund's mission, investment objectives, investment risk tolerance, investment assets, defined-contribution plans, performance evaluation, and ethics in investing.

Session 1. Governance Structure

Knowing others is wisdom; knowing the self is enlightenment. Mastering others requires force; mastering the self needs strength.

—Lao Tzu

Welcome, Molly, to the Lurinberg University Investment Committee. We have a lot of material to cover with you in this orientation. We will stick to the basics and avoid going into too much detail on any particular topic. You will have plenty of opportunities outside of this meeting to discuss the ideas that we cover today.

Governance Basics

Molly, let's begin our discussion of your role as an investment trustee by considering how the Fund's decision makers interact with one another. Many persons and organizations make investment-related decisions at various levels for the Fund. The framework that connects these decision makers is the governance structure. A strong, well-articulated governance structure provides the mechanism for decision makers to function together effectively. A weak, ill-defined governance structure breeds confusion and acrimony.

Nothing can guarantee that the Fund won't experience disappointing investment outcomes. A strong governance structure is your best assurance, however, that if such a result does occur, it won't have been caused by preventable weaknesses inadvertently designed into the investment program.

Because the trustees sit at the apex of the Fund's organizational hierarchy, familiarity with your role and with that of others in the governance structure is essential. Moreover, if you can satisfy yourself that the governance structure is sound, then you will rest easier knowing that you have fulfilled an important fiduciary duty to the Fund.

We like to think of the Fund's governance structure as a three-legged stool. Each leg of the stool provides support and balance for the investment program. And like a stool, the investment program cannot stand without all three of these legs. The three legs of the Fund's governance structure are as follows:

- *Roles and responsibilities*—a delineation of functions that the various decision makers are assigned to perform.

- *Lines of authority*—a description of the latitude that decision makers have to carry out their responsibilities and a specification of their reporting arrangements.
- *Accountability standards*—a statement of expectations regarding the effectiveness of the decision makers combined with a set of procedures for reviewing and, if needed, responding to the actions of those decision makers to whom responsibility is delegated.

There are other aspects of the Fund’s governance structure that keep it strong:

- *Due diligence*—appropriate oversight of the investment program’s operations.
- *Checks and balances*—decentralized decision making and the ability of one set of decision makers to challenge others.
- *Reporting and monitoring*—adequate and timely distribution of information to decision makers.
- *Transparency*—access to the details behind the Fund’s investment transactions, fees, expenses, and cash flows.
- *Compliance with industry best practices*—periodic review of other funds’ operations and modification of the investment program when appropriate.

The investment committee articulates the Fund’s governance structure in a formal policy document called the “governance policy statement” (GPS) or “committee charter.” In particular, Molly, you will use the Fund’s GPS to delineate the roles and responsibilities of all the parties involved in the investment process. The clarity provided by this document reduces misperceptions and confusion. It promotes an open dialogue among the Fund’s decision makers and permits them to concentrate on their specific assignments. The investment committee bears responsibility for periodically reviewing and, as appropriate, updating the GPS. As an example, **Appendix A** in your materials contains a copy of the Lurinberg University Endowment Fund’s GPS. Unfortunately, most funds do not clearly document their governance structures. Instead, they base their structures on a set of organizational precedents and practices, some of which have been written down and some of which simply follow tradition. For funds in this situation, it is important that regular discussions take place among the decision makers to ensure that they understand and remain in agreement regarding the governance structure’s key features.

Roles and Responsibilities

Five primary groups of decision makers have a significant impact on the investment program: you and your fellow trustees, the investment staff, investment management firms (we will refer to them as “investment managers”), the custodian bank, and the investment consultant(s). A sixth group, investment outsourcing firms, may also play an important role, especially for smaller funds. Other persons and organizations, such as legal, actuarial, and accounting groups, affect the design and function of the investment program less than these primary groups. We generally won’t consider them as we review the governance structure. So, let’s first introduce the principal parties and briefly describe their roles within the investment program.

Trustees. As we mentioned, the trustees reside at the pinnacle of the investment organizational pyramid. The buck, so to speak, stops with the Lurinberg University Investment Committee. In essence, you and the other trustees are responsible for the overall success of the investment program. However, because you have no hands-on involvement in implementing the Fund’s investments, you fulfill your responsibility by determining an appropriate direction for the investment program, by empowering experienced people to carry the Fund in that direction, and finally, by monitoring and evaluating investment results.

Specifically, the trustees hold the responsibility for setting broad investment policy and overseeing its implementation. (We will discuss investment policy in Session 2.) You carry out that responsibility in three primary ways. First, the trustees appoint an investment operations manager, often with the title “chief investment officer” (CIO), who reports directly to you. On an annual basis, the investment committee conducts a formal review of the CIO’s job performance, the results of which determine his or her compensation for the following year. You share that review with the CIO in a frank discussion behind closed doors. You also approve the CIO’s selection of senior staff members and sign off on his or her evaluation of those staff members. This leadership team is critical to effectively translating your vision of investment policy into a concrete investment program.

Second, the trustees work with the CIO to develop and, on occasion, update the investment policy statement, which describes the key aspects of the Fund’s investment policy. Typically, the staff initiates these updates, but in the end, the investment committee alone decides whether to alter the investment policy.

Finally, the investment committee periodically reviews investment results as presented by the CIO and determines whether the Fund is on course to

achieve its objectives as envisioned in the investment policy. If the trustees believe that the Fund is performing appropriately, then you act to reinforce the positive aspects of the organization and encourage corrections of any weaknesses. If significant changes are warranted—a rare occurrence—then you can step in and make key senior staffing and policy changes to maintain the integrity of the investment program.

Before leaving the discussion of trustees, we would be remiss if we did not mention an issue that complicates governance in many funds. It is the fact that governance is often divided between two or more groups of trustees. For example, there may be an investment committee to make investment decisions, a benefits committee to determine the level of spending or the structure of benefits, and a finance committee responsible for the level of contributions that flow into the fund. (The names of these committees vary among organizations.) Without clear communication and cooperation among these committees, promises to spend or pay benefits may be incompatible with the investment environment or risk-bearing capacity of a fund or they may be inconsistent with a fund's expected cash inflows.

Investment Staff. We use the title “investment staff” for those individuals providing operational support to the trustees in implementing and managing the Fund in accordance with the Fund's investment policy. The size of a staff differs widely among organizations. Generally, funds with more assets can afford to, and do, hire larger staffs than funds with fewer assets. Funds that manage assets internally retain even larger staffs. A small fund may have only one or two professionals on the staff and may devote only a portion of its time to investment operations. Also, in even smaller funds, trustees may take on certain staff jobs or solicit assistance from a consultant, record keeper, investment manager, or other service provider to perform these responsibilities.

The investment staff at Lurinberg University carries out the day-to-day operations of the Fund's investment program. Our staff of analysts is led by the CIO. The staff converts the investment policy established by the trustees into specific implementation procedures, such as keeping the Fund's allocation to each relevant asset class and investment manager at assigned target levels. The staff also maintains appropriate liquidity to meet the Fund's obligations; performs oversight of the Fund's investment managers, both individually and in aggregate; and makes modifications to the investment manager lineup as deemed necessary.

The Lurinberg trustees have delegated the authority to hire and fire investment managers to the CIO, although at some other funds, the trustees retain that discretion. The staff has responsibility for maintaining bank

custodial relationships and also for periodically preparing reports for the investment committee and other interested parties regarding the activities and performance of the investment program. The managers regularly report their investment results to the staff; they offer explanations for those results and discuss current strategies. As part of the due diligence process, the staff typically meets with the managers at least once a year to discuss their current investment strategies and investment performance results. The staff periodically visits the managers' offices to gain a greater awareness of the managers' operations and personnel.

Although it is not the case with most organizations, at some funds, the staff directly invests some or all of a fund's assets. If the organization is large enough and has the ability to pay sufficient compensation to attract talented people, this approach can be cost-effective. Such in-house investment management presents its own unique governance issues, however, because risk control responsibilities become intertwined with incentives to maximize returns. That arrangement puts added responsibility on the trustees to actively monitor the decision making and risk management of the investment staff. For that reason alone, many funds choose not to manage assets in-house. We'll return to external and internal management in Session 6.

Investment Managers. Investment managers, whether represented by external organizations or by internal staff, make decisions regarding which particular assets to buy and sell. The staff members at most funds prefer to hire a variety of managers, largely organized around various types of financial assets, such as publicly traded equities, fixed-income securities, and private equity. Some "absolute return" (or hedge fund) managers operate under broader mandates and may choose among various asset types in search of attractive returns.

The investment committee at Lurinberg University has directed the staff to use active management as opposed to indexing. The active managers use their investment analysis and portfolio management skills to attempt to outperform, after fees and expenses, benchmarks representing the asset class, style, or sector in which they are invested. (Passive managers, in contrast, attempt to match the performance, before fees and expenses, of their benchmarks.) Although active managers bring with them the opportunity to exceed the return of their benchmarks, they also carry with them the risk of underperformance. This active management risk, combined with the higher management fees and transaction costs associated with active management, has led trustees at some funds to index part or all of their assets. We'll talk more about active and passive management in Session 6.

Within their designated investment mandates, the Fund's active managers have broad discretion to construct portfolios. The staff develops, and the investment committee approves, investment guidelines that specify the types of securities that will be held in the managers' portfolios, the level of risk that the managers are expected to take, and the benchmarks with which their investment results will be compared. In some cases, the managers' compensation is based on their performance relative to their benchmarks. Well-constructed investment guidelines place enough restrictions on the managers' investment activities to prevent large negative performance "surprises"—those in which results fall far below expectations. Still, well-designed guidelines should not seriously constrain the active managers' exercise of their investment judgment within their areas of expertise.

Custodian Bank. The Fund's custodian bank supplies important safekeeping, record-keeping, and valuation services. It thereby offers one of the important checks and balances in the investment program. For many of the Fund's investment managers, the bank holds ownership of the publicly traded securities in which the managers invest and settles trades that they execute. Periodically, the bank reports details of the Fund's recent transactions and current holdings. The valuation of those holdings can be a trivial task in the case of public equities, but it can be difficult with esoteric assets, such as complex fixed-income securities that rarely trade. The Fund's custodian bank also offers ancillary services, including securities lending and performance measurement. It also provides the raw material for any audits the Fund undergoes. With the requirements in recent years for greater financial-reporting transparency, the custodian bank has taken on broader reporting responsibilities.

Consultants. The investment committee retains investment consultants to provide a variety of services. These consultants offer an extension of resources and expertise that would be too costly to maintain full time. Funds differ in their use of consultants. Some rely heavily on them, whereas others use them for narrow and specific purposes. Many organizations use consultants for two primary tasks: to advise on strategic issues, such as investment policy, and to provide manager selection and performance evaluation. In the case of strategic issues, consultants provide independent information and opinions to the trustees.

Consultants do not serve as a parallel staff but, rather, complement the staff's work. In the case of manager selection and performance evaluation, consultants have specialized resources, skills, and experience that are difficult for an investment staff to acquire and maintain. When requested, consultants attend investment committee meetings to offer their insights. Some of the

trustees meet regularly with the consultants, just as the CIO and other senior staff members do, to seek advice on issues facing the Fund.

The investment committee periodically evaluates its relationships with its consultants. The trustees insist on full transparency from its consultants regarding their sources of income and any conflicts that those income sources might have with respect to the consultants' ability to offer objective advice. For example, a consultant would have to reveal any fees or commissions received or expected to be received from a manager that the consultant is reviewing. (In most cases, of course, such a conflict of interest would render that consultant unacceptable.) The committee carries out market surveys to ensure that the consultant fees paid by the Fund are competitive. Furthermore, the committee reviews whether the consultants' advice and services meet its expectations for quality and timeliness.

Investment Outsourcing Services. Molly, we understand that you recently agreed to serve on the governing board of a small charitable foundation. In that role, you are wearing many hats, and one of them requires you and the other board members to oversee the investment of the foundation's modest pool of assets. As you will appreciate, although the principles of investment policy and management at your foundation are similar to what you face here at the university, there are material challenges that a small fund encounters by trying to implement an investment program with limited resources.

The university has an experienced investment committee whose members understand the key investment issues facing the Fund. Just as important, the university has the financial capability to hire a CIO and a strong professional staff as well as to retain prominent consulting firms to provide industry knowledge as needed. The same cannot be said for many smaller funds, such as your foundation. For them, assigning the roles of staff, consultant, and investment manager to one organization serves as a cost-effective alternative to acquiring those services separately. Because there are many thousands of relatively small funds, the number of these "outsourcing" relationships is estimated to be quite large and growing. Even some larger funds, which could afford to hire an investment staff, have chosen to use these outsourcing services.

Consultants, investment management firms, and custodian banks typically provide these investment outsourcing services. Also, individual investment brokers participate in this market, generally working with very small funds. The outsourcing service is commonly referred to as an "outsourced chief investment officer" (OCIO), although investment brokers providing these services are typically considered investment advisers and may subcontract the OCIO functions to a third party.

A fund that outsources its investment oversight and management responsibilities relies heavily on the OCIO for developing and implementing an investment policy and strategy and for hiring investment managers to implement that strategy. Commonly, the OCIO and the investment committee jointly determine the plan's investment policy, subject to the trustees' risk tolerance. This policy leads to agreement regarding investment objectives and strategic asset allocation, which are expressed as an investment policy portfolio of approved asset classes, target allocations, and benchmarks. The OCIO then holds the authority, responsibility, and accountability to implement and manage the fund consistent with that policy portfolio. Note, however, that although the OCIO has fiduciary responsibilities for much of the fund's investment activities, the trustees do not escape their status as co-fiduciaries of the fund.

Outsourcing provides some significant advantages for a small fund, especially one with limited or no staff. Ideally, the OCIO brings an extensive understanding of investment markets, particularly an expertise in asset allocation and in investment manager selection and monitoring. Moreover, through the economies of scale available to the OCIO and its broad access to the investment manager marketplace, the fund gains exposure to a wide array of sophisticated investment strategies, asset classes, and investment managers at a lower cost than it could otherwise. The OCIO also offers the trustees assurance of proper fiduciary oversight, regulatory compliance, and sound governance. Arguably, the OCIO may also have the ability to implement investment decisions in a nimbler and timelier manner than the trustees.

You should be aware, however, that the outsourcing model is not without its disadvantages. Outsourcing providers' fees are much higher than what a consultant would charge for simply offering investment recommendations.

Furthermore, although OCIO providers do have access to more investment options than a small fund normally would have, outsourcing may lead to more complicated and expensive active investment solutions than those the fund could achieve with a simpler passive approach to investing. Retaining an outsourcing provider is not a license for the trustees to abdicate their fiduciary duties. Simply hiring an OCIO is no guarantee of a quality investment program. The trustees need to assure themselves that they have retained a knowledgeable and engaged OCIO.

The outsourcing solution lacks some of the natural checks and balances inherent in standard solutions (those involving an internal CIO). The trustees must clearly delineate the delegation of roles and responsibilities between themselves and the OCIO. Importantly, the trustees are obligated to carefully monitor the OCIO, both in terms of due diligence prior to hiring and in

terms of oversight of the OCIO's activities once retained. The trustees have a duty to guard against hidden costs and conflicts of interest and to assess whether the OCIO provides sufficient value for the fees paid.

Trustees of small funds need to assess whether they have the resources to adequately oversee the investment of the funds' assets. If not, they should consider an OCIO. That decision can be a difficult call to make. Going it alone or relying on access to possibly ill-informed—or worse, conflicted—investment advice can turn out to be counterproductive. Whether the solution is to hire an independent consultant to provide recommendations or outsource all or part of their investment oversight and management responsibilities to an OCIO, trustees should understand their own limitations and seek help where needed.

Lines of Authority

Molly, as you well know from your own professional experience, responsibility and authority must go hand in hand. To give certain decision makers the responsibility for performing aspects of managing investments but not to provide those decision makers with the authority to carry out their professional judgments is a sure means of creating a dysfunctional organization. Investments, with their highly quantifiable results, are exceedingly prone to various forms of second-guessing that undermine official delegation of authority.

Unfortunately, this problem most commonly occurs in the relationship between the trustees and the investment staff. Explicit authority may be delegated by the trustees to the staff while some or all of the trustees retain *implicit* authority. The Lurinberg investment staff has been fortunate to maintain a positive working relationship with the trustees.

For example, the trustees authorize the staff to retain and dismiss investment managers, a common arrangement at many funds. The trustees have been careful in the past not to second-guess staff decisions concerning manager retention. They constantly remind themselves that they are acting as fiduciaries, not investment professionals.

At some other funds, the trustees constantly ask probing questions about the individual investments undertaken by the managers and then pass judgment on the results of those investments. In many of those instances, the clear intent is not simply to understand how those managers are operating but to suggest that the staff's decisions in hiring or retaining those managers were not appropriate. The implied message in such situations is that, despite the explicit hiring authority granted to the investment staff, the trustees hold the final authority to hire and fire managers.

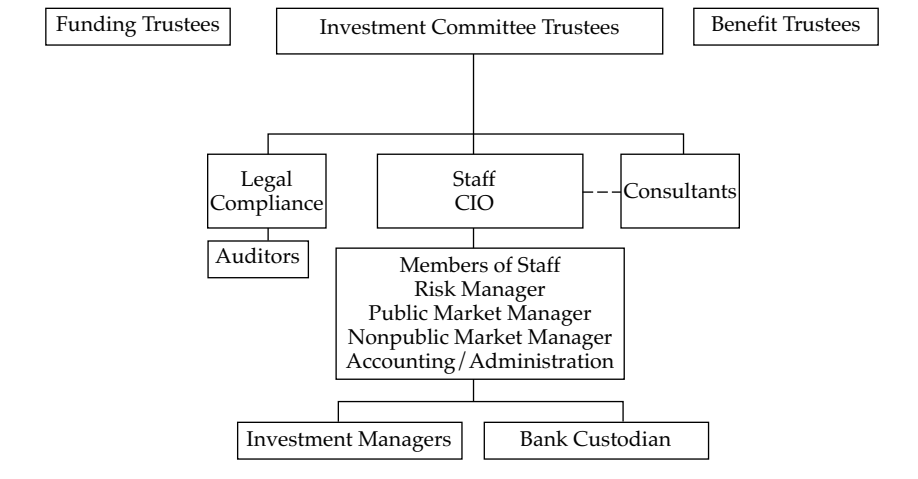
The staff may, inadvisably, interpret this message as a warning not to act too independently of the trustees. Staff members may, for example, terminate some managers whom they approve but judge to be in disfavor with the trustees. Or the staff members may fail to hire an attractive manager out of concern that the trustees may not approve of that manager. But the trustees at these funds generally do not possess the expertise to identify successful managers prospectively, and in the end, the implicit withholding of authority from their staff corrodes the manager selection process. The trustees may ultimately be correct about a particular manager, but unless they can suggest fundamental deficiencies in their staff's *processes*, their after-the-fact criticism of the processes' results can disempower and demoralize the staff.

The Lurinberg University Investment Committee wisely avoids this problem by focusing its evaluations on the performance of the Fund's aggregate assets as opposed to the individual managers' investment results.

Of course, a similar problem can exist between the staff and investment managers. Managers are explicitly delegated authority to make portfolio construction decisions for their clients' accounts within specified investment guidelines. Again, the staff can implicitly withhold that authority by frequently questioning portfolio decisions after the fact. However, because investment managers are more diversified in their client bases than a fund's staff, the managers are better positioned to fend off these efforts on the part of the staff than the staff is prepared to hold the line against meddling trustees. Nevertheless, if the staff or investment committee constantly picks away at individual decisions on the part of a fund's managers, the managers may withhold their more unconventional ideas from the portfolios, to the ultimate detriment of the fund.

The solution to these problems is conceptually simple but, at times, difficult to put into practice. It is that (1) the lines of authority must be clearly specified and (2) the supervising decision makers must scrupulously refrain from reaching down to the reporting decision makers and attempting to control decisions. Furthermore, the reporting decision makers need to feel empowered to push back and remind the supervising decision makers in those instances when the line between explicit and implicit authority becomes blurred. Documenting the lines of authority through the GPS is the ideal solution, but even if such documentation exists, a culture of full and frank discussions must be maintained.

Like most organizations, the Lurinberg University Investment Committee has authorized an organizational chart that identifies the Fund's lines of authority. We have attached that chart to your presentation materials as **Figure 1**. In addition to simply specifying the lines of authority, the

Figure 1. Lurinberg University Investment Committee Organization Chart

investment committee has incorporated the other elements of a strong governance structure mentioned earlier—due diligence, checks and balances, reporting and monitoring, transparency, and keeping abreast of the practices of leading fund sponsors—to align implicit with explicit authority.

Accountability Standards

Accountability provides the third leg of a strong governance structure. A committee may assign responsibility for an investment function to a person or a group and give that person or group the authority to carry out that function, but those steps, although necessary, are not sufficient. Everyone wants responsibility and authority; few, however, want accountability. Yet, if the appropriate level of accountability is missing, the trustees cannot expect a person or group to be properly motivated to carry out the function in a way that best meets the goals of the Fund.

As a result, the Lurinberg University Investment Committee has mandated that accountability standards be established throughout the governance structure. Wherever key decisions are being made, the trustees have insisted that accountability standards be set for the decision makers. Regardless of their specific design, those accountability standards have common characteristics. They are

- appropriate and realistic (i.e., commensurate with the given authority),
- established in advance,

- agreed to by both the supervising and subordinate persons or groups,
- evaluated in the context of the expected range of outcomes, and
- designed to provide formal procedures for supervising authorities to review the results of subordinates' decisions.

Consider the set of accountability standards that the investment committee assigns to the CIO for use in an annual evaluation. Those standards include both a “personal results” component and an “investment results” component. The personal results component relates primarily to how well the CIO interacts with the staff and trustees. Topping this list must be open and direct communication. For example, appropriate expectations, Molly, are that you and the other trustees be comfortable asking the CIO any question that comes to mind and that you receive a prompt and understandable answer. Timely reporting, effective management of the staff, and productive relationships with other stakeholders and outside organizations will also factor into this personal evaluation.

The investment results component is based on the Fund's management relative to defined expectations. The CIO cannot guarantee investment outcomes, and the investment performance objectives (see Session 4) recognize that fact. Still, you should want the CIO to benefit financially if the Fund performs well relative to appropriate expectations. For example, the trustees have decided that the Fund's return relative to established benchmarks and the maintenance of the asset mix within policy guidelines should factor into the CIO's investment results component.

In an investment program, surprises will always occur, some of them potentially quite disappointing. Often, how to evaluate them is unclear, even with a solid set of accountability standards in place. Among other questions you will probably want to ask are whether the CIO had the authority to make a different outcome happen and whether the process under which the adverse outcome occurred was prudent and properly implemented. In addition, you should consider whether the bad result could reasonably have been predicted and prepared for.

Molly, your conclusions are likely to involve a fair amount of subjectivity. One of the primary reasons you were invited to be a trustee, however, is that you have a history of good judgment. In an uncertain investment world, that characteristic is of critical importance.

Fiduciary Duty

Molly, as an investment trustee for the Fund, you bear an important obligation to act in the best interests of the Fund's beneficiaries. We'll leave it to

our legal representatives to talk to you about the specific laws that pertain to your fiduciary responsibilities. Nevertheless, it is worthwhile for us to spend a moment to consider how the general concept of fiduciary duty applies to you in your role as a member of the investment committee.

A fiduciary is someone to whom property or power is entrusted for the benefit of another. When it comes to the university's retirement plans and endowment fund, you are entrusted with overseeing the investment of the assets to most effectively serve the people and institutions that benefit from the existence of the funds and the income the funds generate. As straightforward as that idea sounds, in practice, it is not so simple. For example, as you consider the endowment fund's investment policy, how do you balance the needs of the current beneficiaries and those of future beneficiaries? Conservative investments today appear good for the current beneficiaries, but that approach reduces the resources available to future beneficiaries.

Despite the ambiguity surrounding application of your fiduciary duty, you can focus on several principles. First, as a trustee, you have a duty of *loyalty* to the Fund's beneficiaries. You should avoid conflicts of interest that might interfere with making decisions in the best interests of the Fund's beneficiaries. In Session 9, Ethics in Investing, we discuss this topic further, but for the moment, keep in mind that you should carefully examine how your relationships with various persons and businesses might possibly sway your decisions. Your fiduciary duty requires you to wall off those relationships from your work as a trustee and ensure that you don't profit financially or otherwise from your trustee position.

Second, being a fiduciary requires that you act in a *prudent and reasonable* manner in making decisions. You should strive to understand the key investment issues confronting the trustees and thoughtfully weigh the feasible alternatives. Establishing a reasonable decision-making process is important here. You should seek the advice of experts, whether staff members, the Fund's consultants, or other parties. As a fiduciary, you may be forgiven for a decision that turns out to be wrong, but such forgiveness is less likely if the bad outcome is the result of your failure to follow procedures or seek advice when needed.

Finally, you should act in a *transparent and accountable* manner. Regardless of your good intentions, beneficiaries and other interested outsiders must be able to clearly see that you are performing properly as a trustee. To the greatest extent possible, disclosure of the investment committee's actions and the reasons for those actions will help create an environment of trust and support. Preparing an investment policy statement (see Session 2), keeping minutes of all meetings, reviewing and retaining reports by staff and other advisers, and

adopting and abiding by a written code of conduct are all actions that, if done consistently, foster transparency and accountability. That culture of openness will go far in creating goodwill with the Fund's stakeholders and make it easier to weather difficult situations.

More on the Trustees

Your fellow trustees recognize that appropriate organizational design of the investment committee can enhance the Fund's governance structure. As a result, the trustees have focused on several key aspects of membership and meeting format, including

- number of members,
- member selection,
- diversity of experience,
- member tenure,
- leadership,
- frequency of meetings,
- meeting length, and
- meeting agendas.

Seven trustees sit on the Lurinberg University Investment Committee. Having too many trustees makes scheduling meetings difficult; having too few trustees increases the potential for one or two persons to dominate the decision making. A subcommittee of the Board of Regents takes nominations and ultimately recommends trustees to the full board for approval. This independent selection process prevents current trustees from controlling the choice of new members. As a result, new trustees join without owing an allegiance to existing committee members.

In recruiting attractive trustee candidates, the regents look for individuals with a wide range of career experiences. Although the regents consider investment knowledge to be a highly positive attribute and insist that a majority of the committee have investment expertise, they don't view that expertise as a prerequisite for being selected as a trustee. In fact, several trustees have been chosen because of their experience in areas outside of investing—human resources, for example. The regents prefer to strike a balance on the investment committee between investment experience and other backgrounds. A diverse membership makes it less likely that “groupthink” will dominate

the board's decisions regarding investment policy. Because of their diversity, the trustees are an active group who vigorously debate the relevant issues and are open to dissenting but constructive ideas.

The trustees may serve up to two three-year terms before they must leave the investment committee for at least three years. In this way, the trustees do not become too comfortable in their positions but have enough time to understand the university's funds and to function effectively. Moreover, this forced turnover periodically brings in fresh ideas through new members. Terms are staggered to avoid wholesale membership change and a resulting loss of institutional knowledge. The investment committee's chair and vice chair are appointed by the regents—again, to prevent one individual from holding too much power within the group.

The investment committee members hold in-person meetings at least three times a year and arrange for conference call meetings as necessary. The in-person meetings are important because they promote effective discussion among the trustees and between the trustees and the investment staff. The trustees prefer quarterly meetings to keep on top of pressing issues and to review investment results on a timely basis. The CIO, in consultation with the investment committee chair, controls the meeting agenda. The trustees favor meetings that last no more than half a day, thereby allowing the participants to remain fresh and productive throughout the meeting.

Funds take varying approaches toward membership and meetings, but the investment committee at Lurinberg is fairly conventional. Institutional situations cause some differences (e.g., a public retirement plan may have statutory membership requirements). Other differences may be the result of decisions made long ago that the funds have grown accustomed to. Regardless, trustees should review the membership and meeting guidelines periodically to stay in line with changing practices.

Takeaways

- The governance structure is the framework that connects a fund's various decision makers to one another.
- The key elements of the governance structure are described in a formal governance policy statement.
- A sound governance structure has three primary components: roles and responsibilities, lines of authority, and accountability standards.
- Roles and responsibilities define the functions the various decision makers are assigned to perform.

- Lines of authority both describe the power given to decision makers to carry out their responsibilities and specify to whom those decision makers report.
- Accountability standards state the expectations regarding the effectiveness of the decision makers and the procedures for reviewing their actions.
- Sound governance also requires
 - appropriate due diligence procedures,
 - checks and balances with regard to the various decision makers,
 - timely reporting and monitoring,
 - transparency of decisions and details of investment transactions and holdings, and
 - compliance with industry best practices.
- Outsourcing certain investment responsibilities can be a viable option for a fund, particularly a small fund with limited resources.
- The trustees have a fiduciary duty to the beneficiaries of the fund, which includes a duty of loyalty, prudence, reasonableness, transparency, and accountability.
- Important trustee membership issues include the number of trustees, selection process, diversity of experience, tenure, and leadership.
- Meeting schedules also deserve consideration, including meeting frequency, meeting length, and meeting agendas.

Questions Molly Should Ask

About governance policy

- Is the Fund's governance structure formally documented? If so, may I see the document? If a GPS does not exist, how is the Fund's governance structure understood and communicated?
- How is the governance of the Fund organized? Who are the key participants in the structure? How do they relate to one another in terms of accountability and authority?
- Are responsibility, accountability, and authority appropriately aligned in all areas of the Fund's governance structure? Are there any areas of concern? If so, what are the issues involved?

The investment staff

- How is the staff organized? What are the professional backgrounds of the CIO and his or her senior managers?
- What sort of succession planning is in place for key leaders?
- How is the CIO evaluated? What have been the recent results of his or her evaluations?
- Does the staff have the resources to adequately carry out its responsibilities? If not, what are the concerns?
- What is the compensation structure (e.g., base salary, bonus, deferred compensation, perquisites) for the CIO? Who determines staff compensation?
- How is the staff budget determined? What is the size of that budget? How is it allocated by major account?
- What investment management decisions are delegated solely to our CIO and the staff? Do we have a set of performance expectations for these persons with respect to those decisions?

Relationships among key decision makers

- What investment management decisions does the investment committee retain in whole or in part? What is the purpose of retaining these decision-making responsibilities?
- What regular reports do the staff, the custodian, and the consultant provide to the investment committee?
- Are the trustees relatively involved as a group in terms of managing the staff, or do they tend to be “hands-off”?
- When there are disagreements between the trustees and the staff, how are they resolved? Are there any issues that continue to fester?
- Where are the Fund’s assets held? Who has authority to access those assets? What types of safeguards do we have to prevent unauthorized access to the Fund’s assets?
- What valuation methods does the custodian use to value the assets? What sorts of quality checks are applied to the reported numbers?

- Do we retain a consultant? If so, how do the trustees and the staff use our consultant? What do we pay the consultant? What is our record of following the consultant's recommendations?
- How long has it been since the consultant and the custodian relationships were reviewed? What were the results of those reviews?
- Have we investigated the possibility of outsourcing certain investment program governance responsibilities to an OCIO or investment adviser? If so, what were the results of that investigation? If the answer is no, why do we believe such an assignment is unnecessary?
- If we do use an outsourcing solution, how and why did we choose the OCIO over other options?
- What investment program responsibilities have we assigned to the OCIO?
- How did we go about selecting the OCIO? How does the OCIO interact with the trustees?
- How do we monitor the OCIO? What metrics do we use to assess the OCIO's performance? How do we assess the OCIO's expertise and experience with the various asset classes of the Fund, particularly, alternative investments?
- What do we pay the OCIO, both in absolute amounts and as a percentage of assets?
- Are the OCIO's fees biased in favor of active versus passive management or in any other way? Are the OCIO fees based on the total value of the Fund's assets? How can we ensure that no hidden fees or self-dealing relationships exist? If the OCIO's parent organization offers investment management services, should the OCIO be precluded from using them?
- Does the OCIO provide a report that details all external cash flows into and out of the Fund as to amount, date, and purpose? Can we independently and randomly check portfolio values and returns to ensure the integrity of the OCIO's reports?

The trustees

- Who are the current trustees? How long have they been on the investment committee? What are their backgrounds?

- Who selects the trustees? What is the selection process? What criteria are considered most important in selecting a new trustee?
- What types of training are provided to new trustees?
- How is the leadership of the trustees chosen? Are there informal leaders who differ from the officially chosen leaders?
- How are the trustee meetings usually run? What topics tend to dominate the agendas? Is the focus largely on reviewing past performance as opposed to addressing forward-looking strategic issues?
- Are the minutes of the past trustee meetings available for review?
- How do the trustees protect against groupthink?
- What are the core investment beliefs of the trustees as a body?
- How are the trustees evaluated, both individually and as a group?

Session 2. Investment Policy

Once the “what” is decided, the “how” always follows. We must not make the “how” an excuse for not facing and accepting the “what.”

—*Pearl S. Buck*

Virtually all well-run investment programs are built on the foundation of a thoughtful investment policy. Molly, in our discussions, we should be clear that the most important function that you and the other trustees perform is establishing and maintaining the Fund’s investment policy.

The Importance of Investment Policy

Why is investment policy so important? If the trustees can’t develop and convey a clear sense of what the Fund is attempting to achieve and how they expect staff members or outside advisers to go about reaching those objectives, then the investment program will be directionless and the trustees and staff will be prone to pursuing ineffective approaches that lead to unsatisfactory results. Yogi Berra’s succinct wisdom aptly applies to investing: “If you don’t know where you’re going, you’re liable to end up somewhere else.”

Some funds fail to adopt sound investment policies. Others adopt sound investment policies but fail to follow them diligently. In either case, these funds typically rely on *ad hoc* approaches to investment management. The manifestations of these inadequate investment practices include a short-term focus (often on issues of secondary importance, such as the hiring and firing of managers) and inattention to important long-run issues. These behaviors generate a hodgepodge of frequently changing and inconsistent investment strategies. *Ad hoc* management also hinders trustees in conducting realistic appraisals of their objectives and keeps them from implementing stable, productive investment programs that achieve their objectives.

Defining Investment Policy

We should clearly define the term “investment policy.” The Lurinberg University Investment Committee thinks of its investment policy as a combination of philosophy and planning. It expresses the trustees’ collective attitudes toward important investment management issues: Why does the Fund exist? How does the investment committee define success? To what extent are the trustees willing to accept the possibility of large losses? How do the trustees evaluate the performance of the investment program?

The investment committee also considers the investment policy to be a form of long-range strategic planning because the policy delineates the trustees' investment goals and how they expect those goals to be realized.

Essentially, any relatively permanent set of procedures that guides the management of a fund's assets can be deemed the fund's investment policy. Nevertheless, a comprehensive investment policy will address many of the issues that we are covering in our discussions, including

- the fund's mission,
- investment risk tolerance (i.e., the ability and willingness of the trustees to bear investment risk),
- investment objectives,
- the policy asset mix,
- investment management structure, and
- performance evaluation.

Different financial circumstances and attitudes toward seeking returns and bearing risk cause funds to adopt different investment policies. There is nothing wrong with that. Simply put, there is no "correct" investment policy. However, an effective policy tailors the issues we just identified to a fund's specific circumstances, whether that fund is a corporate defined-contribution retirement plan, a public defined-benefit (DB) retirement plan, an endowment, or a family office.

The investment committee often speaks of the Fund's investment policy as the "rule book" for the investment program. Despite the fact that there is no single solution to the challenge of investment policy design, the "rules" for all types of funds appropriately contain many of the same essential elements. That is because an investment program can be successful over the long run only if it operates under a well-defined plan, and success can be evaluated only in light of clearly stated investment objectives. An investment policy incorporating the fundamental elements covered in this discussion provides the necessary planning framework. Molly, that may sound like common sense—or, rather, good business practice—and it is. And like any sound business practice, it should be universally applicable to the Fund's investment program, regardless of how the composition of the staff or the investment committee changes over time.

Investment policy identifies the key philosophies, objectives, and long-run strategic approach defining the management of the Fund's assets. Not only does the investment policy establish accountability; it also helps to

minimize conflicting interests. For example, the university's DB plan exists to provide post-retirement income to plan participants, but it is partly funded by the state's taxpayers (or shareholders in the case of a private plan). The trustees may feel accountable to taxpayers in some way, even though they are supposed to be loyal solely to the plan participants. Similarly, the investment staff cares about the participants but also thinks about job protection and maybe earning a bonus. External investment managers worry about their businesses and their fees while, at the same time, they try to serve the participants effectively. Although no set of rules can eliminate these conflicts, a sound investment policy can contribute to a solution by stating clear accountabilities and enhancing the transparency of an investment program.

Policy Asset Mix: Selection and Rebalancing

A central part of a fund's investment policy is to select asset classes and investment strategies within those asset classes that, in aggregate, produce a well-diversified portfolio consistent with the fund's mission. To begin, the trustees need a workable understanding of the underlying risk and expected return characteristics of these asset classes. (We will discuss the term "asset class" more thoroughly in Session 6; for now, think of asset classes as broad categories, such as stocks, bonds, and real estate.)

From that understanding, the investment committee can determine the desired allocation to each asset class so that, in total, the investments reasonably can be expected to produce the required return over the long run with an acceptable level of volatility in results. This process is referred to as "setting the policy asset mix," and it directly relates to the level of investment risk considered appropriate for the Fund by the trustees. (We will discuss how the investment committee determines the appropriate level of risk in Session 5.) The investment committee approves the policy asset mix as a list of asset classes, a target percentage allocation for each, and (usually) a range around that target allocation within which the actual allocation may fluctuate before rebalancing back to the target is required. As an example, you can review the policy asset mix of the Lurinberg University DB pension plan in **Appendix B** to these materials. Again, we will have more to say on the particular asset classes in the policy asset mix during Session 6.

Obviously, nothing in life or business is perfectly obvious all the time. Nor will any set of rules, however robust, always point to the most profitable course of action. The investment committee does not expect its policy asset mix to generate the desired returns year in and year out. Rather, the trustees' approach is that when others are greedy and bidding up the price of certain asset classes and the expected return on those asset classes decreases, the

trustees are willing to take a little less risk by selling off some of those appreciated asset classes if their allocation has moved above the top of the approved range. Conversely, over the course of a market cycle, when markets plunge and investors are fearful, certain asset classes tend to be shunned. These asset classes then become cheaper and thus have higher expected returns. At those times, the investment committee is willing to take on more risk and buy those asset classes if their allocation has moved below the approved range. This process is called “rebalancing back to the policy asset mix.” Because the trustees, staff, and consultants are all human, the Fund’s investment policy seeks to overcome cognitive biases that cause decision makers to fear and avoid these rebalancing opportunities just at the time when they offer the Fund the greatest potential returns.

Investment policy helps manage risk by starting with a clear statement of the mission and objectives of the Fund, identifying the key risks faced by the Fund, assigning accountability for those risks, setting up metrics for determining success, and then defining procedures for evaluation, oversight, and management of the Fund. Molly, as a trustee, you cannot be expected always to make correct investment decisions, but you are always expected to carefully consider the relevant risks and how they should be managed before making a decision.

Investment Policy as a Stabilizer

The investment committee established the Fund’s investment policy independent of current market conditions. Although the trustees allow for discretion on the part of the staff and the investment managers to take advantage of attractive near-term market valuations, the trustees, in setting the investment policy, have accepted as given the long-run opportunities afforded by the capital markets and the Fund’s obligations to its beneficiaries. A consistently applied investment policy produces successful results not because of any unique investment insights but because of its concentration on the Fund’s primary goals and the continuity of its investment strategies.

Investment policy would be of little significance if it were merely a perfunctory description of the investment program. Instead, it derives its importance from the complex and dynamic environment that the trustees confront in setting a direction for the Fund. The trustees and staff need a logical and consistent framework within which to make decisions.

The Fund’s investment policy is an “autopilot” setting for normal times and a stabilizer for the investment program during stressful markets. The Fund’s investment policy needs to be flexible, but in the past, the trustees have made changes only during periods when fundamental conditions changed

significantly, either externally or internally. The investment committee has always maintained that the threshold for conditions to qualify as “significant changes in conditions” should be quite high. If not, the urge to change policy in response to short-run market conditions can be overwhelming. Following this urge will, in turn, defeat one of the key virtues of investment policy—namely, to keep decision makers from acting rashly, from succumbing to either greed or, particularly, fear.

That last point bears repeating. Trustees sometimes fail to appreciate that adherence to the investment policy will produce its greatest benefits during periods of adverse market conditions. At these times, the temptation builds to alter a sound investment program as the fear of even worse future calamities increases.

Emotional decisions to change course in these situations inevitably prove costly. The investment committee has been fortunate to avoid those outcomes. The existence of a well-thought-out investment policy has forced the Fund’s decision makers to pause and consider why the existing policy was established in the first place and whether the current adverse market conditions were actually predictable—not in their timing but in their intensity and (paradoxically) their unexpectedness. That type of review has made it possible for cooler heads and a longer-term outlook to prevail on the investment committee. It has allowed the trustees to stay with their long-term policy during market downturns and avoid locking in current losses so as to eliminate the possibility of reversing those losses when markets recover.

Reviewing Investment Policy

As we discussed, investment policy is not immutable. The investment committee periodically reviews—and, on occasion, modifies—the Fund’s investment policy. Think of a business plan, Molly. When would you change your company’s strategic plan? Certainly if the basic structure of competition were to change (such as if key suppliers gained pricing power or a shift occurred in the customer base), disruptive technologies appeared, or big changes occurred in government regulation. Any of these circumstances would call for a review and possible modification of your business plan.

You and the other trustees might find it appropriate to alter the Fund’s investment policy if the Fund’s obligations change materially. If changes in the investment landscape, such as new practices or products, occur, then you also might want to alter the investment policy to ensure that potential opportunities are not missed. If the investment committee truly were to conclude that the long-run expected risk–reward relationships among asset classes had fundamentally changed, that change too might warrant a modification in

investment policy. (That conclusion is, of course, quite different from merely observing that particular asset classes have recently performed poorly or well relative to one another.) Nevertheless, the investment policy rarely requires alteration, mostly because the factors that could justify a change in the policy are themselves not generally prone to near-term transformations.

Regular discussions of the investment policy aimed at educating the Fund's decision makers serve a productive purpose. These discussions help bridge the different attitudes that trustees may have toward risk taking and investment management. They reinforce the logic of the current policy and thereby reduce the chances of unnecessary alterations. Conversely, reviews directed toward the constant reassessment of existing policy are counterproductive. Frequent investment policy changes take on the tone of active management, thus blurring the distinction between policy and operations, to the detriment of the investment program.

If the trustees believe that a change in investment policy is warranted, then you should recognize that the modifications are almost never time sensitive and should not be hurried. In fact, the greater the seeming urgency of proposed policy changes, the more likely that those changes are really active management decisions posing as policy issues.

The Investment Policy Statement

The investment committee has formalized the Fund's investment policy in a written document called the "investment policy statement" (IPS). An IPS summarizes a fund's key investment policy decisions and explains the rationale for each decision. The level of detail in an IPS will vary among investment organizations. Some organizations may prefer to provide more information than others, particularly those with more complex investment programs. Nevertheless, an IPS serves the same role for all funds: It enforces logical, disciplined investment decision making, and it limits the temptation to make counterproductive changes to an investment program during periods of market stress. (Recall that Appendix B is a copy of the Lurinberg University DB retirement fund's IPS for your inspection.)

The Fund's IPS is not a set of broad statements such as, "Look both ways before you invest." Rather, it contains an explicit recipe for the investment program stated in terms of minimum and maximum allocations to various asset classes, levels of allowable risk, and so forth. The IPS also contains guidelines for investing within an asset class. Those guidelines may be stated as a list of requirements or prohibitions or in terms of a budget for various types of investment risk. Another key element is the establishment of performance objectives for the Fund and for individual asset classes. These

objectives provide a reference point for evaluating the success of the Fund's investment strategies.

The IPS serves three primary functions:

- It facilitates internal and external communication of investment policy.
- It ensures continuity of policy during periods of turnover among the Fund's trustees, staff, and outside advisers.
- It provides a baseline against which to evaluate proposed policy changes.

Regarding the first function, the IPS communicates the Fund's investment policy to insiders (the trustees and staff) and interested outsiders (e.g., the Fund's investment managers or its beneficiaries). The IPS helps prevent confusion over interpretation of the Fund's investment policy. A regular presentation of the IPS keeps investment policy fresh in the minds of the Fund's decision makers. For that reason, the investment staff includes the Fund's IPS in the set of materials for at least one investment committee meeting every year.

Regarding the second function, the IPS serves as a permanent record that enhances continuity in the investment program. Turnover among the trustees and top staff members is inevitable. For newcomers, the IPS provides a concise and accessible reference. Its existence also makes clear that the policy is a product of a thorough and deliberate process; thus, the IPS reduces the urge on the part of new decision makers to impulsively propose revisions to the DB fund's existing investment policy. For that reason, Molly, as part of your orientation, you should take the time to carefully review the IPS of each of the Lurinberg University funds and ask questions about the contents.

Finally, the IPS serves as a baseline against which to consider proposed changes to the Fund's current investment policy. Any such potential changes can be directly compared with existing policy, making the merits of the changes easier to evaluate and limiting the chances that emotional appeals for change will sway decision makers. Over the years, the existence of the Fund's IPS has prevented a number of potentially ill-advised alterations to the investment strategy.

Only the trustees can establish investment policy for the Fund. You and the other trustees are the primary fiduciaries, and it is your responsibility to provide the investment philosophy and long-term direction for the Fund. True, in many organizations, the investment policies are drafted by the investment staff, sometimes with the aid of a consultant, or are prepared by an OCIO. But in the end, the trustees have the responsibility, authority, and ultimate accountability for the Fund's investment policy. If the trustees are

ever sued for losing money, a properly crafted IPS—and documentation that the policy has been scrupulously followed—is a strong defense.

Takeaways

- The most important functions that the trustees perform are to establish and maintain the fund’s investment policy.
- Investment policy is a combination of philosophy and planning.
- Investment policy expresses the trustees’ attitudes toward important investment management issues.
- Investment policy is also a form of long-range strategic planning that delineates the trustees’ specific investment goals and how the trustees expect those goals to be realized.
- A comprehensive investment policy addresses
 - the fund’s mission,
 - risk tolerance,
 - investment objectives,
 - the policy asset mix and rebalancing policy, and
 - performance evaluation.
- Investment policy acts as a stabilizer for the investment program and thereby helps avoid costly shifts during stressful market conditions.
- Investment policy is changeable, but the case for modifications should be held to a high standard and should be based on truly fundamental changes, not simply transitory movements in market conditions.
- Central to investment policy is the policy asset mix—the long-run desired allocation of a fund to designated asset classes.
- The investment policy statement formalizes investment policy in a written document, summarizing a fund’s key policy decisions and explaining the rationale for those decisions.
- The IPS serves three primary functions:
 - To facilitate communication of investment policy
 - To ensure continuity of policy when trustees, staff, or outside advisers change

- To provide a baseline against which to evaluate proposed policy changes

Questions Molly Should Ask

- Do we have a formal written IPS? If not, why not? If so, may I have a copy to review?
- Does our IPS discuss the underlying rationale for the policies that we have adopted? If not, how can I obtain some background context regarding the development of the IPS?
- Is our IPS broadly disseminated to key stakeholders?
- What duties do I have as a trustee under our investment policy?
- As a group, do the trustees understand our investment policy well? Is the investment policy thoroughly covered in new trustees' orientations?
- What are the key factors that could cause us to rethink and revise our investment policy?
- Of the primary components of the investment policy, which ones have the broadest agreement among the trustees? Which ones have the most divided opinions?
- Are there investment policy changes that have been proposed but that the trustees have ultimately opposed? If so, what is the background behind those desired changes?
- When was the Fund's investment policy changed materially, and why was it changed?
- Do we have a record of the changes that have been made to our investment policy with a description of what, when, and why we made the changes?
- When was the current version of our investment policy adopted? Who wrote the current version of our investment policy? Who reviewed this version? Our legal counsel? Our consultant? Did they make substantive comments, and if so, what were they?
- Is there a regular review of the investment policy? Who takes the lead in those discussions?

- If our investment policy is considered the rule book for running our investment program, would you say that our rules are comprehensive and prescriptive in design or more informal and advisory?
- What is the policy asset mix of the Fund? What was the process by which it was determined?
- What rebalancing rules does the staff follow to ensure that the Fund's actual asset allocation is in line with the policy asset mix?
- Are those rebalancing rules implemented without question or does the staff have discretion over when and how to implement them?
- Are there legal restrictions that govern the investments of the Fund over which the trustees have no discretion?
- Can you cite instances in which our investment policy has actually acted as a stabilizer in periods of distressed financial climates? Have the trustees always followed the investment policy during those periods?

Session 3. The Fund's Mission

Choose always the way that seems best, however rough it may be; custom will soon render it easy and agreeable.

—*Pythagoras*

Molly, as a trustee serving on the university's investment committee, you have oversight responsibility for the assets of the defined-benefit (DB) retirement plan, the defined-contribution (DC) retirement plan, and the endowment fund. Broadly speaking, each fund has an investment mission, which is to provide financial benefits to certain parties. Also, a common feature of these funds is that they invest pools of monies that were contributed from particular sources for particular purposes. The differences among the funds consist of the timing and certainty of the benefits that flow out of the investment pool, the contributions that flow into it, and the specific uses to which the benefits will be put.

To help you understand the concept of a fund's mission, we decided to focus on the Lurinberg University DB fund. We based this choice on the fact that the investment policies of DB funds, in general, involve interesting and diverse missions. Also, a legally binding commitment exists to pay defined benefits at specific times and in specific amounts.

The DB plan that the university provides to its employees is quite similar to your own company's plan, Molly. A notable difference, however, is that the state's taxpayers stand behind the university's promise to pay retirement benefits whereas it is your company's stockholders who guarantee your company's benefit obligations.

With respect to the university's endowment fund that you also oversee as a trustee, note that contributions to it vary over time and that the withdrawals, or benefits, typically are based on a percentage of the fund's value. However, you should appreciate, in particular, that the endowment fund makes a material contribution to the university's operating budget and that an unwritten rule exists that the possibility of a decline in the amount of money the endowment provides should be minimized.

As for the DC plan that the university offers to its employees, you do not have any direct responsibilities relating to the actual allocation of assets. Rather, the trustees have a responsibility to provide employees with an appropriate set of cost-effective investment options that allow employees to create and manage their retirement assets in a manner consistent with their needs and circumstances. We will have more to say about DC plans in Session 7.

With that background, let's begin our discussion of the DB fund.

The Fundamental Conflict

So, exactly what is the mission of the university's DB fund? At first, the answer to that question might seem obvious. However, on further reflection, Molly, you may find that it is much more complicated.

At the most basic level, of course, the DB fund exists to ensure the availability of sufficient assets to pay the retirement benefits promised to the plan participants. (The term "participants" refers not only to current employees and retirees but also to former employees whose benefits are vested—that is, the employees have become entitled to the benefits.) There would be no reason to maintain the pool of assets if these obligations did not exist. Because the university places assets in the DB fund, it backs its promise to pay retirement benefits with more than simply its good faith. Plan participants can rely on the assets held in the DB fund if the university should ever become insolvent.

The DB fund's mission is far more complex, however, than this simple directive would imply. The university (and, by implication, the investment committee) has other important stakeholders in the fund in addition to the plan participants. At the top of the list are the taxpayers. (The corresponding stakeholders for funds in the private—that is, corporate—sector are the fund sponsor's shareholders.) Despite the overriding importance of securing the benefits promise, decision makers and stakeholders should never forget that a financially healthy organization is required for benefits to continue to be offered. If the DB fund's mission doesn't take into account the financial needs of the university, then the plan may eventually be neglected, poorly funded, or possibly even terminated. None of these outcomes would serve the interests of plan participants.

The university generally prefers to contribute as little money as possible to the DB fund without diminishing its ability to pay benefits. The cost of providing benefits equals the present value of all contributions made over the DB plan's life. The university wants the investment committee to minimize that cost. Private-sector plan sponsors also want to keep contributions as low as possible. They often have an additional objective in that they desire to minimize the volatility of the accounting expense associated with operating their DB plans.

You can imagine situations in which other groups view themselves as stakeholders in the fund, including labor unions, legislatures, social activists, and so on. Although these groups may not have a direct impact on the DB fund's core mission, the university and investment committee should not neglect the concerns of those stakeholders.

Given the complexity of the DB fund's mission, it is not surprising that various aspects of that mission come into conflict. The primary conflict is between the intent to ensure the security of the promised benefits and the desire to minimize their cost—that is, the present value of plan contributions made over the long run. Plan participants want security of benefits, but they have to realize that the university has many pressing expenditures and must keep DB plan costs down. Conversely, the university wants DB plan costs to be as low as possible, but it must recognize the value that the DB plan provides a means for attracting and retaining a productive and motivated workforce.

By far the most direct means of securing the benefits promised to plan participants is to maintain a well-funded plan. The ratio of plan assets (i.e., the value of the DB fund) to plan liabilities is called the “funded ratio.” A plan that has more assets than liabilities is considered overfunded, and one that has fewer assets than liabilities is underfunded. The higher the funded ratio, the greater the protection offered to plan participants. The greater the extent to which the ratio exceeds 100% (full funding), the more cushion the trustees have to protect against shocks to the value of assets or liabilities eating into the security of benefits.

Now, if the investment committee were *solely* concerned with benefit security, the trustees would place the DB fund in low-volatility investments. That approach would likely entail holding much of the fund in high-quality bonds with interest rate and inflation sensitivity similar to that of the plan's liabilities. In that approach, the value of the assets and the liabilities would move in the same direction and magnitude regardless of the market environment. If that were the case, the university and the plan participants could be highly certain that there would always be assets of sufficient amount to pay all benefits. The funded ratio would fluctuate little over time.

The problem with that approach is that it is likely to result in considerably higher contributions. A simple rule expresses the essence of the situation:

$$\text{Benefit payments} = \text{Contributions} + \text{Earnings on contributions.}$$

The source of benefit payments is simply whatever the university puts into the DB fund *plus* any earnings that can be generated on those contributions. If you assume for the moment that the benefit payments are fixed, then the higher the returns that the fund earns, the lower the contributions the university has to make, and vice versa. Just as importantly, if the university wants to increase benefit payments in the future, then either the university must make

more contributions or the fund must earn higher returns—or some combination of the two must occur.

In general, the university prefers to minimize contributions over the long run, which frees up financial resources that can be put to other productive purposes. To keep the university's contributions to the DB fund as low as possible, the investment committee creates an investment portfolio with relatively high expected returns. So, in addition to bonds, the trustees have chosen to invest in higher returning assets, such as common stocks. But the returns on those stock investments tend to be volatile. That volatility will tend to cause the level of fund assets to fluctuate in the short run, making the funded ratio less stable than if the fund invested only in bonds. The result will be more instances in which the university will have to make a contribution to offset unexpected declines in the funded ratio. (For private-sector plan sponsors holding stocks in their funds, the DB expense reported in the company's accounting statements will also be less predictable.)

So, even though the investment committee recognizes that the primary aspect of the DB fund's mission is to ensure benefit security, the committee still faces a conflict between secondary aspects of the fund's mission: *Avoiding volatility in contributions and the funded ratio* versus *keeping the costs of funding benefits low*. How do the trustees go about reconciling these contradictory goals? There is no easy answer. The trustees have to arrive at a consensus regarding how much risk they are willing to bear in the near term. (This decision is the central aspect of investment policy, which we discussed in Session 2. We'll return to it later in the discussion of investor risk tolerance in Session 5.) Depending on the membership of the investment committee, the answer may change. You will have to decide for yourself how much risk you will tolerate in fulfilling the fund's mission and will continue to discuss that point of view with the other trustees.

Keep in mind, Molly, that as a fiduciary, your willingness to take risk should relate to the circumstances of a particular fund, the sponsor (the university), and the beneficiaries, not to your personal feelings about risk. Given the primary aspect of the DB fund's mission, the trustees should be careful never to take so much risk as to endanger the security of the plan participants' promised benefits. An investment portfolio with high equity allocations may experience a considerable decline in value, resulting in a materially diminished funded ratio. As a result, required contributions skyrocket. Yet, the history of capital markets indicates that equity investments far outperform fixed-income investments, on average, over long periods of time, so choosing not to hold sizable equity positions would present a large potential opportunity cost to the university.

Liabilities

The DB fund is an ongoing entity from which the university expects to pay a stream of retirement benefits to plan participants for a long time. All the stakeholders in the fund prefer to have one measure that summarizes the value of those future benefit payments today. To compute that number, the plan's actuaries estimate the future benefit payments to be made to each current plan participant. They base their calculations on the participants' wages, ages, and lengths of service today and the participants' estimated retirement dates and life expectancies. Reflecting the fact that a payment tomorrow is worth less than an equal payment today, the actuaries then take into account the time value of money. They apply a market-based discount rate to the estimated future benefit payments. The sum of these discounted payments is the amount that, if invested today at that discount rate, could finance all the estimated benefit payments currently owed to the plan participants. The plan's actuaries refer to that amount as the plan's "liabilities."

The plan's liabilities, thus derived from the discounted future benefit payments, can be compared directly with the DB fund's assets to determine how well funded the DB plan is. As we discussed, the funded ratio equals the fund's assets divided by the plan's liabilities.

In a very real sense, a DB plan's liabilities are a form of debt. The university has made legal promises to pay the plan participants their retirement benefits. In lieu of giving them additional cash compensation while they are or were working, the university has substituted a promise to make a series of future payments. As a result, you can think of the liabilities as a nonmarketable bond issued to DB plan participants. The value of the participants' deferred compensation is the "purchase price" of this retirement bond. The benefit payments represent the principal and interest payments made on the bond. Like any bond, this retirement bond's value depends on the level of interest rates—in particular, the discount rate used to discount the estimated benefit payments. If the interest rate or discount rate rises, the value of this bond (like that of any bond) falls; if the rate falls, the bond's value rises. A change in the bond's discount rate can have a large impact on the DB bond's value and hence on the value of the plan's liabilities.

The value of the DB plan's liabilities can, of course, change in ways beyond the effect of variations in the discount rate. As the university adds participants to the plan, or as the participants' income and service with the university grow, so will the plan's liabilities grow. The investment staff periodically works with the plan's actuaries to prepare a report on the size of the existing liabilities in light of the best available information at that time.

These concepts of liabilities and funded status apply to an endowment fund as much as to a DB plan. However, you won't find a liability value reported for the university's endowment fund that is comparable to what you find for the DB fund. The DB fund's liabilities, despite relying on a number of estimated inputs, are determined through a formulaic valuation process, whereas the endowment's liabilities are not.

The benefit payments of the endowment fund are determined by the endowment fund's *spending policy*—the percentage of the fund's assets that are paid out each year to its beneficiaries. That spending policy is based on such factors as peer practices, competition for donors, intergenerational equity (today's spenders versus tomorrow's), and perhaps most importantly, expectations regarding long-term inflation-adjusted returns available in the capital markets. Payments to the endowment's beneficiaries will vary over time in ways that are difficult to forecast. As the endowment fund's asset value fluctuates, given the relatively fixed spending rates, so also do the payouts.

Endowment beneficiaries expect to receive future benefit payments that, at the very least, are stable in real (inflation-adjusted) terms. This expectation is in contrast to the fixed nominal (unadjusted for inflation) benefit payments that are legally obligated in the case of most DB plans. This difference between real and nominal liabilities causes the objectives and strategies used for investing the university's endowment fund assets to differ significantly from the objectives and strategies used for investing the DB plan's assets. In addition, because an endowment fund cannot pay out more (or, in the very long run, less) than its market value, the endowment fund is always fully funded.

In a less direct sense, DC plans also have liabilities. Each of our participants has some unique future retirement spending plan (thus, each has his or her own liabilities). Participants fund that future spending, in large part, with the assets they hold in our DC plan. Although participants do not commonly follow this practice, they could calculate their own funded ratios by comparing their DC plan assets (plus any other retirement funding assets) with their liabilities. Such a practice would give participants a good understanding of how financially secure their retirement financing is. The university holds no responsibility for the DC plan participants' personal funded ratios, but as we will discuss in Session 7, the university has ways to encourage participants to pay more attention to their retirement financial well-being.

Contributions

The university has established a *funding policy* for the DB plan that determines the timing and amount of contributions to the plan. That funding policy sets

thresholds for the funded ratio that trigger consideration of contributions. The funded ratio thresholds set by the university are meant to be advisory in nature. In determining its funding policy, the university's administration weighs the relative importance of keeping the funded ratio near 100% against the importance of conserving cash for other university purposes.

Three factors affect the funded ratio and may trigger the need for the university to make contributions. First, as discussed, the liabilities of a pension plan grow as the number of participants and their years of service grow, so the funding policy must consider how to fund these increases in liabilities. Second, as we also mentioned, changes in the discount rate may cause the DB plan's liabilities to increase or decrease over time. Third, the DB fund may, depending on the returns earned by the Fund, grow or decrease.

To the extent that the investment committee holds equity and equity-like securities in the Fund, the Fund's value will grow in good markets and the funded ratio will improve, reducing the need for contributions. In poor markets, the Fund's value will decline, depressing the funded ratio and creating a need for contributions—and possibly at a time when the university's ability to make such contributions is diminished.

In difficult economic periods, discount rates may also be declining, which pushes up the value of liabilities and has a negative impact on the funded ratio. This confluence of declining assets and rising liabilities has occurred twice in the first decade of this century. It accentuated the conflict in the Fund's mission between holding assets with high expected returns in order to lower financing costs and holding assets with lower expected returns to avoid severe fluctuations in the funded ratio and in contributions.

Previously, when we spoke of governance structure, we referred to the notion of a three-legged stool. We can use the same analogy here to conclude our discussion of the Fund's mission. This analogy applies whether a fund is associated with a private or public DB plan, an endowment, or any pool of assets for which there are beneficiaries and for which there has been and may continue to be a source of contributions. Broadly speaking, three types of policies control the management of a pool of assets: investment policy, which defines the level of investment risk required to meet return objectives; funding policy, which defines the level and source of contributions into a fund; and benefits policy, which defines the amounts and timing of retirement benefits. (For an endowment, as discussed, benefits policy is usually referred to as "spending policy," which determines the amount to be distributed to the beneficiary entities.) Our conversations focus, of course, on investment policy. Nevertheless, the financial health of a DB plan, endowment fund, or any other pool of assets with a long-term horizon depends on all three policies.

Takeaways

- The primary aspect of a fund's mission is to have enough assets to pay all promised or expected benefits when due.
- A fund's mission should recognize the interests of all stakeholders, particularly those providing the benefits, those making contributions, and those receiving benefits from the fund.
- The best single measure of a fund's financial health is the funded ratio, defined as the ratio of fund assets to fund liabilities.
- Various aspects of a fund's mission can come into conflict with one another.
- The primary conflict is between reducing volatility in the funded ratio and contributions versus keeping the costs of financing benefits low.
- Plan liabilities equal the present (or discounted) value of all future benefits expected to be paid to plan beneficiaries.
- The most important variable in calculating liabilities is the discount rate: The value of liabilities is inversely related to the discount rate.
- The set of directives determining the amount and timing of payments to beneficiaries is called "benefits (or spending) policy."
- The timing and amount of contributions to a fund are determined by a set of formal and informal rules called "funding policy."

Questions Molly Should Ask

- When was the last time the mission for our DB fund was thoroughly reviewed? For our DC fund? For our endowment fund? What was the outcome of these reviews?
- Whom do we consider the primary stakeholders for the funds for which our investment committee has responsibility? How do we engage the stakeholders and understand their perspectives?
- How is funding policy and benefits policy set for our various funds? Who are the parties responsible for these policies, and how do we interact with them?
- Are any significant changes anticipated regarding benefits policy or funding policy for any of our funds?

- How do we define the liabilities for our various funds, and how do we assess their funded status?

The DB fund

- What range in the funded ratio do we feel comfortable with for our DB plan? By how much should the funded ratio be allowed to fall below 1.0? How sensitive are we to fluctuations in its level?
- What is the current funded ratio of the DB plan, and how has it fluctuated over time?
- How do the trustees view the conflict between benefits security and lower funding costs for our DB plan?
- How sensitive are our DB liabilities to changes in the discount rate?
- Does the university have sufficient resources and liquidity to make contributions to our DB fund if the funded ratio should fall below a minimum threshold?
- Is the DB plan open to new participants? If not, have benefit accruals been frozen for current participants? If the plan is closed to new participants and new benefit accruals, how has that status redefined the Fund's mission?
- Do we have strategies in place to protect the DB plan's funded ratio from fluctuations in liability values caused by interest rate changes?

The endowment fund

- How are liabilities defined for the endowment fund?
- How is the mission of the endowment fund defined? What considerations have gone into making those decisions?
- What are the projected net cash flows of the endowment fund? Do fundraising efforts provide material cash inflows?
- What expectations do the university's financial managers have regarding the endowment fund's spending rate?
- How does the investment committee interact from an investment policy standpoint with the decision makers who set the endowment fund's spending policy?

Session 4. Investment Objectives

You must have long-range goals to keep you from being frustrated by short-range failures.

—*Charles C. Noble*

Molly, we now want to take the next step by declaring what the investment committee intends its investment program to accomplish—that is, what sort of investment outcomes would signal that the program has been successful. The trustees express those outcomes in a set of investment objectives.

Criteria for Effective Investment Objectives

The Fund's investment objectives contain both prospective and retrospective elements. In a prospective sense, the Fund's investment objectives assist in defining the structure of the investment program. The investment staff stays mindful of the established investment objectives when it implements the asset allocation policy and selects managers. The Fund's mission, on the one hand, provides a high-level sense of direction. The Fund's investment objectives, on the other hand, offer considerably more detail than the Fund's mission about the path that the investment committee expects the staff to follow. The objectives provide specific guidance regarding the critical trade-off between expected reward and risk that is reflected in the Fund's investment policy.

In a retrospective sense, the Fund's investment objectives play an important role in the assessment of the investment program's results. The Fund's investment objectives are part of the feedback-and-control mechanism embedded in the performance evaluation process. If the investment program fails to achieve the Fund's investment objectives, then it loses credibility, which, in turn, may bring about changes; if the investment program succeeds in achieving the Fund's investment objectives, then current practices are reinforced.

Whereas the Fund's mission involves a set of broad purposes, the Fund's investment objectives are a quantifiable set of investment results that the investment committee expects to achieve over specified time periods. Therefore, effective investment objectives meet several criteria. They should be

- unambiguous and measurable,
- specified in advance,
- actionable and attainable,

- reflective of the investment committee’s risk tolerance, and
- consistent with the Fund’s mission.

Let’s consider each of these criteria.

Unambiguous and Measurable. Simply put, the investment committee attempts to be clear about what it expects the staff to accomplish when investing the Fund’s assets. Therefore, the trustees develop unambiguous and measurable goals. Subjective or difficult-to-measure objectives typically result in confusion and are open to conflicting interpretations. In the end, they are often ignored, to everyone’s consternation. For example, statements such as “the fund should generate returns commensurate with the risk assumed” are of little value in selecting investments or in determining whether the investment results were indeed satisfactory. These types of objectives fall under the category of “do good and avoid evil.” Obviously, no one can argue with their positive intent, but they are more aspirational than practical.

In contrast, investment objectives expressed in clearly defined terms, particularly relative to a specified benchmark, help the staff design an effective investment program and allow the investment committee to evaluate the program’s performance. For example, one of the Fund’s investment objectives is to add (after fees) 100–200 basis points (bps) annually of active management value while taking no more than 300–400 bps annually in aggregate active management risk in the public equity asset class, evaluated over a five-year period. (One basis point is 1/100 of 1%, so 200 bps equals 2%.) The staff can clearly comprehend and discuss this objective and measure results relative to it.

The objective strongly influences how the staff constructs the lineup of equity managers. It obviously necessitates hiring active managers for at least a large portion of the fund’s equities, and it also requires relatively aggressive active managers for that portion. In addition, the objective affects the allocations to individual managers within a portfolio of managers. Furthermore, as the staff analysts prepare performance evaluation reports for the investment committee, they structure those reports to provide information as to what the Fund’s public equity managers have done relative to this objective and why the desired outcome has or has not occurred.

Specified in Advance. The investment committee defines the Fund’s investment objectives in advance of the time period over which the investment program is to be held accountable for meeting those objectives. To do otherwise would run the risk of revisionist analysis, a truly dangerous activity from a governance standpoint. Whether it is the investment committee critiquing the investment staff or outsiders evaluating the decisions of the

trustees, investment objectives defined after the evaluation period has ended are contentious and fundamentally unfair. The process of investing, because it produces measurable results, is always subject to unconstructive second-guessing, regardless of what preventive practices the trustees put into effect. It thus makes little sense for the trustees to compound the problem by delineating one set of expected outcomes prior to the investment activity taking place and then holding the staff responsible for other outcomes not communicated until later. Molly, you certainly realize that, although all decision makers have a responsibility to be aware of changes in the environment and recommend modifications when necessary, in the conduct of business affairs, you don't instruct someone to do A and then wonder why he or she didn't do B.

Actionable and Attainable. The investment committee sets actionable and attainable fund investment objectives. The staff must be able to influence, in some way, the outcomes that are being evaluated in light of the objectives. Investment objectives that cannot be acted upon produce frustration and a sense of powerlessness on the part of the staff. Instead of being an incentive to drive the investment program in a particular direction, those types of objectives can generate a bunker mentality with staff members fearful that they will be held accountable for results over which they have no control.

At many organizations, investment objectives come stated in the form of absolute return targets, which in many cases, are not actionable. Consider a common defined-benefit plan objective: Earn a return in excess of the liability discount rate of 8%. Rarely are investment products available that offer a guaranteed fixed return of 8%. Still, over the very long term, that objective might appear attainable. With sufficiently aggressive investments in equities, an investment program could have achieved that result over certain past time periods. There have also been many extended periods, however, when the capital markets simply did not produce returns of that magnitude. In those periods, that absolute return target was not actionable. Nothing the staff at those funds could do would have achieved that goal.

Investment objectives expressed relative to investable benchmarks, such as a market index, are more likely to be actionable. (We will talk more about benchmarks in Session 8.) Superior active management programs, for example, can be expected to outperform appropriate benchmarks regardless of the market environment. Thus, assigning a realistic return objective to active managers should allow the staff to focus on hiring the most productive managers. Staff members can feel confident that if they do their jobs effectively, the intended result can be achieved.

The trustees should design investment objectives for the Fund that also are attainable. Although an investment objective involving a return relative

to a particular benchmark might be actionable, to state that the Fund's active managers should produce active results 500 bps above the benchmark is unrealistic. In setting attainable investment objectives, the trustees should review what other comparable investment programs have been able to accomplish and what the capital markets and investment managers have offered investors over varying time periods.

Attainable investment objectives also avoid unrealistic precision. The investment committee prefers objectives involving a range of desired outcomes as opposed to a single numeric target. Such a range better captures the trustees' understanding of the variability inherent in investment management.

Reflective of the Investment Committee's Risk Tolerance. The Fund's investment objectives should reflect the risk tolerance of the trustees in pursuing the Fund's mission. The investment committee must be comfortable with the investment objectives that it establishes. As a trustee, Molly, you need to understand the amount of risk those objectives will lead the investment program to take. Investment objectives that translate into an aggressive investment program may produce uncomfortable results in periods of poor market performance. You have to be able to tolerate those results. Suppose the investment objective calls for high positive real rates of return and thus a large allocation to equities. If the trustees decide *after* a period of significantly negative returns in the stock market that they cannot bear the risk, the consequences will be counterproductive. They will likely sell at a low point in the market and preclude the opportunity to benefit from a future rebound.

Consistent with the Fund's Mission. The investment committee has designed the Fund's mission to be consistent with the trustees' collective risk tolerance. Because the investment objectives should also reflect that level of risk tolerance, it follows that if the Fund achieves its investment objectives, the Fund's mission will similarly be fulfilled. At first, that logic might seem obvious, but it is quite easy to end up with investment objectives that convey different messages from what one might understand from a fund's mission. For example, suppose a fund's mission strongly emphasizes maintaining a funded ratio at or above 100% with little tolerance for volatility in that ratio. Establishing an investment objective that involved taking considerable risk in the pursuit of returns higher than those necessary to maintain full funding would be inconsistent with that fund's mission.

Examples of Investment Objectives

To give you a sense of what constitutes viable investment objectives and what does not, we have provided in **Exhibit 1** some examples of what other

Exhibit 1. Examples of Investment Objectives

Investment Objective	Comment	Assessment
Achieve an investment return in excess of the policy asset mix's return over a five-year time period.	Actionable and attainable by use of active management. Consistent with the trustees' willingness to bear risk and the fund's mission. Unambiguous. Specified in advance.	Good
Generate active management performance in excess of an appropriate benchmark over a five-year time period.	Actionable and attainable by use of active management. Consistent with the trustees' willingness to bear risk and the fund's mission. Unambiguous. Specified in advance.	Good
Maintain a funded ratio (assets/liabilities) in excess of 0.9 measured annually.	Appropriate for funds in which liabilities or expected fund outflows have been specified (e.g., DB plans, insurance companies). Actionable and attainable so long as the fund has access to sources of contributions. Unambiguous. Specified in advance.	Good
Realize investment performance that allows annual spending or fund withdrawals to equal or grow relative to the prior year's spending.	Pertains primarily to endowments and foundations. Based on the idea that fund beneficiaries have an aversion to declines in benefits.	Good
Maintain projected investment risk consistent with investment policy specifications.	Acknowledges the existence of different types of investment risk and a policy to incur certain ones, in approved amounts. Actionable and attainable.	Good
Outperform the returns of the median fund in a peer group universe.	Ambiguous and not actionable (median fund is unknown); possibly inconsistent with the trustees' willingness to bear risk or the fund's mission.	Poor
Attain return equal to or greater than the actuarial rate of return.	Possibly achievable over a long time period but certainly not annually.	Poor
Attain return equal to or greater than the S&P 500 Index + 3%.	Unlikely to be attainable; possibly inconsistent with the trustees' willingness to bear risk.	Poor
Incur no negative investment performance years.	Achievable only with low-risk, low-return investments, which is likely to be inconsistent with the fund's mission and investment policy.	Bad
Attain US Consumer Price Index + 3%	Not actionable. No such investable alternative exists. Purely aspirational.	Bad
"Beat Harvard."	Not actionable (Harvard's investment policy and process are not known). Not necessarily consistent with the trustees' willingness to bear risk or the fund's mission. Purely aspirational.	Bad

organizations have used. Some of the examples are valid investment objectives. Other examples, despite being widely accepted, actually violate many of the criteria for acceptability.

Takeaways

- A fund's investment objectives are a quantifiable set of investment results that decision makers believe are achievable over specified time periods.
- Investment objectives play both a prospective and retrospective role in directing the investment program.
- A fund's investment objectives should be unambiguous and measurable, specified in advance, actionable and attainable, reflective of decision makers' risk tolerance, and consistent with the fund's mission.
- The most useful investment objectives generally are those expressed relative to an investable alternative (such as a market index).
- Investment objectives are best specified as a range of desirable outcomes as opposed to a single number.

Questions Molly Should Ask

- What are the Fund's investment objectives? When were they last reviewed?
- If the investment objectives are attained, do we expect that the Fund's mission will likewise be achieved?
- Are the investment committee and staff satisfied that all of our investment objectives meet the criteria of being actionable and attainable?
- What investable benchmarks are used in expressing the investment objectives?
- Have there been times in the past when poor performance or turbulent markets caused the trustees to question the Fund's investment objectives? Discuss those situations.
- Has the investment committee modified the investment objectives over time to reflect changes made to the investment program? If so, describe those changes.
- Are the Fund's investment objectives consistent with the trustees' collective risk tolerance?

- Do the Fund's investment management strategies (e.g., policy asset allocation, active versus passive management) appropriately reflect its investment objectives?
- Are the Fund's investment objectives integrated into the reporting for purposes of performance evaluation?
- How has the investment program performed relative to the Fund's investment objectives?

Session 5. Investment Risk Tolerance

I think we should follow a simple rule: If we can take the worst, take the risk.

—*Dr. Joyce Brothers*

Novice investors commonly focus on returns and give only passing consideration to risk. Even sophisticated investors are prone to this myopia at times. Molly, you've probably observed this phenomenon simply by reading mainstream financial press reports reviewing investment results at year-end. These articles highlight the star performers and invariably display the top managers' performances only in terms of rates of return. The stories make no reference to the amount of risk the managers took in the pursuit of those stellar outcomes.

Returns Are Only Half the Story

Let's first distinguish between actual and expected returns. Actual returns are a tangible, after-the-fact number. The trustees and staff can clearly see the effect of actual returns as they periodically examine the Fund's asset statement and observe changes in the Fund's value. Expected returns represent the *projected future values* of the Fund's various investments. These future values have a range of potential outcomes. Investment risk describes that range of possible future values. Expected return is an intangible, before-the-fact idea. The impact of risk on the Fund can be only vaguely discerned by observing the volatility of actual returns over time. Nevertheless, at the end of any given measurement period, the Fund has one and only one value, and that value was generated by the Fund's actual return, regardless of what the range of possible values was before the measurement period. In that sense, we actually experience returns but we only forecast risk.

Yet, in fulfilling your duties as a trustee, you need to recognize that risk plays a much more important role than do returns. Actual returns are the past; risk is the future. The investment committee can attempt to influence the direction of the Fund only in the future, not in the past. Benjamin Graham, the father of security analysis, once said, "The essence of investment management entails the management of risk, not the management of returns." The trustees can't control the Fund's returns, Molly, but it is your responsibility to manage risk by ensuring that robust investment policies and processes are in place, with proper controls, accountability, oversight, and reporting.

Types of Investment Risk

From the trustees' perspective, risk involves the possibility of not achieving the Fund's mission or, equivalently, not being able to provide the Fund's beneficiaries with the benefits they expect or have been promised. The Fund and the trustees face various forms of risk that might affect the Fund's ability to accomplish its mission—to name just a few, funding risk, operational risk, legal risk, regulatory risk, and reputational risk. In this session, we will focus on only one category: investment risk.

The ways investment risk is defined and experienced depend on a fund's mission. The mission of a public defined-benefit (DB) fund that is partially funded and open to new participants differs from that of a corporate DB fund that is fully funded and closed to new entrants. The missions of both DB funds, in turn, differ from the mission of an endowment fund for an institution with growing programs needing financial resources in inflation-adjusted terms. All of these funds face the same opportunities in the investment markets, but each will view its mission differently and have a different perspective on investment risk.

Risk to the public DB fund involves equity market outcomes that prevent the high returns needed to fill the funding gap. Risk to the corporate DB plan involves the mismatch of the interest rate sensitivity of the assets to that of the liabilities. Risk to the endowment fund involves the possibility of steep long-term losses that permanently impair assets and prevent the funding anticipated for designated programs.

The investment committee has chosen to bear certain risks purposely because it expects to earn a return commensurate with the uncertainty in outcomes caused by those risks. The trustees have attempted to identify and minimize other risks, those for which they expect to receive no reward.

The investment risks to which the trustees intentionally expose the Fund fall into three primary categories:

- Capital market risk
- Active management risk
- Liquidity risk

First, *capital market risk* arises because investing in the capital markets (e.g., the stock and bond markets) brings with it an uncertainty in returns caused by a common sensitivity of the markets to broad economic events. When the economy is doing well, all risky financial assets tend to benefit to some degree, and the opposite occurs when the economy is doing poorly. Because, as a whole, investors in the capital markets cannot avoid

this sensitivity, they will hold risky assets only if they are paid to do so. The investment committee expects that the markets will reward long-term investors who bear this capital market risk.

The second risk that the investment committee expects to be rewarded for bearing is *active management risk*. We introduced this type of risk in our discussion of governance structure in Session 1. The term refers to the uncertainty of a manager's performance relative to the manager's benchmark. We'll talk more about passive and active management in our next session, but for the moment, recall that on the one hand, passive managers expect to generate performance roughly equal to that of their benchmarks. Active managers, on the other hand, produce returns that are different (either positively or negatively) from their benchmarks' returns. The difference in a manager's performance from that of the benchmark is referred to as "active management return." The trustees are willing to incur the uncertainty associated with this active management return because they believe that the staff can identify managers with investment skill who will generate, over time, performance in excess of their benchmarks. (Many investment committees have come to the opposite conclusion and forgone active management.)

The third compensated source of investment risk is *liquidity risk*. For example, the Fund invests in various forms of private equity that are similar to the Fund's common stock investments in many respects, but the private equity holdings are much more illiquid. The investment committee invests in private equity partly because the trustees believe that the market will pay an incremental return to investors willing to take the chance that they will not be able to quickly convert the value of their private equity investments into cash.

Other investment risks create uncertainty in the Fund's investment performance, but for those risks, the investment committee does not expect any return as compensation. For example, if the staff is not careful how assets are allocated to the investment managers, they may introduce a "style bias" (i.e., an *unintended* concentration of assets in a particular investment strategy, such as small-company growth stocks) that can have a material impact on the Fund's returns in a particular asset class. Because this concentration is unintentional, the Fund has no reason to expect to be rewarded for bearing that risk. As a consequence, the investment committee has directed the staff to minimize exposures to this style bias risk and other forms of uncompensated risk as cost-effectively as it can.

Measuring Risk

How do we quantify risk? Some practitioners don't even try. They contend that investment risk is too dynamic and subtle a concept to summarize

numerically. They prefer to rely on intuition, experience, and rules of thumb to control investment risk. The Lurinberg University Investment Committee has directed the staff to attempt to define risk quantitatively, although the committee members realize the inherent difficulties of doing so and thus never blindly rely on numerical estimates. However, whether one uses a qualitative process, a quantitative process, or a mix of the two doesn't matter. What is crucial is that the process be structured, comprehensive, and proactive rather than *ad hoc*, narrow, and reactive.

The investment staff's risk quantification process begins with an estimation of the distribution of potential returns for the investments under consideration. That distribution describes the range and associated probabilities of various outcomes. Typically, the staff uses historical return information to provide the starting point for estimating this return distribution. From there, the staff calculates the distribution's standard deviation, which measures the size of fluctuations around the distribution's most likely, or expected, value. High-risk investments tend to be more volatile than low-risk investments and will have a wider dispersion of outcomes (hence, a larger standard deviation). For a normal (bell-shaped) distribution, the standard deviation fully describes the dispersion of the return distribution and is a key descriptor of investment risk.

For example, consider an investment in common stocks compared with an investment in government bonds. Stocks may conceivably lose their entire value, but they may also increase several multiples in value. US government bonds, however, although they may decline in value in the near term because of increases in interest rates, will never explicitly default—or at least we hope not. Similarly, although government bonds may temporarily rise in value because of a fall in interest rates, they will never return more at maturity than their principal value. One need only look at the history of equity market returns versus government bond returns over virtually any multidecade time frame to see the periods (sometimes months, sometimes many years) of sharp losses on common stock investments and the much more muted loss experiences for government bonds. As a result, government bonds are less risky than common stocks; the standard deviation of common stock returns is greater than the standard deviation of government bond returns.

Of course, what the staff is really looking for is a measure of the *size* and *frequency* of potential losses, especially large losses, not simply a measure of volatility. Certainly, there are numerous conceptual problems involved in using standard deviation as the measure of risk. Indeed, you should be skeptical, Molly, of any single statistic used to summarize risk. For example, you should question whether investment returns are normally distributed; if not,

standard deviation could be a poor gauge of risk. The returns on some types of investments, such as options, most certainly are not normally distributed. One can make the case that returns on even such “plain vanilla” investments as stocks and bonds are not normally distributed. Moreover, standard deviation doesn’t differentiate between upside and downside results; it only measures volatility, and volatility *per se* is not risk. Still, despite its flaws, for largely practical reasons, standard deviation has long maintained its place as a primary risk metric. Virtually all the reports you will see from investment managers and the staff will use standard deviation as the most common risk measure.

Risk involves the chance of loss taken with the hope of earning an acceptable profit. More precisely, risk incorporates both the probability and the magnitude of potential loss. Some practitioners, therefore, express risk by using both standard deviation and a measure of the size of the investment. The combination of the two factors is used to create a risk metric called “value at risk” (VaR), which indicates the amount that the investor might lose, at a minimum, with a given probability (e.g., a 5% chance of losing at least a quarter of the value of the portfolio over a given time period).

The staff also estimates risk by conducting stress tests that evaluate the potential impact of adverse investment environments on the Fund’s investments. Other practitioners focus on more intricate measures of risk that characterize the return distribution in complex ways, but those measures are well beyond what we can cover in this session.

Relationship between Risk and Expected Return

As you are probably aware, risk and expected return tend to go together. That is, investments with high risk levels will typically have high *expected* returns. Why? Well, it is generally assumed that investors as a group tend to prefer less risk to more risk for the same expected return. Molly, suppose you were asked to choose between an investment with a guaranteed 8% return and one with an expected 8% return but a chance to earn between 4% and 12%. Most likely, you’d take the certain return. You probably can be enticed to own riskier investments only if you anticipate earning higher returns. You would give up the guaranteed 8% return only if the risky investment had an expected return higher than 8%.

It makes sense that this relationship should hold true. That is, if investors truly dislike risk, then the greater the potential for loss associated with the risky investment, the more return investors will demand (or expect) in order to hold that security or a portfolio of those securities. Notice we don’t say that the greater the potential for loss, the more return investors *will* earn. If a

riskier investment always earned a greater return, then it wouldn't be risky. So, the extra reward on a risky investment has to be prospective, and the possibility must exist that the extra payoff may not actually occur.

This relationship between risk and expected return is observed when we examine actual (historical) capital market returns. Asset classes with higher standard deviations (such as common stocks) actually have earned higher returns over reasonably long periods of time than have asset classes with lower standard deviations (such as government bonds). In any given month or year, bonds can and do outperform stocks, sometimes by considerable margins, but when we look at returns over decades, we see that the capital markets have rewarded taking on risk.

Managing Risk through Diversification

There are ways to directly insure some types of investments against certain types of losses, but this insurance involves paying a hefty premium. A much cheaper and simpler technique to protect against risk is diversification—building a portfolio out of investments whose returns do not move in the same direction at the same time (i.e., whose returns are not highly positively correlated).

The old saying, “Don't put all your eggs in one basket,” alludes to the wisdom of diversification. Suppose you have two assets, A and B, with the same expected return and the same risk. If their returns don't always move in lockstep, then the combination of the two has the same expected return but a lower risk than either one of the two assets individually. Bad things happening to Asset A tend to be offset at the same time by good things happening to Asset B, and vice versa. Adding uncorrelated asset classes to a fund tends to reduce the fund's risk. For this reason, many funds include real estate, commodities, distressed bonds, and so on, in addition to stocks and bonds in their investment programs. Finding and managing low-correlated or uncorrelated asset classes is not simple and has numerous potential pitfalls, but the benefits can be substantial.

Diversification has been referred to as the one “free lunch” in investing. Of course, after the fact, it will turn out that one asset had a higher return than the others, so if you had known that outcome in advance, you wouldn't have diversified. In that sense, the lunch isn't really free. But as noted, when we began this discussion, investment management is about managing risk, not managing return.

As a trustee, Molly, you should assure yourself that the Fund takes full advantage of available diversification opportunities. You should inquire about concentrated allocations to particular asset classes or even individual

investments and question the assumptions behind those decisions. When the staff requests to add new asset classes, you should ask whether the staff has considered how those investments correlate with the Fund's existing investments and whether their addition improves the Fund's diversification.

But beware on two counts. First, many asset classes display a low correlation with one another in normal economic environments. When the market climate turns sour, however, some of these asset classes actually experience high correlations—perhaps all going down at once, thereby producing negligible diversification benefits. For example, in economic expansions, high-yield debt acts like other bonds; in recessions, it acts more like equity, which severely diminishes its diversification value. As a result, there is a saying that “the only things that go up in a down market are correlations.” Still, government bonds usually do go up in value in a down market for stocks because government bonds are perceived as “safe havens.” It is important, therefore, not to overlook this “boring, old-fashioned” asset class.

Second, some asset classes that appear to be good diversifiers involve considerable costs, in terms of both management and transaction expenses, and they may also be illiquid. The benefits of the diversification they offer can be outweighed by the cost drag on investment returns.

Diversification offers a simple and generally low-cost means of managing investment risk. It requires no special knowledge of the trustees' collective risk tolerance or the Fund's investment objectives. As a result, it is a widely used risk control procedure. However, many funds have deployed more sophisticated techniques of managing their risk levels while targeting expected returns. Those methods have become widely referred to as “risk budgeting.”

Risk Budgeting

The ability to bear risk is a scarce resource in the same way that capital (i.e., money) is a scarce resource. Thus, risk should be allocated to investments that offer the greatest expected return for the amount of the resource (risk) invested. The investment committee budgets, or allocates, capital to various investments. The same amount of capital can be invested in a six-month US T-bill or a venture capital fund with considerably different consequences for the Fund. As a result, you can see that the trustees are allocating more than simply dollars; they are really allocating risk. The idea of risk budgeting requires quantifying the risk of various types of investments and combinations of investments. This process allows the trustees, staff, and other advisers to use a common language, or metric, for allocating risk, measuring whether

too much or too little risk has been allocated, and comparing actual results with expectations.

The risk-budgeting process allows an evaluation beforehand of how much individual-security risk to allow, how much capital to give any one manager, how much of the portfolio to hold in particular asset classes, and so on. Risk budgeting permits an analysis of the trade-offs in terms of risk and expected returns among available portfolio choices. The amount of risk budgeted to any particular investment (e.g., an asset class or a manager) should have a close relationship to the expected return on that investment. Indeed, part of the value added by a risk management program is to help frame investment decisions in terms of the return required to justify taking on a particular type of risk.

Risk budgeting involves the use of quantitative risk models that provide insight regarding allocations to asset classes, managers, and even individual investments. Inputs into these models include estimates of the standard deviations of the available asset classes, the correlations among those asset classes, and the returns expected to be produced by those asset classes. The output of a risk model is a set of allocations to asset classes and/or managers within asset classes with risks and potential rewards consistent with the trustees' preferences.

Investment Risk Tolerance

We have taken a roundabout way to get to the subject of this session—namely, investment risk tolerance. Perhaps the most important part of managing risk is the human element. The markets are unpredictable in unpredictable ways. There will always be more unknowns and chaos to confound us. Molly, your risk tolerance as a trustee reflects your willingness to handle the ups and downs of markets and their impact on the Fund. High risk tolerance doesn't mean you can watch market volatility without emotion. Rather, it means that in those periods when markets are volatile and serious losses are occurring, you are likely to be confident that the capital markets do reward patient risk takers over the long run. Low risk tolerance implies that you are uncomfortable with market volatility and would prefer to forgo higher expected returns in exchange for more predictability and reduced chances of serious losses.

We should first make an important distinction between risk tolerance and risk capacity. The term "risk capacity" refers to the financial ability of a fund to withstand adverse investment returns. What level of negative outcomes could cause a fund to become impaired to such an extent that its mission would be put in jeopardy? Risk capacity is an objective, measurable concept. The term "risk tolerance" is a much more subjective concept. It indicates how

risk averse the trustees are, which is a function of the collective willingness of the trustees to experience bad outcomes. Investment committees of some funds may find that their risk tolerance leads them to protect against adverse returns at a level that the funds could actually handle financially. More of a problem is the situation where the trustees have greater risk tolerance than the funds can financially accommodate.

Why is investment risk tolerance important? As we discussed, expected returns are directly related to risk. The higher the returns that the investment committee targets for the Fund, the more risk the Fund will have to incur. The trustees implement their decisions primarily through their choice of the Fund's policy asset mix. Consultants and the staff can offer you and the other trustees advice regarding the risk level needed to achieve the Fund's investment objectives. In the end, however, only the trustees can establish the appropriate risk level for the Fund and only the trustees collectively must be able to tolerate that risk level. If in a time of calm market conditions, the investment committee sets a risk level for the Fund that is inconsistent with what the members can actually tolerate when adverse market conditions arrive, then bad decisions will invariably be made at the worst possible times. When market volatility hits the Fund and significant losses occur, the trustees don't want to fall victim to fear and propose reducing risk at the wrong time. To sell at the bottom, out of an inability to contemplate further losses, simply locks in those losses and makes it much less likely that the Fund can recover.

Molly, you should understand the difference between your personal risk tolerance and the investment committee's risk tolerance. Your own investment time horizon and financial situation undoubtedly differ from those of the Fund. As a trustee, you must be able to set aside your personal concerns and focus on what is best for the Fund over the long run. Consequently, it is likely that the risk level that the investment committee assigns to the Fund will differ from what you would apply to your personal portfolio, whether that involves more or less risk in the Fund than in your portfolio.

We can't easily specify investment risk tolerance. As a trustee, you may be asked to provide opinions as to the maximum volatility in the Fund's returns that you would accept or the maximum loss that you might be willing to experience over a year or multiyear period. Aggregated across the investment committee, the answers help convey a sense of how much risk the trustees will bear. In the final analysis, however, no formula can determine the trustees' collective risk tolerance and the associated "right" policy asset mix to achieve the Fund's investment objectives. The staff and the consultants will portray the range of investment outcomes associated with any particular asset

strategy, but it is up to the trustees to imagine how they, as a group, would feel in a market crisis and, more importantly, to imagine how they should—or shouldn't—react.

Takeaways

- Trustees often focus on returns and fail to consider the risk involved in generating those returns.
- A fund's decision makers purposely take on certain investment risks with an expectation of receiving a positive return over time. A fund's primary compensated investment risks are capital market risk, active management risk, and liquidity risk.
- Additional risks for which there is not an expected return can have a material impact on an investment program. These risks should be identified and minimized, but it may not be possible to completely eliminate them.
- Quantifying investment risk usually begins with an examination of historical returns and a calculation of the dispersion (often expressed as the standard deviation) of the distribution of those returns.
- Higher expected returns are associated with higher risk. Investors need to be compensated for bearing more uncertainty with an expectation of realizing higher returns.
- The simplest and cheapest way to manage risk is through adequate diversification.
- Asset classes whose returns display low or zero correlations are attractive because, when combined, they enhance diversification and reduce a fund's risk.
- The ability to bear risk is a scarce resource that should be managed carefully.
- Risk management is like any other management process: It involves thinking about what might happen and what to do if bad things happen.
- Some fund sponsors manage risks through formal risk budgeting, which involves evaluating the trade-off between risk and expected return of various combinations of investments. The evaluation leads to an allocation of the portfolio among various risky investments to achieve the highest expected return for a targeted level of risk.

- Risk capacity measures the financial ability of a fund to withstand adverse outcomes.
- Risk tolerance indicates an investor's willingness to bear losses in the pursuit of higher returns.
- A fund's decision makers need to be able to set aside their personal concerns and arrive at a collective risk tolerance for the fund that is consistent with the fund's mission and investment objectives.

Questions Molly Should Ask

- What risks do I face as a fiduciary for the Fund?
- What are the most important risks faced by the Fund? Who is responsible for managing each of them? What are we doing (or not doing) to mitigate those risks?
- How does the Fund's mission influence our view of investment risk?
- Do we have an established process for identifying, quantifying, and managing investment risk?
- Who on the investment staff is responsible for our risk management efforts?
- How are historical data used to form risk-and-return expectations for various asset classes? How are the asset classes likely to perform in various environments?
- Do we engage in any formal type of risk budgeting? If so, what is that process? If not, why not?
- Does our risk management focus only on the Fund's assets, or does it also take into account the Fund's liabilities?
- Given the current investment policy, how much could the Fund lose in a "worst-case" scenario?
- What market events could cause serious liquidity concerns for the Fund?
- In what areas of the investment program, if any, do we purposely concentrate our investments, and what is the rationale for doing so?
- Do we feel that we have explored all cost-effective diversifying investments?

- Do we have an understanding about how the asset classes in our policy asset mix will correlate with one another during stressful market environments?
- Is there a regular risk report to the investment committee that discusses each risk and the management/mitigation process?
- How do the Fund's consultants contribute to the risk management process?
- Have we considered the risk capacity of our Fund?
- What types of discussions and studies have been carried out by the trustees, the staff, and the consultants to determine the investment committee's collective risk tolerance?
- What was the reaction of the investment committee during recent periods of severe market volatility?
- Is there general agreement among the trustees that the level of risk in the Fund is consistent with the Fund's mission and investment objectives? Where has there been disagreement?

Session 6. Investment Assets

Know thy opportunity.

—*Pittacus*

The Lurinberg University Investment Committee has chosen to invest the Fund in a variety of asset types. As we discussed in Session 2 on investment policy and Session 5 on investment risk tolerance, we refer to those asset types as “asset classes.” Asset classes are simply collections of securities that have common attributes. Although the distinctions among asset classes are, admittedly, somewhat arbitrary, the designation of asset classes helps the trustees and the staff develop intelligent approaches to setting the Fund’s policy asset mix and the Fund’s risk level. The trustees do not (and should not) deal with decisions involving individual securities. Instead, they address issues at a higher policy level. Without asset class distinctions, conversations among the trustees and the staff about how to implement the investment program would be cumbersome and unproductive.

Types of Investment Assets

Broadly speaking, the investment committee has authorized investments in three primary asset classes: common stocks (also called “equities”), bonds (also called “fixed income” or “debt”), and so-called alternative investments. In the simplest of worlds, we could argue that the trustees’ most important asset allocation decision boils down to a choice of how much to invest in equities versus fixed income. However, the various types of equities and fixed-income instruments available to investors have important nuances. So, the trustees have further broken down these two classes into additional asset classes. For example, the Fund holds the common stocks of companies located across the globe—in countries with well-developed capital markets and those with maturing markets. Some investors distinguish between the stocks of companies domiciled in their own (home) countries and those located outside their home countries. Similarly, bond holdings can be segregated into government and corporate securities and further classified by home or nonhome country. The corporate securities can be further divided into investment-grade bonds and high-yield bonds. Trustees at other funds may use even finer distinctions in the equity and fixed-income asset classes.

Recall that Appendix B contains the Lurinberg University defined-benefit fund’s investment policy statement and provides an example of the various asset classes in which the investment committee has authorized the staff to

invest. We won't have time in this session to consider each asset class (although we will discuss alternative investments in more detail later), but you can find a description of the Fund's asset classes in most standard investment textbooks.

Diversifying across Asset Classes

The investment committee's primary investment strategy is to diversify widely among risky assets. As discussed in the previous session, diversification offers a cost-effective and simple means of controlling risk. The Fund does not invest in only one security. It invests in a portfolio of securities. The staff does not retain only one investment manager. The staff hires a group of investment managers using multiple investment approaches. And the managers do not invest in only one type of stock or bond. They invest across a wide spectrum of financial securities—from publicly traded stocks and bonds to a variety of less liquid investments that we categorize as alternative investments.

The Fund's potential investable universe of publicly traded equities includes common stocks with sufficient trading volume to qualify for inclusion in major global indexes. That adds up to literally many thousands of securities. The Fund's investment managers will never own most of these stocks. For various reasons, such as size, liquidity, and lack of freely tradable shares, a considerable portion of these stocks are not actually investable. Thus, the managers have to contend with an opportunity set that is much smaller than the potential universe.

The manner in which the staff approaches the Fund's investments in publicly traded bonds is quite similar to how it handles investments in publicly traded stocks. There are, however, subtle but important differences. Most notable is, as you know, the fact that stocks are issued by corporations but bonds are issued not only by corporations but also by a wide variety of other organizations, including, to name a few, governments, agencies of government, and not-for-profit institutions. In addition to the many entities, there are numerous types of fixed-income securities that any one entity can issue. Whereas corporations typically issue only one type of common stock, the many entities that issue bonds can also issue many different types of bonds or fixed-income securities—backed (or not) by certain assets, maturing at different times, and with their own terms and conditions.

Market Indexes

To understand the breadth and performance of the investable stock and bond universes, the trustees and staff turn to market indexes that represent the publicly traded equity and fixed-income markets. These indexes identify a large number of investable stocks and bonds that are representative of a particular

market. A security's weight in the index is typically based on its market capitalization (share or bond price times number of shares or bonds outstanding) as a percentage of the total market capitalization of all the securities in the index. Inclusion in an index is most often determined by an objective set of rules, but the decision is sometimes also subject to the discretion of a selection committee.

Perhaps the primary advantage of a market index is that it provides a performance history. By observing the returns earned by the index in the past, the trustees and staff get an indication of the risks and returns of the market that the index represents and the correlations of that market with other investments. As we noted in Session 5, this historical information is valuable in developing the risk-and-return expectations used in setting a risk budget for the investment program. The indexes also represent important accountability standards for assessing the Fund's performance, as we will discuss in Session 8.

For your convenience, **Exhibit 2** provides a list of commonly used equity and fixed-income market indexes and their key characteristics. As you can see, in selecting an index to represent the Fund's investments in a particular

Exhibit 2. Sample of Widely Used Market Indexes

Asset Class	Representative Benchmark	Description
<i>Public equity</i>		
US equity	• S&P 500 Index	500 blue-chip, mostly large-cap US stocks
	• Russell 2000 Index	2,000 small-cap US stocks
	• Russell 3000 Index	Largest 3,000 US stocks by market cap (large, mid, and small)
Non-US, developed-market equity	• MSCI World ex US Index	Approximately 85% of the market cap of 22 developed equity markets, excluding the United States
	• MSCI EAFE Index	Same as above but excluding Canada
Emerging-market equity	MSCI Emerging Markets Index	Approximately 85% of the market cap of 22 emerging equity markets
Global equity	MSCI All Country World Index	Combines developed- and emerging-market equity indexes (including the United States)
<i>Fixed income</i>		
Core fixed income	Bloomberg Barclays Capital Aggregate Bond Index	Investment-grade, government-sponsored, corporate, mortgage-backed US bonds and other asset-backed securities issued in US dollars

(continued)

Exhibit 2. Sample of Widely Used Market Indexes (continued)

Asset Class	Representative Benchmark	Description
High yield	Bloomberg Barclays High Yield Cash Pay Index	Debt securities issued by US corporations rated lower than investment grade by one or more of the major rating agencies
Emerging-market debt	• J.P. Morgan Emerging Markets Bond Index Global	Dollar-denominated debt securities issued by emerging-market countries
	• J.P. Morgan Government Bond Index—Emerging Markets	Local-currency-denominated debt securities issued by emerging-market countries
Global sovereign debt	Citigroup World Government Bond Index	Sovereign bonds (all investment grade) issued by 23 developed countries
TIPS	Bloomberg Barclays Capital US TIPS Index	All inflation-linked bonds issued by the US Treasury
<i>Alternative investments</i>		
Real estate	• FTSE EPRA/NAREIT Developed Index	All real estate investment trust (REIT) securities issued in developed markets in North America, Europe, and Asia
	• NCREIF Property Index	A noninvestable index that tracks unlevered returns on more than 6,000 US properties held by institutional investors in the office, retail, industrial, and apartment sectors
Private equity	• Cambridge Associates US Venture Capital Index	A noninvestable index based on return data compiled on funds representing more than three-quarters of the total dollars raised by venture capital managers since 1981
	• Cambridge Associates Buyout Index	A noninvestable index based on return data compiled on funds representing more than two-thirds of the total dollars raised by leveraged buyout, subordinated debt, and special situations managers since 1986
Absolute return	• HFRX Global Hedge Fund Index	A noninvestable, non-value-weighted index of liquid, transparent hedge fund separate accounts engineered to achieve representative performance of a larger universe of hedge fund strategies
	• HFRI Fund of Funds Composite Index	A noninvestable equally weighted index of more than 800 hedge funds of funds

Notes: HFR = Hedge Fund Research; NCREIF = National Council of Real Estate Investment Fiduciaries; MSCI = Morgan Stanley Capital International; TIPS = Treasury Inflation-Protected Securities. All indexes are market-cap weighted unless indicated otherwise.

asset class, the investment committee has a variety of choices. The market indexes selected by the investment committee to represent the Fund's asset class investments are called the "asset class targets." These asset class targets serve as the overall benchmarks for the Fund's investment results in each asset class.

To examine how a particular asset class target is selected, let's look at the Fund's publicly traded equity investments as an example. The investment committee could adopt only one index, such as the MSCI All Country World Index, as a benchmark for all tradable stocks in accessible global markets, or it could treat these markets as separate asset classes and select one market index for the Fund's home country (in this case, the United States) and one or more for non-home-country stocks.

There is no one right answer. You'll find a variety of approaches at various funds. With the increasing globalization of investments, many funds have decided simply to refer to global equities in their policy asset mixes. As you can see in Appendix B, the policy asset mix chosen by the investment committee displays a combination of asset class targets for the home-country and non-home-country equity investments.

The trustees' rationale for this approach was their familiarity with the home-country equity market and the long history of investment performance available for these particular market indexes, which allows a good understanding of their risk-and-return characteristics. The investment committee may revisit that decision in the future.

External and Internal Investment Management

After the investment committee establishes a structure for the Fund's public equities and fixed-income investments, the trustees need a strategy to implement the Fund's investments. Who will manage the investments and how the investments will be managed are two important questions.

Regarding the first question, the Fund's investments can be managed externally or internally. That is, the investment committee can instruct the staff to hire outside professional investment management firms or it can employ an on-site staff of investment professionals operating under the chief investment officer (CIO). Most funds use external investment managers to some degree to manage their assets, and many have all of their assets managed externally. The Lurinberg University Investment Committee has chosen this latter approach. There are solid reasons to use internal investment management, primarily related to lower cost and more direct investment control. Those advantages are typically offset, however, by fewer degrees of freedom in making investment management changes and the large size of assets required

to acquire top investment talent cost-effectively. (Of course, if trustees use an outsourced chief investment officer [OCIO] solution, the question of internal versus external management is moot. The OCIO will select managers external to the fund sponsor.)

Employing external investment managers requires the investment committee to seek skillful external investment organizations. One of the downsides of using external managers is that their organizations change over time. Individuals come and go, and the organizations themselves undergo changes, sometimes being acquired by other investment management firms, sometimes even dissolving. This dynamic marketplace requires constant monitoring to ensure that the Fund's interests are protected. The investment staff spends a considerable amount of time on manager monitoring; the staff often asks the Fund's consultant to assist in the process.

The staff monitors the Fund's managers carefully, but it also seeks to avoid manager turnover. The staff recognizes that hiring and firing managers is expensive, time-consuming, and typically unproductive. The staff maintains clear policies, which it periodically reviews with the investment committee, regarding criteria for hiring managers and procedures to dismiss them. The staff maintains a high threshold for both actions.

Of course, internal investment managers also come and go. Therefore, all funds that use internal management face the challenge of competing in the marketplace for qualified investment management talent. The compensation for internal managers is often too high for funds to accept on a staff level. Furthermore, internal investment management requires considerable technology infrastructure and back-office support. In the end, external managers are typically no cheaper, yet most funds prefer to pay external managers, who are also easier to dismiss than internal managers if performance is unacceptable.

Active and Passive Management

Directly related to the question of *who* will manage the Fund's investments is the issue of *how* the investments should be managed. In a broad sense, the investment committee has two choices. First, it could instruct the manager to invest the assets passively. That is, the manager could be directed to hold a portfolio designed to match the performance of a particular market index. This process is referred to as "indexing." For example, the trustees could instruct the manager simply to match (or "index to") the performance of a market index representing the publicly traded equities asset class.

Indexing is a simple, low-cost form of investment management. Essentially, the manager holds all or most of the securities contained in the market index in the same proportions as the securities are held in the index.

A manager cannot match the performance of the index exactly for a variety of reasons, including trading costs and management fees. Nevertheless, passive management offers the promise that the Fund's investment results will always be near those of the selected market index, with little variation around the index return. In exchange for this consistency of results, of course, the trustees can never expect the passive manager's results to exceed the returns reported for the market index by any appreciable amount.

Alternatively, the investment committee can direct the staff to hire active managers assigned to outperform particular benchmarks. (We will discuss benchmarks in Session 8. For the moment, you can think of a manager benchmark simply as a market index.) To produce this outperformance, the managers must hold portfolios that differ in composition from their benchmarks. Of course, underlying the use of active managers is the assumption that the managers' investment processes can identify investment opportunities that will produce a positive excess return relative to their benchmarks.

An active manager's decisions will not always be correct; as a result, returns above and below the benchmark will be greater (perhaps much greater) than will those of a passive manager. Although the staff can give the manager instructions regarding how much volatility relative to the benchmark the staff will accept, this risk is an unavoidable part of active management. Furthermore, active manager fees generally exceed fees charged by passive managers by considerable amounts, and that difference represents a major hurdle that active managers must clear if they are to surpass passive managers' performance results after all fees and expenses are taken into account.

The use of active management in an asset class requires a series of beliefs on the investment committee's part. The trustees must believe that

- managers exist who can produce a positive excess return relative to an appropriate benchmark,
- the decision maker hiring the managers (the trustees, staff, or OCIO) can identify these managers,
- the decision maker can hire these managers to manage the Fund's assets,
- the trustees have the risk tolerance to endure extended periods of time when the managers underperform their benchmarks, and
- the decision maker can structure a team of these managers to reach the Fund's investment objectives.

The decision to hire active managers in a particular asset class requires the trustees to answer "yes" to *all* of these belief statements. A "no" answer to

any of the statements implies that the Fund should not engage in active management in that asset class. By implication then, passive management ought to be the default position where it is available. (Some asset classes, such as private equity, can be accessed only through active management.)

Regarding the last belief statement, Molly, note that we could have a team of value-added active managers yet not achieve the investment objective of outperforming the asset class target. Such an outcome would occur if the aggregate performance of the active managers' benchmarks is different from the Fund's asset class target. For example, if the Fund's asset class target for publicly traded equities is a broad equity market index and if the staff has hired only one active manager and that manager's benchmark is an equity value index, then the manager may outperform its benchmark but underperform the Fund's asset class target. (In Session 5, we referred to this mismatch between the managers' benchmarks and the asset class target as "style bias.") The point is that the staff must ensure that the implementation of the investment program is consistent with the Fund's investment objectives and policy asset mix.

Separate Accounts and Commingled Funds

The investment committee must also determine in what type of account the Fund's assets will be managed—either a separately managed account or a commingled fund. A separately managed account is legally owned by the Fund and managed solely in the Fund's interests. Typically, a bank trustee holds custody of the assets. The manager makes investment decisions subject to investment guidelines established by the investment committee. Both the bank and the manager maintain valuation and accounting records of the account, which serves as an important check in the Fund's governance process.

Furthermore, the flow of money into and out of a separately managed account can occur only with the approval of the trustees or the staff. Most importantly, a separately managed account can implement investment guidelines that are unique to the Fund. For example, the trustees might want to restrict investment in certain stocks, such as tobacco stocks or stocks in particular countries, conditions that the manager can accommodate in a separately managed account.

In a commingled fund, the Fund's assets are combined with assets of other investors. The manager invests the commingled assets in a particular manner that is described in a legal document. The Fund does not hold shares of individual stocks; instead, it holds units in the commingled fund, which represent a *pro rata* share of all the commingled fund's investments. Mutual funds provide a familiar example of a commingled fund. In addition

to mutual funds, there are other types of commingled funds, such as bank collective trust funds and unit trusts.

Many managers require high minimum balances for separate accounts, but relatively small amounts of money can be invested in commingled funds. The primary advantage of a commingled fund is that it allows small investors to have access to top investment talent and resources at a reasonable cost. Even for large funds, in some situations (e.g., investments in countries with developing capital markets), commingled funds offer a much cheaper investment vehicle than other vehicles. The main disadvantage is the inability of the investor in a commingled fund to customize the portfolio to the individual fund investor's unique needs and circumstances.

Alternative Investments

In addition to investing in publicly traded stocks and bonds, the investment committee has chosen to invest in a variety of less liquid asset classes, collectively referred to as “alternative investments.” The underlying investments represent various forms of equities and fixed income or hybrids of the two. Some of the more prominent types of alternative investments include the following:

- *Real estate*—equity and mortgage interests in various forms of commercial and residential properties, including office buildings, hotels, storage facilities, shopping malls, and apartments.
- *Commodities*—investments in agricultural products, metals, and energy sources (such as crude oil) through futures or cash market purchases.
- *Timber*—ownership of land and/or harvesting rights for various species of lumber products.
- *Venture capital*—investments in early- and late-stage startup companies.
- *Buyouts*—investments in private companies undergoing spinoffs, recapitalizations, or other forms of restructuring.
- *Distressed debt*—purchases of the debt of financially troubled companies, often with the intent of gaining control of the companies in a bankruptcy proceeding.
- *Mezzanine debt*—purchases of the junior, unsecured, non-publicly-traded debt of companies.
- *Hedge funds*—investments in and across a variety of asset classes exploiting market inefficiencies identified by the manager and often using leverage, short selling, and derivative financial instruments.

Funds have a few opportunities to access these alternative investments through public markets (e.g., publicly traded real estate investment trust [REIT] shares). Generally, however, the Fund makes its alternative investments through legal structures known as “limited partnerships.” A business entity called a “general partner” (GP) raises financial commitments from a group of limited partners (LPs), of which the Fund is one. The GP manages the assets of the partnership. The LPs agree to supply a fixed amount of capital that must be “called” by the GP for investment within a certain time period.

During that investment period, the GP searches for attractive investment opportunities and, when it finds them, calls capital from the LPs. The GP manages the investments until it believes the appropriate time for harvesting has arrived, at which point the investments are sold and the proceeds are distributed to the LPs. (A prominent exception is hedge funds, which are not intended to be dissolved but, rather, to continue to operate indefinitely; the LPs take their money out by selling their shares back to the GP or a third party.) The GP is compensated through management fees and a share of any profits realized in the transactions. The ownership interests in the LPs are not publicly traded and are transferable only with considerable effort.

The Fund’s ownership interests in alternative investments are highly illiquid. The illiquid nature of these investments creates potential benefits but also concerns. On the benefit side are higher expected investment returns. As we discussed in our previous session, all other things being equal, investors generally require a higher return from an illiquid investment than from a liquid one. To the extent that the Fund does not have to be fully invested in liquid assets, these alternative investments provide an opportunity to improve the Fund’s expected return by investing a portion of its assets in illiquid investments.

Alternative investments also hold the promise of higher returns because of a less efficient market for the underlying investments. For example, many investors believe that once an issuer of debt runs into financial difficulty, holders of the bonds tend to sell them at significantly discounted prices. Skillful managers of distressed-debt funds contend that they can identify when the bonds are trading at unduly depressed prices, buy them, and then later sell them as the troubled issuer’s finances and business organization are restructured. Each type of alternative investment offers reasons why skillful and knowledgeable investors ought to earn a premium.

Alternative investments do, however, have their drawbacks. Managers of these investments charge high fees and share substantially in any profits earned, thereby driving down expected net returns to investors. It may also be

difficult to gain access to the top-tier managers, whose funds are often closed to new investors. We find the dispersion of investment results among alternative investment managers to be far wider than is the case with managers of publicly traded securities.

Moreover, the values of these investments are typically reported at appraisal values with a considerable time lag, which tends to understate the actual investment risk. As a result, other methods are needed to assess the risk-and-return characteristics of these investments and to determine how they fit into the investment program.

Another concern is the difficulty of establishing appropriate accountability standards. There is often little transparency regarding the GPs' investment strategies, which hinders potential investors from performing due diligence on the GPs. Furthermore, in the Fund's publicly traded stock and bond investments, market indexes and submarket indexes serve as useful benchmarks for the investment managers. Unfortunately, comparable benchmarks are not readily available for the alternative asset classes. In place of indexes, many funds use comparisons with peer groups formed from "similar" investments. (For reasons that we will discuss in Session 8, peer group comparisons can be problematic.) As a result, it is often difficult to demonstrate that alternative investments add value to our Fund after adjusting performance for fees and risk incurred.

A final note on alternative investments: We view our hedge funds as concentrated doses of active management. Unlike the Fund's other alternative investments (e.g., real estate or venture capital), hedge funds don't represent an asset class so much as an investment strategy within or across certain types of asset classes. Hedge funds "hedge" (avoid) unwanted sources of capital market risk, which allows their returns to be driven largely by active management decisions. For example, the manager of the Fund's long-short equity hedge fund identifies attractively and unattractively valued common stocks. By owning the undervalued stocks and selling short the overvalued stocks, if done in the "correct" proportions, the manager hedges away the risk of broad stock market movements and earns returns based on the manager's stock-picking skill. Other hedge fund managers pursue more complex investment strategies. The staff has difficulty identifying appropriate benchmarks for these managers and incorporating their active management risk into the Fund's risk budget.

Fees and Expenses

Molly, you will exercise little influence over the outcome of most aspects of the Fund's investment program. Markets move in ways that are inherently

unpredictable. A key element of the Fund's investment performance over which you actually do exert considerable control, however, is the issue of fees and expenses. As an investment trustee, you have the responsibility for seeing that the Fund's investments are managed in the most cost-effective manner possible. Although the staff maintains direct day-to-day control of the investment program, the trustees receive regular reports not only on the overall investment performance of the Fund but also on how much it costs to carry out the program.

To highlight the significance of these charges, they are reported both as a percentage of managed assets and in the amount of money paid out of the fund. These expense reports break down fees and expenses by provider. The staff works with the Fund's consultant to benchmark the various providers' fees and expenses relative to the Fund's peers. This benchmarking process recognizes that funds vary in terms of size, complexity, and investment approach, which, in turn, affects the level of fees and expenses.

Investment managers, record keepers, custodian banks, consultants and advisers, auditors, attorneys, and other third parties charge the Fund for performing various services. The internal staff also represents an expense to the Fund. Most, if not all, of these services are required to operate the investment program. Each category of fee or expense expressed as a percentage of assets might seem small, perhaps well below 1% or even a tiny fraction of that amount for certain types of expenses. Combined, however, the costs of these services can add up to a surprisingly large percentage of the Fund's assets. When these costs are compounded over time, they can significantly reduce the Fund's net returns. For example, a 1% expense ratio applied for 50 years amounts to about half of the fund's value.

The investment committee works with the staff and the Fund's consultant to ensure that all the Fund's fees and expenses are appropriate and correctly calculated and that the various service providers are charging competitive prices. Because of the emphasis on expense control, the trustees have incorporated a fee policy as part of the Fund's investment policy statement. That statement holds the staff accountable for following a disciplined approach to achieving competitive costs for investment management services.

We emphasize an important caveat to end this discussion. Particularly for active investment managers, the largest expense can be trading costs, which are quite difficult to measure and benchmark. The staff works with the Fund's managers and the consultant to understand the Fund's trading costs. Nevertheless, the analysis varies in quality among managers and can be difficult for the trustees to decipher.

Takeaways

- Investors segment the universe of potential investment securities into various asset classes. Those designations facilitate intelligent approaches to managing a fund's policy asset mix and establishing the fund's risk posture.
- Market indexes represent particular asset classes, such as publicly traded equities.
- Market indexes are valuable in that they provide an indication of an asset class's historical risks, returns, and correlations with other asset classes.
- Funds typically select certain market indexes to serve as asset class targets, which aid decision makers in setting their asset allocation policies.
- Internal investment management may be cheaper than external management and allows for more direct control of the investment process.
- External management offers greater economies of scale than internal management. Thus, external management allows fund sponsors access to top investment talent and resources. It also typically allows more flexibility in changing managers, if needed.
- Passive management (indexing) attempts to match, with low tracking volatility, the returns on an assigned market index by holding all or most of the securities in the index in similar proportions to security weights in the index.
- Active management involves holding portfolios that differ from an assigned benchmark in an attempt to outperform that benchmark. The variability in performance relative to the benchmark is called "active management risk" or, for short, "active risk."
- The use of active management requires that a fund sponsor hold a series of beliefs:
 - Managers exist who can produce a positive excess return relative to an appropriate benchmark.
 - A fund's decision makers can identify these managers.
 - The decision makers can hire these managers to manage the fund's assets.
 - The trustees have the risk tolerance to endure extended periods when the managers underperform their benchmarks.

- The decision makers can structure a team of these managers to accomplish the fund's investment objectives.
- A separately managed account is legally owned by a fund and managed solely in the fund's interests.
- In a commingled fund, assets of many investors are combined. Investors in a commingled fund do not hold shares of individual stocks; rather, they hold units in the commingled account, which represent a *pro rata* share of the entire account.
- Alternative investments are investments in nontraditional assets (i.e., other than publicly traded stocks and bonds), such as real estate, venture capital, buyout funds, and hedge funds.
- Alternative investments tend not to be readily tradable and come with relatively high management fees and sharing of the fund's profits between the investor and the fund manager. In exchange, investors expect to earn returns greater than those available through investments in publicly traded asset classes.
- Fees and expenses are material and controllable elements of a fund's investment results. They should be monitored by the trustees and benchmarked against peers. Wherever possible, the services provided to the fund should periodically be put out for competitive bid.

Questions Molly Should Ask

- What asset classes has the investment committee designated for investment? Why do we categorize our investment opportunities as we do?
- What role does each asset class play in our investment program?
- How do we acquire the expertise to evaluate, invest in, and monitor new asset classes?
- What asset class targets have been selected? How were they chosen? When did the investment committee last review those selections?
- Have we discussed the merits of active and passive management as an investment committee? Have we developed a position on each of the active management belief statements?
- Does the investment committee use predominantly active or passive management in certain asset classes? How was the decision reached regarding the proportion of active versus passive management used in the Fund?

- What proportion of the Fund's assets is managed internally? How was the decision reached regarding the proportion of internal versus external management?
- Given the size and complexity of our investment program, are the costs of running it reasonable? How do we determine "reasonableness"?
- Does the staff have authority to hire and fire managers independent of the investment committee? If not, how are the trustees involved in those decisions?
- Does the staff use our consultant to help select managers? If so, is the Fund's consultant independent with respect to the managers it recommends?
- What do we believe we gain by using alternative investments?
- What considerations go into determining which types of alternative investments the Fund should own?
- What return and risk expectations do we have for our alternative investments, and how do they compare with the expectations for our publicly traded investments?
- What limits do we place on the illiquidity that our alternative investments bring to our investment program?
- What is the size of the commitment made to alternative investments that the Fund is obligated to invest but has not yet been called by the managers?
- How do we evaluate the potential introduction of a new asset class? What considerations should be involved? Do we have the expertise to select and monitor a new asset class?
- How well do we understand the investment strategies pursued by our hedge fund managers?
- How do we evaluate the performance of our hedge fund managers?
- What if a potential new asset class is without a long history? How does that aspect affect our analysis?
- What is the total amount of all fees and expenses incurred by the Fund in a year relative to the value of the Fund's assets (i.e., the Fund's expense ratio)? Do we break out those fees and expenses by service provider?

- Do the trustees receive a fees-and-expenses report on at least an annual basis? May I see a copy of the latest report? How has the expense ratio changed over time?
- How do our fees and expenses compare with those of the Fund's peers? How often do we review the competitive nature of our fees with our service providers?

Session 7. Defined-Contribution Plans

If you would be wealthy, think of saving as well as getting.

—Ben Franklin

Molly, as we discussed previously, Lurinberg University maintains a defined-contribution (DC) plan for the benefit of its employees. The DC plan has sufficient unique aspects that we thought it appropriate to set up a separate session with you to discuss the oversight of that plan.

The DC plan provides an important source of retirement income for our employees. Combined with our defined-benefit (DB) pension plan and Social Security benefits, the DC plan allows our employees to build a solid base of retirement income that should replace a high percentage of their working years' income for the rest of their lives. The university believes that establishing these foundational sources of retirement income is one of the principal obligations of a responsible employer. As a trustee for both the DB and the DC plans, you have the obligation to see that the assets of these plans are invested wisely.

The DC plan differs in design from the DB plan in several important ways. The DB plan promises to pay lifetime monthly annuities to our employees upon their retirement. It can also make those payments to the employees' spouses if they should outlive the retired employees. The size of the annuity is based on the years that our employees have worked for the university and the compensation that they received during that time.

In addition, employees are automatically enrolled in the DB plan after working here for a prescribed period of time. They become entitled to the benefit (i.e., the benefit vests) after they have worked for another specified time period. The plan participants directly contribute nothing to the plan; the university is solely responsible for funding the plan. (At some other employers, the participants are required to make contributions to the plan together with the employers.) The university bears the responsibility and risks for accumulating sufficient assets to pay the benefits promised to the participants.

The DC plan, in contrast, is a discretionary program that our employees must actively elect to enroll in. If they do nothing, they will not participate in the plan, despite being eligible. (Many employers automatically enroll their employees and require the employees to opt out of the DC plan if they do not wish to participate.) The participating employees determine how much money to contribute to the plan. Up to a certain percentage of pay, the university will also match those contributions. But if employees do not participate,

they do not receive matching funds. (Some employers contribute to their DC plans regardless of whether the employees put in any money. But even in those plans, the employees must take action if they wish to make their own contributions.)

The DC plan participants determine how their contributions and those made by the university are invested. In doing so, they select from a set of investment options established by the trustees. Instead of receiving an annuity upon retirement, the participants have account balances from which they can withdraw money to fund their retirements. The size of their account balances will depend on how much they (and the university) have contributed and what those contributions earn over the time the funds are invested in the plan. As a result, the participants bear the investment risk in the DC plan.

The differences between the DC and DB plans affect how you as a trustee approach the oversight of the two plans. That being said, the basic principles of an investment trustee still apply to overseeing the DC plan's investment program. For example, we care about the governance, investment policy, and performance evaluation, but the emphases within those topics differ between the DB and DC plans.

Why? The primary reason is that the asset allocation of the DC plan is controlled by the plan participants—or, more properly, each participant sets the asset allocation for his or her *part* of the plan. The trustees set the investment options from which the participants may select, but in the final analysis, it is the risk preferences, saving behavior, and investment decisions of the individual participants that determine the outcome of each employee's own DC investment program. As discussed, for the DB plan (and the endowment fund, for that matter), the trustees' decisions regarding investment policy, together with the DB funding and benefits policies of the university, primarily determine the outcome of the investment program.

Of the six topics that we have visited so far, we will focus on three in distinguishing oversight of the DC plan from that of the DB plan and the endowment fund. Those topics are investment policy, fund mission, and investment assets.

Investment Policy for the DC Plan

In our previous discussion of investment policy, we spent considerable time on the policy asset mix of the Fund. We pointed out how a well-conceived and consistently applied policy asset mix that accurately reflects the risk tolerance of the investment committee is the primary driver of successful investment outcomes. The DC plan has no single policy asset mix. Participants in the plan select their own asset allocations on the basis of their unique risk

tolerances and evaluation of the available investment options. Molly, as much as you as a trustee might believe that an asset mix is appropriate for certain demographic groups of participants, you have no direct control over the participants' choices. Only through the set of investment options that you provide to participants do you exercise indirect control over their asset mix decisions. We will talk more about determining that group of investment options momentarily.

What is investment policy for a DC plan? Effectively, it reflects the approach that the investment committee takes when designing the set of investment options to be made available to the plan participants. The following questions are among those that may arise:

- What types of fund structures (such as retail mutual funds or institutional collective investment trusts) should be offered to plan participants?
- Should both active and passive funds be made available?
- Should only well-diversified investment options (such as funds that combine investments in various types of equity and fixed-income assets into one option) be offered so that participants will, effectively, be required to hold diversified investments?
- Or should only funds that have specific investment mandates (such as long-term fixed income or large-company equities) be offered and the participants encouraged to build their own diversified portfolios by allocating among the single-mandate investment options?
- Should a combination of these two types of options be offered?
- How many investment options should be available?
- Should participants be allowed to select investments outside the standard plan options (i.e., have a so-called brokerage window)?

Making these decisions creates the opportunity set for plan participants. The choices will ultimately determine the terminal values of their accounts and hence their retirement income. So, these decisions are not insignificant.

As with our DB plan and our endowment fund, the trustees have prepared a written investment policy statement (IPS) for the Lurinberg University DC plan that reflects their collective positions regarding important aspects of the DC plan's investment program. It is included here as **Appendix C**. It is a relatively abbreviated version of the statements developed for the other funds because the asset allocation decisions are borne by the participants in a DC fund. In addition to the approach that the trustees take toward selecting

investment options (as in its counterparts for the DB plan and endowment funds), the DC plan IPS lists the policies that the trustees have adopted toward selecting and evaluating investment managers, assigning appropriate benchmarks, and so on.

The Fund's Mission for the DC Plan

The Fund's mission for the university's DC plan is simple. It contains none of the potential conflicting elements of the DB plan. The mission of the Fund for the plan is to provide a set of high-quality, cost-effective investment options that allow plan participants to build a solid retirement income base, subject to their own risk preferences and investment objectives. In establishing this set of investment options, the trustees follow three broad themes:

- *Focus*—each investment option must pursue a consistent, clearly defined investment strategy that is understandable by unsophisticated investors.
- *Diversification*—each investment option, as a standalone investment, must be sufficiently diversified that plan participants, if they chose only that option, would not be at serious risk of unsustainable investment losses because of a relatively small segment of the capital markets experiencing distress.
- *Low cost*—the investment options must offer the lowest expenses compatible with a high-quality investment program.

Investment Assets in the DC Plan

The central themes that constitute the mission of the DC plan have led the committee to several principal conclusions regarding the types of investments that should be offered to plan participants. In keeping with the desire to provide investment options with a clear and consistent focus that also charge the lowest possible expenses, the committee decided wherever possible to make only passive management options (index funds) available to our plan participants. The trustees believe that the vast majority of DC plan participants do not have the investment sophistication necessary to choose, first, between passive and active management and, then, choose among active managers. By offering only index funds, the trustees believe they are appropriately simplifying the investment decision for participants. The offerings expose participants to the broad market factors that are the primary influence on investment returns.

The trustees have also decided to offer both (1) highly diversified investment options that span a broad range of asset types and (2) more focused

investment options that hold only one type of asset (e.g., inflation-protected bonds). Given the value that the committee places on diversification, the investment committee has urged staff to develop education programs that emphasize the need to have a well-diversified portfolio of investments and to encourage participants to choose the multiasset investment options. (A popular type of multiasset investment option, and one selected by the investment committee, is target date funds. Participants select a fund corresponding to their anticipated retirement date. The risk of a target date fund decreases over time as the target retirement date approaches.) Nevertheless, the investment committee wants to allow knowledgeable participants to emphasize certain asset types in their accounts if they so wish. So, the trustees have made available the options that focus on one asset class.

The trustees have also considered how many investment options to offer participants. When both highly diversified, multiasset options and single-mandate options are offered, the number of options could exceed 15, but the trustees are aware that too many choices can paralyze a decision maker. Therefore, the trustees keep the number of options to the minimum needed to cover the primary investment asset classes.

The trustees have directed the staff to search out the lowest-cost investment vehicles for each investment option. In many cases, those options are collective investment trusts (a form of commingled fund), which tend to be far cheaper than retail mutual funds. These trusts are created by financial institutions and typically offer the same strategies as comparable mutual funds but at lower costs. Investment management fees for passive products have come down considerably in recent years. In addition to aggressively seeking out low-cost providers, the staff negotiates to obtain the lowest costs for plan participants.

Finally, the investment trustees do not have direct responsibility for determining various plan features (e.g., how much the university matches participants' contributions). That responsibility belongs to the university administration. Nevertheless, the trustees have encouraged the plan administrator to consider various plan enhancements that help persuade participants to increase their DC plan savings. For example, the trustees have endorsed automatic enrollment of all employees in the DC plan and automatically increasing their contribution percentages by small amounts each year. Showing participants what their account balances translate into, in terms of lifetime income streams, gives participants a realistic perspective on retirement-funding adequacy. Research has shown these "nudges" to be extremely effective in terms of increasing participation and level of savings. Of course, participants are still free to decline those plan features and ignore the messaging.

Takeaways

- DC retirement plans differ in meaningful ways from DB plans, which affects how investment trustees conduct oversight of the two types of plans.
- In a DC plan, employees and/or the employer contribute money to the plan and the investment results are tracked separately for each participating employee. The accumulated invested value in a participant's account is available (net of taxes) for spending in retirement.
- In contrast to a DB plan, for DC plan investments, the employer makes no promises about how much money will ultimately be held in the account. Effectively, the participants bear all the investment risk.
- Because DC plan participants typically can choose how their account balances are invested, the set of investment options made available to participants is the primary investment policy decision made by investment trustees.
- Regarding those investment options, trustees must develop investment policy positions with respect to active and passive management, the amount of diversification in the options, and the number of options.

Questions Molly Should Ask

- Do we have a separate investment policy statement for our DC plan? If not, why not? If so, may I have a copy?
- How knowledgeable do we believe our plan participants are when it comes to making investment decisions?
- How do we decide whether to offer actively managed versus passively managed investment options to participants?
- How do we determine which types of investment options are appropriate for participants?
- How do we go about determining the managers for the various investment options?
- What types of investment vehicles do we use to deliver the investment options?
- What is our process for considering changes to our investment options?
- What is the process for ensuring that our fees are competitive?

- What types of educational guidance do the plan administrators provide to participants?
- What types of automatic default features have the plan administrators built into the DC plan's design?
- Which management and administrative expenses are borne by the plan participants and which expenses are borne by Lurinberg University?

Session 8. Performance Evaluation

He who would search for pearls must dive below.

—*John Dryden*

How is the Fund performing? That’s a simple and seemingly obvious question, Molly, which undoubtedly you’ll want to ask at your first investment committee meeting. That question is open to different interpretations, however, and as a result, you’ll probably receive a wide variety of answers. Before you can make any sense of those answers, you’ll want to familiarize yourself with some of the key concepts that underlie investment performance evaluation. The investment committee likes to phrase those concepts in the form of several questions:

- Why is performance evaluation important?
- How should performance be measured?
- How is performance judged to be good or bad?
- What caused the observed performance?
- Is the performance the result of luck or skill?
- What should be done with all this performance information?

The Importance of Performance Evaluation

From the trustees’ perspective, performance evaluation is important because it assists in exercising appropriate oversight of the investment program. It provides a regular assessment of how the Fund is performing relative to established investment objectives. When conducted properly, performance evaluation offers a valuable “quality control” that not only describes the investment results of the Fund and its constituent parts relative to objectives but also explains the sources of that relative performance. The sources of investment performance can, and should, be directly linked to decisions relating to the Fund’s investment policy and investment strategies.

Performance evaluation helps reinforce the hierarchy of accountability, responsibility, and authority in the Fund’s governance structure. Investment managers have accountability, responsibility, and authority for investment decisions relating to the securities they hold in their portfolios. Similarly, the Fund’s staff, perhaps together with the Fund’s consultant, has responsibility, accountability, and authority for decisions relating to the allocation to

investment managers and asset classes. Ultimately, you and the other trustees have accountability, responsibility, and authority for the decisions relating to long-term performance of the entire investment program.

Performance evaluation enhances the effectiveness of the Fund's investment program by acting as a feedback-and-control mechanism. It identifies and focuses on the program's strengths and weaknesses. It assists in reaffirming a commitment to effective investment policies, strategies, processes, people, and organization. Moreover, performance evaluation provides a demonstration that a successful investment program is being conducted in an appropriate and effective manner. In addition, it helps direct attention to poorly performing operations.

Molly, you're busy with your day job and don't have time to familiarize yourself with every aspect of Lurinberg University's investment decision making. So, you may have difficulty in your trustee role of assessing the effectiveness of the Fund's investment program. Properly presented, performance evaluation should help point you to the right questions regarding the investment program and assist you in taking corrective action when necessary.

Performance Measurement

At its most elementary level, performance evaluation requires *measuring* investment results, which leads to the question of what metric to use. A reasonable first response might be to focus on changes in the value of the Fund. Is there more or less money in the Fund at the end of the period than at the beginning? The investment committee certainly needs to pay close attention to the Fund's asset balance. However, because the trustees have limited control over the timing and amount of contributions to and withdrawals from the Fund, the change in its value fails to provide an accurate indicator of how its investments are performing. The staff could be doing a superior job of investing the Fund's assets while the value of the Fund has declined because of large withdrawals and a lack of recent contributions. Alternatively, the staff could be doing a poor job of investing the Fund's assets while its value has increased because of a large contribution and a lack of withdrawals.

Because the change in the value of the Fund is not necessarily a good measure of investment performance, what metric should be used? The investment community typically uses *rate of return* as the metric to measure investment performance. The rate of return calculates the percentage increase or decrease in the value of the Fund after removing the effects of various non-investment-related changes.

However, things are not quite that simple. There are different methods of calculating rates of return. During your investment committee meetings,

you will hear mention of time-weighted rate of return (TWR) and money-weighted rate of return (MWR). We don't need to go into the math behind calculating these rates of return, but it would be helpful for you to understand why these different rates of return are used. The concise explanation is that the appropriate use of these methods depends on who controls the timing and size of money flows into and out of an investment account. Importantly, all of our return measures are stated after accounting for all fees and expenses incurred by the investment program.

The staff reports the TWR when the investment manager has little or no control over the flow of external funds into and out of the manager's account. It effectively measures the rate of return as if \$1 were invested in the account. That \$1 is deposited at the beginning of the period and left to grow or shrink according to the investment results alone, with no money subsequently put into or taken out of the account during the period.

In most cases, the investment committee has delegated to the staff control of the amount of money to be entrusted to an investment manager and the time period over which the investment manager will manage those assets. Typically, when a manager is hired, the staff decides how much money to give the manager and when to make contributions and withdrawals. For various reasons, the staff may choose to withdraw money from or add money to the manager's investment account. If so, the timing and amount of money flowing into and out of the manager's account should not affect the calculation of the rate of return. Hence, the TWR is the appropriate performance measure in this situation (as it also is in the case of measuring the performance of the entire Fund).

Contrast these circumstances to an investment with a private equity manager. The staff makes a commitment to invest a certain amount of money with the manager over a particular period of time. When the manager identifies an attractive investment opportunity, the manager makes a call on the Fund for a portion of the money that the Fund has committed. In this case, the *manager* determines the timing and amount of the investment contribution. The manager also controls when and how the investment proceeds are returned to the Fund. Because the investment manager has control of contributions and withdrawals, the staff reports the MWR.

We can think of the MWR as the average growth rate of all dollars invested in the manager's account. If a contribution is made prior to a period of relatively strong investment results, that action will enhance the MWR. Conversely, investments made prior to a weak performance period will drag down the MWR. As a result, unlike with the TWR, the size and timing of

the cash flows will affect the MWR. (The MWR is also known in finance textbooks as the “internal rate of return,” or IRR.)

Performance Benchmarks

Once the rates of return for the managers’ accounts, the asset classes, and the total Fund are determined, attention naturally turns to whether those returns are good or bad. To assess the “goodness” of a rate of return, we need a standard or benchmark with which to compare the result. Although there may be many candidates for a benchmark, we believe that the most informative assessment of investment performance occurs when the benchmark has certain basic properties. The benchmark should be the following:

- *Unambiguous*—the benchmark should be clearly understood by all parties involved in the investment program.
- *Investable*—the benchmark should represent an investable alternative; that is, the trustees could choose to hold the benchmark rather than hire the particular manager.
- *Measurable*—the benchmark’s rate of return should be readily calculable.
- *Appropriate*—the benchmark should reflect the manager’s typical risk characteristics and area of expertise.
- *Specified in advance*—the benchmark must be specified prior to the evaluation period and known to all interested parties.
- *Owned*—the benchmark should be acknowledged and accepted as an appropriate accountability standard by the party responsible for the performance.

Benchmarks that possess these properties provide the investment committee with a fair standard to use in assessing an account’s performance. Many organizations use published market indexes (e.g., the S&P 500 Index) as benchmarks for their individual managers. Those indexes may or may not satisfy the quality criteria. The staff works closely with the Fund’s managers to develop acceptable benchmarks, which in some cases, results in custom benchmarks designed specifically for a manager. At the asset class level, however—say, for global equities—the staff is likely to use a published index.

To evaluate the total Fund, the staff uses a policy portfolio, which is a combination of the asset class targets, weighted by the policy allocations assigned to the asset classes. (In Session 2 on investment policy and Session 5 on investment risk tolerance, we call these policy allocations the “policy asset

mix.”) This policy portfolio represents the amount and type of investment risk that the investment committee believes will give the Fund the best chance of fulfilling its mission, meet its investment objectives, and provide consistency with the trustees’ collective risk tolerance.

You may wonder why we need benchmarks in the performance evaluation process. Why not simply compare how the investment program is doing relative to the Fund’s peers? After all, businesses constantly “benchmark” their operations against those of their competitors. Indeed, peer group comparisons are quite popular in the investment community.

Despite their seeming simplicity, however, peer group comparisons fail to satisfy a number of the properties required of a valid benchmark. For example, peer groups are likely to contain accounts that have different missions, investment objectives, and risk tolerances. Also, peer groups are neither investable nor specified in advance. What investment strategy within the peer group will deliver top-quartile performance? Our staff might be able to discern that strategy after the fact, but the staff does not know prior to the evaluation period which funds will be the most successful.

As a result, peer groups represent alternative decisions that could never be selected in advance. Moreover, they tend to be subject to “survivor bias,” wherein the worst-performing funds drop out of the index, artificially pushing up the reported returns of the peer group. Finally, peer groups are ambiguous. The staff has little knowledge of the constituents of the peer group. Therefore, comparisons say nothing about why the Fund performed better or worse than other funds. One would need a detailed understanding of the other funds’ investment policies, objectives, and strategies to ascertain what factors produced those funds’ results.

Because of these deficiencies, the investment committee has been careful about how it uses peer group comparisons. Success should not be measured by performance relative to a peer group but, rather, by how well the investment results contribute to the mission of the Fund. As a result, the trustees have requested that the staff emphasize comparisons with thoughtfully selected and investable benchmarks designed to represent the risk tolerance and objectives of the Fund’s investment program.

Performance Attribution

Performance evaluation involves not only measuring performance by calculating a rate of return and assessing performance by comparing that rate of return with an appropriate benchmark, but it also entails identifying the factors that caused that relative performance. This process is known as “performance attribution.” Molly, you can think of performance attribution as an

informed look at the past. As a trustee, you would like to understand *why* the Fund’s managers performed better or worse than their benchmarks or *why* the Fund in aggregate has produced its results. Identifying the factors that caused an investment result is an important first step.

Because many factors can explain a particular investment outcome, the investment committee finds it helpful to identify and attribute performance to those factors that are linked to the investment management process. That type of analysis provides the trustees with valuable feedback that will either reinforce the effectiveness of the management process or cause a rethinking of it. Essentially, the method by which performance is explained or attributed should directly relate to the management process by which investment decisions are made. This link will, in turn, provide valuable messages about the management process. These connections are depicted in **Figure 2**. The more relevant the performance attribution to the management process, the more likely that it will influence that process positively in the future.

For example, the staff has retained an investment manager who assigns analysts to research companies in particular industries. The analysts, in turn, recommend companies to buy, sell, or hold based on their analyses. Portfolio managers use these recommendations, together with their own assessments of which industries are attractive and unattractive, to build their investment portfolios. An attribution method that identifies the contributions of the individual analysts and portfolio managers helps the staff determine whether the manager’s investment process is effective and whether we should continue to employ that manager. Performance attribution conducted at the level of the individual-manager account is called “micro attribution.”

Performance attribution at the asset class and total fund level is termed “macro attribution.” The investment committee finds macro attribution particularly valuable because that analysis explains the impact of investment policy decisions on the Fund’s success. At the total fund level, macro attribution

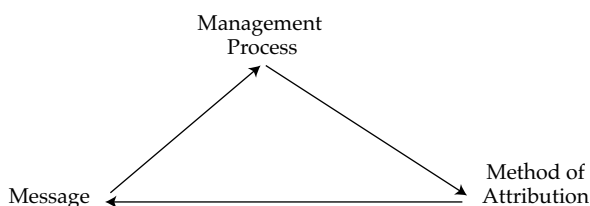


Figure 2. Performance Attribution Feedback Loop

allows the investment committee to examine the impact of important implementation decisions, including setting a policy asset mix, hiring managers, and allocating assets to the managers.

Dropping down one macro attribution level to the performance of the Fund's investments within an asset class relative to its "asset class target" (i.e., the benchmark assigned to represent that asset class), we find performance depends on much more than how the underlying investment managers performed. The relative performance of an asset class investment is also the result of decisions about the allocation of assets to the investment styles of the individual managers within each class and of the performance of the individual managers' investments. These are the decisions involved in structuring and managing a team of managers.

The investment committee uses performance attribution for purposes broader than simply accepting a numerical report submitted periodically. Instead, the attribution reports help develop a dialogue with the staff about the primary elements that have driven investment results. The reports serve to highlight certain aspects of the investment program, and the trustees use that information to ask informed questions of the staff. You'll find the attribution reports to be one of your most useful tools in understanding the workings of Lurinberg University's investment program.

Performance Appraisal

Investment management operates in an environment of uncertainty. Unforeseeable events may drive investment returns. Because neither the staff nor the managers are omniscient in their investment decision making, the challenge of performance evaluation is to distinguish between luck and skill. We refer to that process as "performance appraisal."

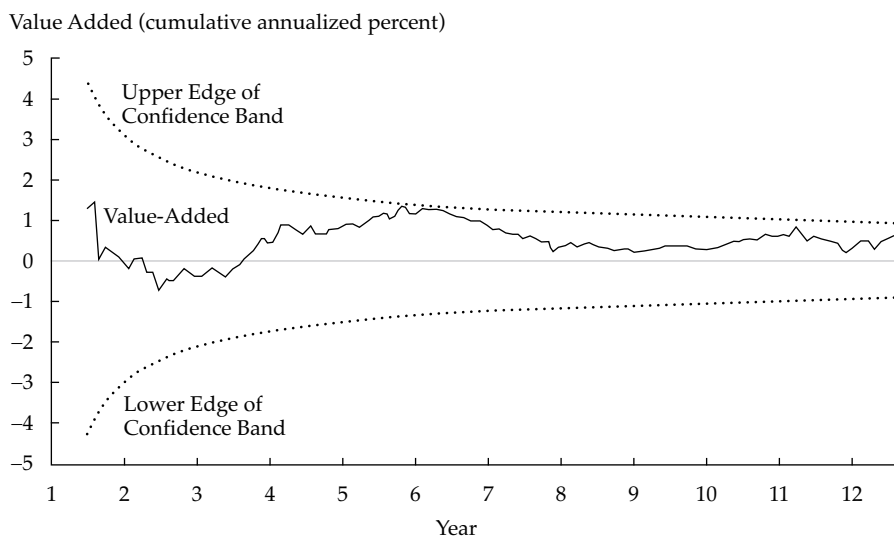
You can think of investment *skill* as the ability of an active manager to outperform an appropriate benchmark consistently over time. As mentioned in Session 5 on investment risk tolerance, we call returns relative to a benchmark "active management returns." All managers' returns (even the returns of passive managers) tend to fluctuate around their benchmarks, generating positive relative performances in some periods and negative relative performances in others. As we discussed, active managers display more variability in their returns relative to their benchmarks than do passive managers; we refer to this variability as "active management risk." Importantly, superior active managers tend to produce larger positive active management returns more frequently than do inferior active managers. Similarly, superior passive managers tend to closely track the benchmark's return (i.e., produce zero active management returns) more consistently than do inferior passive managers.

To identify skillful managers, the staff compares the active management returns earned by the managers with their active management risk. Skillful managers will demonstrate higher active management returns per unit of active management risk that they take on. A number of risk-adjusted performance measures are in common use. During your investment committee meetings, you are likely to hear mention of two of the more popular measures—namely, the Sharpe ratio and the information ratio. Both weigh rewards earned per unit of risk taken.

The Sharpe ratio compares an account’s excess return (actual return less the risk-free return) with the total risk of the account, where risk is measured as the standard deviation of the account’s returns. The information ratio is a variation of the Sharpe ratio. It compares an account’s active management return (actual return less the benchmark return) with the active management risk of the account, where active management risk is measured as the standard deviation of the account’s active management returns.

Because it is often difficult for the trustees to examine the details behind these risk-adjusted measures, the staff uses quality control charts as a presentation tool. An example is shown in **Figure 3**. The solid line in the middle is the manager’s cumulative return over the entire evaluation period. In this case, it is a manager’s cumulative *active* return (actual return less the benchmark

Figure 3. Quality Control Chart: Cumulative Performance of Actual Portfolio vs. Benchmark



return). The dotted lines are statistically derived confidence bands. When the return line is at or above the top dotted line, the performance has been exceptionally good. When it is at or below the bottom dotted line, the performance has been exceptionally bad. It is difficult to draw conclusions about a manager's skill if the solid line consistently falls well within the dotted lines, other than that performance has been insignificantly positive or negative relative to the benchmark.

Putting It All Together

Trustees frequently feel a need to “do something”: fire a manager, hire a manager, invest in a new strategy, or terminate an existing one. You didn't achieve your professional success by sitting on your hands, after all. Unfortunately, for a trustee, a do-something attitude can be counterproductive. It often leads to “buy high, sell low” investment outcomes.

Trustees (and the staff) receive an overwhelming amount of performance data, all of it having to do with the past. Although nothing can be done about the past, a number of questions can be raised about applying all this information to future decisions: What can be learned from performance evaluation to help improve the management of the Fund? When should the investment committee revisit and rethink its policies? What changes or decisions should the trustees make? When should those actions be taken?

Relying solely on past performance to determine what to do is like driving a car by looking through the rearview mirror. As a trustee, Molly, to do something that will have a reasonable chance of improving future performance, you need to put past performance in proper perspective and then augment that knowledge with additional insights and information.

Even skillful managers and effective investment programs will have periods of unusually bad performance, possibly extending for multiyear periods. What should trustees and staff members do when risk-adjusted performance has been unusually bad? Relying solely on past performance, even when properly adjusted for risk, can be counterproductive. Negative returns relative to the benchmark cannot be ignored, of course, and should be discussed, but the review needs to be augmented with other information, much of it qualitative in nature. As a start, the investment staff finds it helpful to review the rationale and decision process that was used to implement the particular investment in the first place. Such a review involves asking what may have changed and what has been learned.

For example, when hiring or firing an investment manager, the staff conducts an assessment of a range of qualitative and quantitative management factors, including the following:

- *People*—experience, expertise, organizational structure.
- *Process*—philosophy, resources, decision making.
- *Procedures*—trading, quality control.
- *Price*—fees and expenses.
- *Performance*—discounted for risk, deflated by the benchmark, and net of fees.

Also, regardless of whether the investments are performing well or poorly, the staff regularly assesses investment strategy decisions relative to their economic rationale, diversification value, and liquidity characteristics.

Managing an investment fund is similar to piloting an aircraft. The pilot receives a tremendous amount of information about the location of the plane and current flying conditions. Once a course is set, however, there are typically few changes that should be made. Similarly, once the trustees have determined the Fund's investment objectives and how best to achieve them, the investment path is set. Although the journey may be a bit bumpy, the question you continually face is whether the Fund is "on course." There is no one right answer, but in general, keeping a focus on the Fund's planned route and making only modest midcourse corrections has served the Lurinberg University investment program well in the past.

Takeaways

- Performance evaluation is important because it
 - informs trustees how the Fund is doing relative to its mission and objectives,
 - establishes a hierarchy of responsibility, authority, and accountability,
 - identifies the investment program's strengths and weaknesses,
 - reaffirms a commitment to successful policies and decisions,
 - focuses attention on poorly performing operations, and
 - provides evidence as to whether the investment program is being managed properly.
- Performance measurement is the process of calculating the rate of return of an account (i.e., a fund, an asset class, or a manager).

- Two measures of rate of return are common: time-weighted rate of return and money-weighted rate of return. Both should be reported after accounting for all investment-related fees and expenses.
- The TWR is unaffected by the timing of money flows into and out of a fund. The MWR is sensitive to those flows.
- The TWR is the appropriate return measure when the account manager has no control over money flows. When the account manager can determine when money comes into or goes out of an account, the MWR is the proper return measure.
- Assessing investment performance is done by comparing it with a benchmark that is unambiguous, investable, measurable, appropriate, specified in advance, and owned.
- Performance attribution involves crediting performance to factors that caused the actual outcome relative to the benchmark.
- Performance attribution at the level of the investment manager account is micro attribution; at the asset class and total fund level, it is macro attribution.
- Performance appraisal involves assessing the skill of an investment manager by examining the consistency of returns relative to the benchmark.
- Patience and a focus on investment policy can help avoid expensive and unproductive responses to near-term performance disappointments.

Questions Molly Should Ask

- How do we calculate performance measurement for our individual managers, asset classes, and the Fund?
- Who is responsible for the Fund's performance measurement (i.e., the staff, the custodian bank, the consultant, or some other organization)?
- What are the benchmarks we use to evaluate our publicly traded equity and fixed-income investments? Do our benchmarks satisfy the criteria for valid benchmarks?
- What benchmarks do we use for our various alternative investments?
- Can you provide examples from the past when performance evaluation identified particular strengths and weaknesses in our investment program? What were our responses to those observations?

- How would you sum up how our investment program is performing? Do our investment results indicate that we are fulfilling our investment mission and objectives?
- What elements of our investment program are performing well? Which might be performing poorly, and in both cases, why?
- What various performance measurement, attribution, and evaluation reports does the investment committee receive? How frequently are they produced? May I see examples of past reports?
- Do we integrate performance evaluation information with decisions regarding investment policy? Asset classes? Investment managers? Investment risk?
- How do we evaluate investment performance for products with a short (or no) track record?
- If individual investment managers leave a firm and go to another firm or start a new firm, should we view their track records from their previous firms as portable?
- What standards do we use to evaluate asset classes with nonmarketable investments, such as private equity?
- What qualitative criteria do we use to evaluate investment managers?
- What role does the consultant play in interpreting performance attribution and evaluation reports for the staff and trustees?
- How do we evaluate the performance of the staff when we change asset allocations and require a large transition of assets from one class to another?
- How do we take into account the impact of unique market events when evaluating performance?

Session 9. Ethics in Investing

Few things are harder to put up with than the annoyance of a good example.

—*Mark Twain*

Molly, one of the important reasons the regents selected you to be a Lurinberg University investment trustee is that you have a strong record of integrity. Even the best-intentioned trustees, however, should be versed in the ethical standards appropriate for their role on the investment committee. Your ethical conduct reflects on not only the investment committee but also the university. In this session, we want to give you a brief overview of some ethical considerations that you should bear in mind as you prepare to join the investment committee.

Recognized Principles of Trustee Ethical Conduct

You can access a number of publications that address ethics and standards of professional investment conduct. For example, CFA Institute has published a code of conduct for investment professionals and a code of conduct for trustees of pension and endowment funds. We encourage you to review them. The ethical principles recognized in these publications can be summarized as follows:

- Act in the best interest of the Fund’s beneficiaries.
- Act with prudence, competence, independence, and objectivity.
- Adhere to the Fund’s mission and all related legal requirements.
- Act in a transparent manner in all official activities.
- Maintain confidentiality with regard to the Fund sponsor, beneficiaries, and investments.

Several years ago, one of the investment committee members asked permission to attend a conference to increase his understanding of investment issues. That request seemed to be reasonable, and the trustee’s expenses were paid out of the Fund’s assets. The trustee continued to attend conferences, however, almost every quarter, some of which were halfway around the world. The associated expenses were not insignificant, and other trustees began to wonder whether this trustee was “acting in the best interest of the Fund’s beneficiaries” or in the best interest of the trustee. Although this individual is no longer an investment trustee at Lurinberg University—and for that, the

committee heaved a sigh of relief—in one sense, he performed a valuable service. He made questions of ethical conduct and conflicts of interest a reality for the rest of the trustees and increased their dedication to establishing and practicing strong ethical standards.

Unfortunately, Molly, not all ethical questions are black and white. At times, the difference between acceptable and unacceptable ethical conduct is obvious, as would be the case if one of the Fund's investment managers offered trustees an expensive gift. Yet, other situations, like the case of the trustee and his conferences, can be a matter of "shades of gray," making it difficult to determine where to draw the line. Such cases will require your good judgment and your own solid ethical principles.

Typically, these situations cannot be *clearly* resolved by referring to specific standards of ethical conduct. Instead, you might ask whether you would be comfortable if the university newspaper reported on a particular action taken by you or the investment committee. Do you expect that the action would be perceived positively by persons not entirely familiar with the facts? If the answer is no, then you might question whether the action is appropriate, even if you could make a case that it violates no particular ethical standard. Perception is crucial in creating trust, and it is best to err on the side of conservatism and avoid the possibility of a seemingly innocent action being misinterpreted.

Creating a Culture of Ethical Behavior

The trustees have adopted their own code of conduct, which reflects the ethical principles listed earlier. The code serves to focus specifically on the Fund's particular circumstances. As a rule, the more thorough the documentation of policies and procedures is, the less likely the trustees are to encounter concerns about ethical conduct.

The trustees have mandated that training regarding the contents of the code of conduct be held not only for new investment committee members but also for current members. The objective is to ensure that the provisions of the code remain fresh in the minds of all trustees. The training involves confirming that the trustees have reviewed and discussed the code on at least an annual basis.

The investment committee has also engaged a third party to create an online review program that summarizes key features of the code and presents a set of scenarios designed to highlight ethical issues that trustees might encounter. The scenarios allow the trustees to see how the code is applied to particular situations. In addition to highlighting specifics of the code for the trustees, the scenarios provide solid evidence that the investment committee

has made a “good faith effort” to promote ethical practices. Moreover, each trustee is required annually to sign a conflict-of-interest certification that states that the trustee has faithfully followed the code of conduct and has not engaged in any actions that would violate the code.

The investment committee revisits the issue of ethical practices periodically. The trustees’ approach has been to (1) encourage a discussion and identification of ethical issues and dilemmas, (2) solicit input and recommendations from various sources, and (3) adopt guidelines specific to the situations under consideration. These guidelines add detail to the general tenets of the investment committee’s code of conduct (e.g., showing how to distinguish between personal and committee expenses while traveling). The investment committee’s guidelines are updated from time to time. Issues may surface that need to be addressed. What never changes, of course, are the core ethical principles upon which the code of conduct is based.

Most of the ethical issues that the trustees wrestle with involve either the expenditure of the Fund’s assets (other than for beneficiary payments) or relationships with the organizations with which the staff and trustees do business. The investment committee has direct responsibility, authority, and accountability for the ethical conduct of individual trustees and the staff. That situation is not the same, however, for the external organizations providing services to the Fund. Although the trustees have *responsibility* for the ethical conduct of these organizations, the investment committee has only limited *authority* over their actions.

Accordingly, the trustees seek assurances that these organizations are conducting their business activities in a manner consistent with the investment committee’s ethical principles. The trustees require that these organizations—primarily, our investment managers, consultants, and custodian bank—provide the staff with their own codes of ethical conduct. The staff reviews these documents, and if the documents are acceptable, assures the trustees that the ethical policies are acceptable. The staff then monitors the organizations to ensure that the organizations’ conduct is consistent with their codes.

The investment committee’s interest in ethical conduct goes beyond a mere concern about its reputation and that of the university. The trustees sincerely believe that positive ethical conduct is a necessary condition for a well-managed fund; without it, the investment program is unlikely to produce results consistent with the Fund’s mission and investment objectives.

Achievement of a commitment to ethical conduct depends largely on the interest and integrity of the individual trustees, which comes back to where we started. We are delighted to have a trustee like you: a person with high

integrity, moral values, good judgment, and a serious commitment to making a positive contribution to the Fund.

Welcome aboard, Molly.

Takeaways

- A number of publications address ethics and standards of professional investment conduct. In particular, CFA Institute has published a code of conduct for investment professionals and a code of conduct for trustees of pension and endowment funds.
- The following ethical principles are appropriate for trustees to focus on:
 - Acting in the best interest of the Fund's beneficiaries
 - Acting with prudence, competence, independence, and objectivity
 - Adhering to the Fund's mission and all related legal requirements
 - Requiring transparency of all involved parties
 - Maintaining confidentiality with regard to the Fund sponsor, beneficiaries, and investments
- The trustees should adopt a code of conduct specific to the Fund's situation.
- Ethical guidelines can help clarify specific situations and circumstances.
- Ongoing training can play an important role in educating new and current trustees about ethical standards and how to act in difficult scenarios.
- In addition to maintaining an ethical code of conduct and guidelines for individual trustees and the staff, the committee believes it is important to assess the ethical conduct of organizations with which the Fund has a relationship.
- The best assurance of ethical investment conduct is the integrity, principles, and moral values of trustees and staff members.

Questions Molly Should Ask

- May I have a copy of the CFA Institute codes of conduct and also a list of other publications dealing with ethical conduct for trustees?
- May I have a copy of any principles and guidelines that we have adopted as a code of conduct?

- Does the staff have a code of conduct? How does that code differ from the one that applies to the trustees?
- What types of training do the trustees and staff receive regarding ethical practices?
- Do the trustees periodically sign a conflict-of-interest form certifying that they have avoided unethical behavior in carrying out their duties?
- Have there been serious ethical issues in the past involving trustees other than the one you described? If so, what were those issues and how were they resolved?
- Is there a facility for staff members to report confidentially any ethical problems that they observe or experience?
- Is it viewed as a conflict of interest for a trustee to discuss positive and negative experiences that he or she may have observed as a trustee of another fund?
- Should a trustee suggest a manager for potential hiring if the trustee has a business relationship (now or in the past) with that manager?
- What guidelines do we have regarding items of value that can be accepted from an outside organization?

Appendix A. Lurinberg University Endowment Fund Governance Policy Statement

The purpose of a governance policy is to delineate clearly the delegation of authority, accountability, and responsibility of the investment committee and investment staff in the policies and operation of the fund's investment program. Governance policy focuses on those organizational design elements critical to effective decision making. Effective decision making can be achieved only in an environment of mutual trust and respect, in which decisions are made and implemented quickly and lines of authority and responsibility are clear to all.

The Lurinberg University Board of Regents (the Regents) has delegated to the Lurinberg University Investment Committee (the Committee) the authority and responsibility for management and oversight of assets of the Lurinberg University Endowment Fund (the Fund). The Committee recognizes that there are different types of fiduciary roles in the management and oversight of the Fund.

The Committee is the governing fiduciary with the ultimate responsibility for the investment program. To fulfill its fiduciary responsibility, the Committee requires the support of, and expertise from, other groups of decision makers, each of whom has a particular role and responsibilities. These primary decision makers include (1) an investment operations staff, headed by a chief investment officer (CIO), (2) an investment consultant, (3) investment managers, and (4) a custodian bank.

The CIO and his or her investment staff are the managing fiduciaries of the investment program. They are charged with the day-to-day management responsibility for the Fund. The investment program also includes several operating fiduciaries, such as outside investment managers, who are given the authority to make decisions, albeit with respect to only a portion of the Fund assets and within the scope of approved mandates.

Investment Committee

The Committee seeks a diverse group of individuals who are known for their integrity, interest in the Endowment Fund, and willingness to commit time and energy to the Committee. The Committee consists of seven individual trustees who are appointed by the Regents and serve staggered three-year terms. The initial term can be followed by another three-year term at the

option of the Regents. The Committee is headed by a chair, designated by the Regents, who serves a two-year term. The Committee meets quarterly to review the Fund's performance relative to its policy and to address relevant strategic issues.

In general, the Committee's responsibilities are focused on expressing the Fund's mission and choosing the investment policies most likely to achieve it. The Committee is also responsible for monitoring staff effectiveness and seeing that its policies are properly implemented by the managing and operating fiduciaries to which it has delegated specific authorities. The Committee

- defines the Fund's mission,
- establishes performance goals and investment objectives for the Fund and monitors actual performance versus these goals and objectives,
- determines the acceptable level of capital market risk,
- establishes the policy asset mix and acceptable asset allocation ranges around that policy asset mix,
- approves or rejects asset allocation deviations from approved ranges,
- determines the acceptable level of active management risk,
- determines acceptable asset classes and subcategories (e.g., emerging markets, absolute return strategies),
- approves asset class targets,
- approves the investment staff's annual operating budget,
- reviews governance procedures and makes recommendations to the Regents,
- approves consultant, custodian bank, legal, and audit relationships,
- approves securities-lending arrangements,
- evaluates and retains the CIO,
- ensures resources adequate to perform the Fund's mission effectively,
- provides information and recommendations to the Regents as required, and
- conducts business in an ethical manner, including establishing and following a code of conduct consistent with industry practices.

Investment Staff

The Committee recognizes that its professional investment staff is best situated to make day-to-day investment decisions. The staff is managed by a CIO to whom the Committee has delegated authority to implement key policy and operational decisions for the Fund. The CIO

- evaluates, retains, and terminates investment managers,
- determines asset allocation deviations within approved ranges,
- evaluates and recommends retention and termination of consultants, custodian banks, and other service providers,
- acquires sufficient internal staff and resources to meet objectives and fiduciary responsibilities,
- establishes performance benchmarks and investment guidelines for individual investment managers,
- establishes and implements manager-monitoring procedures,
- determines asset class and manager-rebalancing strategy,
- provides liquidity for payments to beneficiaries and to fund operations,
- provides recommendations to the Committee as needed to aid in the decision-making process,
- provides the Committee with adequate information and resources to make policy decisions and monitor fund performance,
- provides the Committee with analytical data regarding cost-effectiveness issues, and
- conducts business in an ethical manner consistent with guidelines established by the Committee.

Investment Consultant(s)

The general purpose of the consultant or consultants is threefold: First, to provide additional in-depth analytical support to the staff; second, to be a source of industry best practices; and third, to serve as a check and balance with respect to staff. The consultant is expected to attend all Committee meetings and meet with Committee members when requested. The consultant is expected to work with staff on a continuous basis, addressing issues of importance regarding the implementation and management of the Fund's

investment policy. The consultant's performance is reviewed annually by the Committee with input from the staff.

The consultant

- provides analytical support in the evaluation, retention, and termination of investment managers,
- provides analytical input on the risk, return, correlation, and liquidity characteristics of asset classes,
- assists in determining appropriate asset class and manager benchmarks,
- assists in determining an investment policy portfolio that consists of specific allocation amounts (percentages) to asset class targets and manager benchmarks,
- provides independent performance measurement, attribution, and evaluation,
- provides input regarding the economic and market outlook,
- provides information regarding new investment ideas, strategies, and vehicles that could benefit the Fund,
- provides an independent source of information regarding the investment policies, governance, objectives, strategies, and performance of similar organizations,
- updates the staff on any pertinent changes in its organization, and
- conducts business in an ethical manner consistent with accepted, industrywide practices.

Investment Managers

The investment managers are responsible for the actual investment of the Fund's assets. The Committee has approved the use of managers who invest in securities within the Fund's approved asset classes. The staff is responsible for the manager retention and termination decisions, but the staff relies heavily on the consultant for analytical (quantitative and qualitative) input in making these decisions. Managers are expected to meet with the staff regularly, often at the managers' offices, to review the managers' performance, process implementation, organizational changes, and any unusual developments. Occasionally, managers are invited to Committee meetings, primarily to discuss unusual developments or situations and to familiarize Committee

members with their organization, investment process, and performance. The managers

- invest fund assets consistent with an investment mandate mutually agreed upon with the staff,
- transact in portfolio securities in a cost-efficient manner,
- adhere to the Fund's investment portfolio guidelines,
- maintain the portfolio's specified risk exposure,
- specify or agree to an appropriate, investable benchmark,
- produce performance consistent with expectations,
- provide transparency with respect to portfolio holdings, transactions, and external fund flows,
- provide investment performance measurement, attribution, and assessment of results,
- provide analysis of how expected economic and market conditions could affect investment performance,
- update staff on any pertinent changes in their organizations, and
- conduct business in an ethical manner consistent with accepted, industrywide practices.

Custodian Bank

The purpose of the custodian bank is to ensure safekeeping of the Fund's assets and to be a check and balance with regard to the managers' investment activities. The custodian facilitates the flows of cash into and out of the Fund, and it is a primary source of portfolio valuation information for the Fund. The bank

- ensures safekeeping of Fund assets that are assigned to the bank,
- coordinates and settles managers' security transactions where appropriate,
- produces monthly valuation and transaction reports,
- facilitates external cash and security flows into and out of the Fund,
- provides a secure short-term fund for managers' cash holdings,
- assists in reconciling portfolio valuation differences with managers,

- offers a safe securities-lending facility,
- produces reports as required by regulatory agencies,
- reports valuations and transactions of Fund assets not assigned to the bank and assists in independent confirmation of those valuations and transactions,
- updates the staff on any pertinent changes in its organization, and
- conducts business in an ethical manner consistent with accepted, industrywide practices.

Appendix B. Lurinberg University Defined-Benefit Plan Investment Policy Statement

Background

Lurinberg University (the University) sponsors the Lurinberg University Defined-Benefit Plan (the Plan), which is funded from assets held in the pension fund (the Fund). The University offers retirement benefits to eligible employees under the Plan, which is solely funded from contributions made by the University. All employees meeting established service requirements are eligible to participate in the Plan.

The Lurinberg University Investment Committee (the Committee) is charged with fiduciary oversight of the Fund. As part of its responsibilities, the Committee has established this Investment Policy Statement (IPS). The purpose of the IPS is to assist in the management and monitoring of the Fund's assets.

The Committee intends to periodically review this IPS. Those reviews serve primarily to formally incorporate enhancements made to the Fund's investment program. The Committee views this IPS as a robust set of guidelines and procedures and, therefore, does not anticipate major revisions unless the financial conditions of the Plan or the University change significantly.

The Fund's Mission

The mission statement defines the purposes for which the defined-benefit (DB) plan exists as a financial entity. Typically, a DB plan will have multiple missions, and those missions will be assigned different priorities. In total, these missions provide the framework around which detailed elements of the fund's investment policy are established.

The mission of the Fund is to secure and protect the retirement benefits promised to Plan participants. All University employees meeting minimum age and service requirements are eligible for a pension benefit. The University finances the Plan's benefits through both periodic contributions and the investment earnings on the Fund's assets. The Committee recognizes that a sound investment program implemented through the Fund is essential to the University's ability to meet its pension promise.

The excess of the Fund's assets relative to the Plan's liabilities (the Plan Surplus) provides crucial security for the employees' retirement benefits.

Therefore, the Fund's primary mission is to accumulate and maintain a sufficient Plan Surplus to protect and sustain currently promised benefits.

The Committee acknowledges the material impact that funding the pension promise has on the University's financial performance. To enable the University to continue offering secure pension benefits to Plan participants, the Committee believes that the Fund should pursue the following secondary missions:

1. To minimize the present value of the contributions that the University must make to the Fund over the long term
2. To avoid both substantial volatility in cash contributions and sizable fluctuations in the Plan Surplus

These two secondary missions affect the Fund's investment strategies and often represent conflicting goals. That is, minimizing long-run funding costs implies an aggressive investment program whereas dampening the volatility of contributions and avoiding large fluctuations in the Plan Surplus imply a conservative set of investments. The Committee places greater emphasis on the strategy of reducing the present value of contributions made to the Fund because this strategy is most consistent with the University's long-run goal of conserving money to apply to other important University projects.

Roles and Responsibilities

Effective fiduciary oversight of a DB plan requires the active involvement and cooperation of various persons and organizations. Each of these entities has distinct roles and responsibilities that contribute to the achievement of the DB plan's mission. Delineating those entities' roles and responsibilities assists in coordinating their actions.

The Committee, whose members are appointed by the Lurinberg University Board of Regents, has the fiduciary responsibility to prudently select and monitor the investment of the Fund. The Committee has established this IPS to assist the Committee in making investment-related decisions in a prudent manner.

Other important roles and responsibilities with respect to the Fund include the following:

- *University investment staff*—implement Committee investment decisions, provide performance reporting, make recommendations to the Committee, and negotiate contracts with service providers.
- *Consultant*—assist the staff and the Committee in fulfilling their responsibilities.

- *Custodian*—hold title to Fund assets as trustee and calculate valuations for each investment portfolio.
- *Investment managers*—be responsible for investing the Fund’s assets in compliance with investment guidelines established by the Committee. Investment managers may also be responsible for relaying pricing information for the portfolio to the Fund’s custodian to enable the valuation mechanism to function smoothly.

Risk Tolerance

Risk tolerance refers to an investment committee’s willingness to bear adverse outcomes in pursuit of the DB plan’s missions. It indicates the trade-off that an investment committee will accept between, on the one hand, the likelihood and costs of failing to achieve the goals set out for the DB plan and, on the other hand, the likelihood of and rewards derived from exceeding those goals.

The Committee’s risk tolerance with respect to the Fund’s primary mission is extremely low. The Committee is unwilling to undertake investment strategies that might jeopardize the ability of the Fund to finance the pension benefits promised to plan participants.

However, funding the pension promise in an economical manner is critical to the University’s ability to continue to provide pension benefits to plan participants. Thus, the Committee actively seeks to lower the cost of funding the Plan’s benefit promise by taking on types of risk for which it expects to be compensated over the long run. The Committee understands that an aggressive investment approach to risk taking can result in periods of disappointing performance for the Fund in which the Plan Surplus may decline. These periods, in turn, can temporarily lead to higher required contributions. Nevertheless, the Committee believes that such an approach, prudently implemented, best serves the long-run interests of the University and, therefore, of plan participants.

Investment Objectives

A DB plan’s investment objectives identify the set of portfolio management results that an investment committee believes would signal a successful investment program. Unlike the broad goals described in the fund’s mission statement, investment objectives are specific, quantifiable investment results expected to be achieved over specific time intervals. Those investment objectives should be unambiguous and measurable, specified in advance, actionable and attainable, and consistent with the fund’s mission and should reflect the investment committee’s risk tolerance.

The Committee's investment objectives are expressed in terms of reward and risk expectations relative to investable benchmarks. The Committee specifies investment objectives at three investment management levels: (1) total fund, (2) asset classes, and (3) individual investment managers. At each level, benchmarks have been established that represent the returns and risks that could be achieved through passive management (for assets for which passive alternatives exist). Performance at all levels of the investment program is always expressed net of all fees and expenses. Performance of the benchmarks is reported without deducting the costs of passive management. As a result, active management can add value to the investment program by at least matching the benchmark's performance.

At the total fund level, the Committee expects that its investment program will at least match (net of fees and expenses) the returns produced by a combination of the asset class targets over a minimum evaluation period of five years. The weights used to compute that combination represent allocations to each asset class in the policy asset mix. The Committee expects that total fund returns will be produced without assuming more capital market risk than is implied by the Fund's policy asset mix.

At the asset class level, the Committee expects that its investments in each asset class will at least match the performance of the respective asset class target over the five-year evaluation period. Because of the mix of manager styles within each asset class, the Committee understands that individual manager returns relative to those of the asset class target may vary considerably over time. Therefore, the Committee focuses on the aggregate performance of the investment managers relative to the asset class target. Furthermore, the Committee recognizes that, because of the uncertain nature of active management, even the aggregate of the investment managers' returns may fall below the returns of the asset class target for extended periods.

At the individual-manager level, the Committee expects that each of its investment managers will at least match the performance of the manager's assigned benchmark over a five-year evaluation period. The Committee insists that the investment managers follow investment styles similar to their benchmarks and maintain active management risk within agreed-upon bounds.

Policy Asset Mix

A DB plan's policy asset mix is its long-run allocation to broadly defined classes of investable assets. Decisions about the policy asset mix are based on expectations regarding the fundamental rewards and risks offered by the capital markets. The policy asset mix must be consistent with the fund's mission statement and the risk tolerance of the investment committee. The policy asset mix is a significant determinant of the fund's future performance. There is no one right policy for all

pension plans. Differences in missions, risk tolerances, and the financial strength of the sponsoring organizations—all these factors affect the asset mix decision.

For purposes of asset allocation, the Committee considers both traditional and alternative asset classes and strategies. Traditional asset classes include publicly traded stocks and bonds, traded in both US and non-US markets. Alternative investments are all other investments and comprise a range of nontraditional, privately held assets, including but not limited to the following: private equity, real estate, natural resource investments, high-yield debt, distressed securities, and absolute return strategies.

In general, the Committee takes a strategic approach to the policy asset mix decision. To determine the impact of various asset allocation alternatives, the Committee reviews a formal asset allocation study using both qualitative and quantitative inputs. The purpose of this study is to help the Committee evaluate the risk–return trade-offs of various asset mix policies. The qualitative factors include peer practices and staff expertise. After consideration of all the inputs and a discussion of its own collective risk tolerance, the Committee approves the appropriate policy asset mix for the Fund. The current policy asset mix is detailed in **Table B1**.

The Committee believes that the substantial equity allocation and the diversified composition of the Fund’s policy asset mix are consistent with the Fund’s primary mission of securing the University’s pension promise. Moreover, the Committee believes that the Fund’s policy asset mix permits the Fund to appropriately balance its secondary missions of minimizing the present value of future contributions while avoiding extreme volatility in contributions and large fluctuations in the Plan Surplus.

Table B1. Current Policy Asset Mix

Asset Class	Long-Term Policy Weight (%)	Rebalancing Range (%)
US equity	30	25–35
Non-US developed-market equity	20	15–25
Emerging-market equity	10	5–15
US fixed income	20	15–25
US inflation-linked bonds (TIPS ^a)	10	5–15
US real estate	5	0–10
Alternative investments	5	0–10
Cash	0	0–5
Total	100	

^aTreasury Inflation-Protected Securities.

Rebalancing the Policy Asset Mix

The Committee has established a policy of maintaining the Fund at its policy asset mix over time. To the extent that the Fund's actual asset allocation deviates from the currently specified ranges, assets will be redistributed to achieve the desired allocation. This redistribution may be accomplished by reallocating among the Fund's investment managers, through a synthetic approach using financial futures, or by a combination of these methods. The use of financial futures avoids frequent adjustments to the investment managers' portfolios that are not economically justifiable. The Committee has authorized the use of financial futures to overlay the assets of the Fund to bring about a more exact match with target allocations.

Nonmarketable investments, such as private equity, are not included in the Fund's procedures for rebalancing back to the policy asset mix because of the illiquid nature of these investments and the fact that capital flows into and out of these investments are uncontrollable. The Committee endeavors to maintain the allocations to nonmarketable investments near their policy weights but recognizes that deviations may occur from time to time because of the uneven nature of capital drawdowns and distributions.

Asset Class Targets

An asset class target is a benchmark that characterizes the scope and nature of available investments within a whole asset class. In general, asset class targets are capitalization-weighted indexes representing a significant percentage of the investable universe of securities in a particular asset class. For example, the S&P 500 Index is commonly used as the asset class target for US common stocks. Asset class targets are important yardsticks for evaluating investment performance and for managing the style risk of programs that use multiple-specialist active investment managers.

The Committee has selected asset class targets for all of its publicly traded investment portfolios. The current targets are specified in **Table B2**.

The Committee has not chosen asset class targets for the Fund's nonmarketable investments, which include private equity, real estate, and natural resources. The illiquidity of those investments and the lack of market pricing have hampered the development of widely accepted market indexes for any of the types of nonmarketable investments that the Fund holds.

Investment Manager Structure

Investment manager structure refers to two aspects of investment policy within asset classes. First, the investment committee must determine the role that active management will play in its investment program. Second, to the extent that the

Table B2. Current Asset Class Targets

Asset Class	Asset Class Target
US equity	Russell 3000 Index
Non-US developed-market equity	MSCI World ex US Index
Emerging-market equity	MSCI Emerging Markets Index
US fixed income	Bloomberg Barclays Capital Aggregate Bond Index
US inflation-linked bonds (TIPS ^a)	Bloomberg Barclays Capital US TIPS Index
US real estate	NCREIF Property Index
Alternative investments	NA
Cash	90-day T-bills

NA = not applicable. ^aTreasury Inflation-Protected Securities.

investment committee uses active management, it must allocate funds among the managers hired to invest the DB plan's assets. In that respect, the investment committee must develop policies designed to control the amount of "style bias" and active management risk in the investment program.

As a general philosophy, the Committee endorses the use of active management to enhance the returns generated by the Fund's policy asset mix. The Committee recognizes the highly competitive nature of the capital markets and the corresponding fact that active management cannot be guaranteed to add value to the Fund's investment program. Nevertheless, the Committee believes that the potential rewards from active management are sufficiently large to justify the search for superior investment organizations.

The Committee has chosen to invest the Fund's actively managed assets with outside investment managers. Presently, the Committee does not view the investment in people required to adequately staff an internal money management operation as cost-effective. The Committee has provided the chief investment officer with the authority to make active investment decisions on a limited and opportunistic basis.

With respect to active strategies, the Committee believes that *people* and *process* are at the very heart of a sustainable competitive advantage in the business of investment management. The Committee prefers to retain only those investment managers with experienced people and tested processes whose interests are aligned with those of the Fund. In terms of strategy, the Committee prefers to retain specialist investment managers who focus their efforts on selecting securities within asset classes and pursue well-defined investment approaches based on fundamental principles of security valuation.

Except in nonmarketable asset classes, each manager is required to designate or make available an appropriate benchmark. The manager's benchmark will be evaluated relative to six basic criteria. The benchmark should be the following:

- *Unambiguous*—the names and weights of securities composing the benchmark are clearly delineated.
- *Investable*—the option to forgo active management and simply hold the benchmark is available.
- *Measurable*—the benchmark's return can be readily calculated on a reasonably frequent basis.
- *Appropriate*—the benchmark is consistent with the manager's investment style.
- *Specified in advance*—the benchmark is constructed prior to the start of an evaluation period.
- *Owned*—the manager accepts accountability for the composition and performance of the benchmark.

A manager's benchmark is used to evaluate the manager's capability to add value, to characterize the manager's investment style for purposes of clarity, and to allocate assets efficiently among investment managers within the asset class.

Within an asset class, assets are allocated to investment managers so that the total risk of the combined manager group relative to the asset class target is maintained within acceptable bounds. In particular, the Committee desires to cost-effectively minimize the risk posed by unintended deviations in the aggregate investment style of the investment managers from that of the asset class target (i.e., style bias). The Committee allows for aggregate style deviations from the asset class target as a potential source of added value (e.g., tilting toward *value stocks*). However, the long-term source of added value is expected to derive from the active decisions of the investment managers. Therefore, the level of risk (return) from style management is targeted below the level of risk (return) expected to result from the aggregate effects of the investment managers' active strategies.

Performance Evaluation

Performance evaluation refers to the process of measuring and interpreting the performance of the investment program. It provides valuable information concerning the investment program's strengths and weaknesses and identifies areas

of potentially profitable enhancements. Performance evaluation carried out in the context of investment policy acts as a feedback-and-control mechanism.

The Committee advocates a comprehensive approach to performance evaluation. The Committee regularly collects and reviews pertinent performance information regarding its investment program. Changes in the value of the total Fund are broken down into specific key policy decisions. The Committee then examines how those decisions contributed to or detracted from the Fund's investment results. Through this process, the Committee seeks confirmation that its investment program is being carried out according to plan.

For evaluating individual managers, the Committee has approved an evaluation process, implemented by the investment staff, that specifies key qualitative and quantitative evaluation criteria and the procedures for applying those criteria. As part of its ongoing manager review, the staff considers various indicators of the stability and effectiveness of its investment managers. If serious concerns arise from these reviews, the staff examines the investment managers of concern and makes determinations as to their continued viability as part of the Fund's investment program.

Fee Policy

A DB plan's fee policy outlines the philosophy and criteria established by the plan sponsor both for negotiating fees paid to the investment management and administrative service providers and for determining how those fees are allocated to the plan and the sponsoring employer.

The Committee seeks to understand the breadth, depth, quality, and necessity of the investment management and administrative services relative to the fees paid for those services. The Committee strives to balance reasonable investment management and administrative expenses against the services received. Factors such as the Plan's objectives, the Plan's unique characteristics and level of complexity, the experience of the service provider, and the breadth and unique capabilities of the service provider, among others, are considered by the Committee in retaining and compensating service providers.

Administrative expenses and investment management expenses are reviewed periodically to assess the competitiveness of fees (both direct and indirect) for the services provided by the service providers to the Plan. This review includes a determination of whether a lower-cost share class or investment vehicle is available and feasible. The Committee may also consider whether the fees are within a reasonable range compared with the market and/or applicable benchmarks.

Administrative expenses for services provided to the Plan include record keeping, website operation, call center operation, participant search, communications preparation and delivery, communications consulting, investment consulting, banking and trusteeship, auditing and actuarial services, and help with fulfilling regulatory requirements.

Plan participants do not pay any expenses of the Plan.

The Plan pays for the following:

- Investment management expenses of the Plan
- Administrative expenses of the Plan
- Regulatory fees due from the Plan
- Services of the selected investment consultant of the Plan
- Forfeitures by participants, which are retained by the Plan to reduce expenses

The University pays for the following:

- Salaries, overhead, training, and travel expenses of the Committee
- Salaries, overhead, training, and travel expenses of the staff assigned to administer and monitor the Plan
- Salaries, overhead, training, and travel expenses of legal counsel to the Plan
- Costs related to fidelity bonding and fiduciary insurance
- Costs related to the Plan's design studies and changes

Additional Investment Policy Issues

Investment Policy Review. The Committee may review elements of its investment policy from time to time. These reviews serve primarily to formally incorporate into the policy any enhancements and additions made to the Fund's investment program. The Committee views its investment policy as a robust set of guidelines and procedures and, therefore, does not anticipate major revisions unless the financial conditions of the Plan or the University change significantly.

Investment Guidelines. The Committee requires that investment guidelines be maintained for all of the Fund's investment managers who hold publicly traded securities. At a minimum, an investment manager's

investment guidelines include specifications, mutually agreed to by the manager and the investment staff, related to the following:

- Return and risk objectives
- Benchmark portfolios
- Authorized investments
- Portfolio composition constraints
- Various investment and administrative practices

The investment staff reviews manager guidelines on an ongoing basis to ensure compatibility and consistency with investment goals and objectives.

Proxy Voting. The Committee views the voting of proxies as an integral part of the investment decision-making process. Therefore, the Committee delegates the voting of all proxies to its investment managers.

Securities Lending and Swap and Other Derivative Transactions. The Committee believes that swap and other derivative transactions that are conducted under appropriate guidelines offer attractive incremental returns for the Fund relative to the risk incurred. The Committee has authorized the chief investment officer (CIO) to engage in securities-lending arrangements and swap and other derivative transactions with respect to all or some portion of the securities held by the Fund. Such authorization covers, without limitation, rate swap transactions, equity or equity index swaps, credit default swaps, repurchase transactions, or any other similar transactions recurrently entered into in the financial markets, any of which transactions may include a forward contract, swap, future, option, or other derivative on or with respect to one or more rates, currencies, commodities, equity securities, debt securities, economic indexes, or other measures of economic risk or value.

Reporting. Because the Committee has delegated authority to the CIO to implement key policy and operational decisions for the Fund, the CIO is to provide the Committee with periodic reports that inform the Committee about the investment decisions made by the staff. On a quarterly basis, the CIO shall provide a report to the Committee that highlights the changes to the investment portfolio with respect to investment managers. The report should identify the firm(s), strategy(ies), assets managed, and a brief rationale underlying the decision(s). On an annual basis, the CIO shall provide the Committee with a complete listing of the Fund's investment managers, the format of which will include the manager's categorization, a brief strategy description, assets managed, and investment performance relative to appropriate benchmarks.

Appendix C. Lurinberg University Defined-Contribution Plan Investment Policy Statement

Background

Lurinberg University (the University) sponsors the Lurinberg University Defined-Contribution Plan (the Plan). The University offers retirement benefits to eligible employees under the Plan, which is funded from payroll deferrals made by the plan participants and matching contributions made by the University. All employees meeting established service requirements are eligible to participate in the Plan.

The Lurinberg University Investment Committee (the Committee) is charged with fiduciary oversight of the Plan. As part of its responsibilities, the Committee has established this Investment Policy Statement (IPS). The purpose of the IPS is to assist in the management and monitoring of the Fund's assets.

The Committee intends to periodically review this IPS. Those reviews primarily serve to formally incorporate any enhancements made to the Plan's investment program. The Committee views this IPS as a robust set of guidelines and procedures and, therefore, does not anticipate major revisions unless the financial conditions of the Plan or the University change significantly.

The Fund's Mission

A defined-contribution (DC) plan's mission statement defines the purpose for which the plan exists as a financial entity. It also highlights the prominent financial issues that influence how the plan sponsor goes about offering investment options to achieve the plan's mission. A DC plan's mission statement provides the framework around which the more detailed elements of its policy are established.

The Plan is designed to provide plan participants with a cost-effective vehicle for accumulating assets to meet retirement financial needs. The Plan offers participants and beneficiaries a variety of investment options representing various asset classes with materially different risk-and-return characteristics. Each investment option is expected to maintain its investment risk at an appropriate level in relation to its expected return and charge reasonable expenses. Participants must determine their own asset allocations in light of their individual investment objectives.

Roles and Responsibilities

Effective fiduciary oversight of a DC plan requires the active involvement and cooperation of various persons and organizations. Each of these entities has distinct roles and responsibilities that contribute to the achievement of the DC plan's mission. Delineating those roles and responsibilities assists in coordinating their actions.

The Committee, whose members are appointed by the University's Board of Regents, has the fiduciary responsibility to prudently select and monitor the investment options to be made available to participants and beneficiaries under the Plan. Other important roles and responsibilities with respect to the Plan include the following:

- *University investment staff*—implement decisions, provide performance reporting, make recommendations to the Committee, and negotiate contracts with service providers.
- *Consultant*—assist staff and the Committee in fulfilling their responsibilities.
- *Custodian*—hold title to Plan assets as trustee and calculate valuations for each investment option.
- *Investment managers*—invest the participants' assets in compliance with investment guidelines established by the Committee. Investment managers may also be responsible for relaying portfolio pricing information to the Plan's custodian to enable the valuation mechanism to function smoothly.
- *Record keeper*—maintain participant account values, transaction summaries, and investment selections; calculate and report participant account values.

Investment Options

A DC plan makes available a set of investment options for the plan participants to select from in investing their account assets. Those investment options offer participants the opportunity to create a well-diversified portfolio by including a range of asset types and investment strategies.

Participants in the Plan vary considerably in terms of their investment sophistication, risk tolerance, and willingness and ability to spend time making investment decisions. The Committee has selected a broad range of investment options designed to appeal to the diverse participant population and meet the needs of the vast majority of participants at a competitive cost.

The Committee has focused on three primary criteria in selecting investment options for the Plan: low cost, diversification, and focus.

The Committee has determined that index funds should form the core of the investment options. Most Plan participants have little investment experience and, as a result, have difficulty understanding the costs and risks of actively managed funds. Index funds, which are passively managed, provide the lowest-cost means of investing in a particular investment style. Furthermore, passively managed funds offer significant diversification within an investment style. These funds also avoid the potential to drift away from a particular investment style. Additionally, the investment objectives of passively managed funds are readily communicated to Plan participants.

The Committee has divided the Plan's investment options into three groups for communication purposes. The three groups are as follows:

- *Target Date Funds*—Investment options in this group are designed to be investment solutions for participants who wish, for all or a portion of their Plan assets, to delegate asset allocations across asset classes and investments within asset classes. A series of investment options with varying time horizons, expressed in terms of years to retirement, is offered. These funds use a diversified set of asset classes to provide diversification and allow for reduction in risk level as a participant approaches the retirement date. The participant may choose the fund with a target retirement date that most closely matches his or her own working horizon and/or level of risk tolerance. The investment manager manages the asset allocation to shift away from more risky asset classes, such as equities, toward more conservative asset classes, such as fixed income, as the target date approaches.
- *Core Group*—The Core Group investment options allow a participant to choose diversified asset class funds and to blend them in an asset allocation of the participant's own design. The Plan offers these funds across a range of major asset classes. All the Core Group investment options are passively managed. Each investment option is evaluated on the basis of its appropriateness in a well-diversified portfolio and performance over the appropriate time period (which may vary by asset class). The current Core Group investment options are listed in **Table C1**.
- *Specialty Group*—The investment options in the Specialty Group are not considered core asset categories and are intended to be used in addition to the Core Group investment options. Each investment option is evaluated on the basis of its appropriateness in a well-diversified portfolio

Table C1. Target Date Funds

Group Funds	Description
<i>Core Group</i>	
Money market fund	Cash and short-term high-quality bonds
Intermediate-term bond fund	Short- and intermediate-term high-quality bonds
Inflation-protected bond fund	US Treasury Inflation-Protected Securities
US large-company stock index fund	US large-company stocks
US small-company stock index fund	US small-company stocks
International developed-market stock index fund	Stocks of non-US countries with developed capital markets
<i>Specialty Group</i>	
International emerging-market index fund	Stocks of countries with emerging capital markets
US real estate stock index fund	Publicly traded US real estate investment trust stocks

and performance over the appropriate time period (which may vary by asset class). The current Specialty Group investment options are listed in Table C1.

The Committee periodically reviews the appropriateness of the Plan's investment options. The Committee considers the use of options by participants and participants' comments conveyed to the Plan's record keeper about current or prospective investment options. The Committee may decide to add new investment options or delete existing investment options at any time.

Selection of Investment Managers

A DC plan's investment managers implement the plan's investment options. A plan sponsor identifies and retains managers that provide competitively priced, high-quality services that offer plan participants cost-effective access to their designated investment strategies.

With respect to passively managed investment options, the Committee seeks organizations that have considerable experience in managing DC plan assets and that have a large base of assets and clients. Those attributes enhance the ability of the investment managers to offer a wide variety of investment options at low management fees. Furthermore, these managers must demonstrate the ability to manage passive portfolios that adequately track assigned benchmarks after accounting for fees and expenses. With respect to actively managed investment options, the Committee places emphasis on the

perceived ability of the manager to add value to the investment of a pool of assets when compared with an assigned benchmark.

Performance Evaluation

Performance evaluation refers to the process of measuring and interpreting the performance of a plan's investment options. In the context of investment policy, performance evaluation acts as a feedback-and-control mechanism.

The Committee considers qualitative and quantitative criteria when evaluating the stability and effectiveness of its manager organizations. Criteria include firm philosophy, process, people, price, and performance. To the extent that serious concerns arise from these reviews, the Committee conducts examinations of managers and makes determinations as to their continued viability as managers of the Plan's investment options.

The performance of the manager for each investment option is evaluated relative to the benchmark agreed to by the manager and the Committee. Managers of passively managed investment options are expected to maintain adequate tracking relative to the assigned benchmarks. Managers of actively managed investment options are expected to exceed the performance of the assigned benchmarks while maintaining agreed-upon levels of active management risk over a long-term time horizon. The Committee does not change the Plan's managers unless absolutely necessary in order to avoid costs and confusion for the Plan's participants.

Additional Investment Guidelines

Manager Investment Guidelines. The Committee requires that investment guidelines be maintained for all the Plan's investment managers. Each manager's investment guidelines include specifications, mutually agreed to by the manager and the Committee, concerning the following factors for the manager:

- Return and risk objectives
- Benchmark portfolio
- Authorized securities
- Portfolio composition constraints
- Various investment and reporting practices

Securities Lending. Currently, the Committee believes that the incremental returns offered by securities lending do not justify the risks involved.

The Committee does not allow managers of the Plan's investment options to engage in securities lending. The Committee intends to periodically review the appropriateness of securities lending for the Plan's investment programs.

Fund "Mapping." If an investment option is eliminated, participant assets are transferred or "mapped" to an alternative investment option whose investment goals are as similar as possible to the eliminated investment option in terms of risk-and-return characteristics.

Fee Policy

A DC plan's fee policy outlines the philosophy and criteria established by the plan sponsor for negotiating fees paid to investment management and administrative service providers and for determining how those fees are to be allocated to plan participants and the sponsoring employer.

The Committee seeks to understand the breadth, depth, quality, and necessity of the administrative and investment management services relative to the fees paid for those services. The Committee strives to balance reasonable investment management and administrative expenses with the services received. Such factors as the Plan objectives, the Plan's unique characteristics and level of complexity, experience of the service provider, and breadth and unique capabilities of the service provider, among others, are considered by the Committee in retaining and compensating service providers.

Administrative expenses and investment management expenses are reviewed periodically to assess the competitiveness of fees (both direct and indirect) for the services provided by the service providers to the Plan, including a determination of whether a lower-cost share class or investment vehicle is available and feasible. The Committee may also consider whether the fees are within a reasonable range as compared with the market and/or applicable benchmarks.

Administrative expenses for services provided to the Plan include record keeping, website operation, call center operation, participant search, communications preparation and delivery, communications consulting, investment consulting, banking and trustee services, auditing, and help with fulfilling regulatory requirements.

The Committee seeks to periodically evaluate whether the method of allocating the expenses of the Plan to participants continues to be reasonable. The Committee has determined that asset-based fees are preferable to per-participant fees for administrative and investment management expenses. These fees are paid through a reduction in net returns on investments. Participant-selected financial management service fees, loan fees, and

withdrawal fees are allocated to a participant on the basis of the expense of providing these transactions to the participant.

Participants pay for the following:

- The investment management and administrative expenses of the Plan
- Their own individual plan expenses (including loans, withdrawals, and financial adviser account management)
- The services of the Plan's selected investment consultant

Forfeitures by participants are retained by the Plan to reduce expenses charged to participants.

The University pays for the following:

- Salaries, overhead, training, and travel expenses of the Committee
- Salaries, overhead, training, and travel expenses of staff assigned to administer and monitor the Plan
- Salaries, overhead, and travel expenses of legal counsel to the Plan
- Costs related to the Plan's design studies

Glossary of Investment Terms

absolute return fund. See **hedge fund**.

active management. A form of investment management that involves buying and selling financial assets with the objective of earning returns greater than a specified benchmark.

active management return. The difference between a portfolio's return and the benchmark's return.

active management risk. The risk taken by an active portfolio manager to earn active management returns by taking positions different from the benchmark; typically measured by the standard deviation of active management returns.

actuary. A person or firm that specializes in estimating the liabilities associated with a benefit plan or an insurance trust.

agency conflict. The potential for a conflict of interest between an agent and the person or organization for whom the agent is acting.

alternative investment. A term used to categorize assets other than traditional publicly traded stocks and bonds, including but not limited to private equity, real estate, hedge funds, commodities, timber, and infrastructure.

annuity. A contract that guarantees a series of future payments to a party, the annuitant, beginning at a specified point in time and continuing to a specified future point in time or terminating at the date of the annuitant's death.

arbitrage. The simultaneous purchase and sale of the same security, or a security so similar as to be essentially the same, in two different markets at different prices so as to profit from the difference.

asset allocation. The process of determining the desired division of an investor's portfolio among available asset classes.

asset class. A broadly defined generic group of financial assets, such as stocks or bonds.

basis point. One one-hundredth of a percentage point, or 0.01%; 100 basis points (bps) add up to 1%.

benchmark. A portfolio with which the investment performance of an investor can be compared for the purpose of determining investment skill.

A benchmark portfolio represents a relevant and investable alternative to the investor's actual portfolio and, in particular, is similar in terms of risk exposure.

benefits. Periodic payments promised or expected to be made to the designated beneficiaries of a pool of assets.

benefit security ratio. See **funded ratio**.

beta. A relative measure of the sensitivity of an asset's return to changes in the return on the market portfolio.

bond (fixed-income security). A type of investment in which the holder lends money to another entity and is then entitled to periodic payments of interest and a return of the capital at a specified time in the future.

buyout. A form of private equity in which a partnership buys all the shares of a public company, usually taking on a large debt, to operate the company privately with the intention of eventually making a profit by taking the company public again or selling part or all of it to another business.

commingled fund. An investment vehicle that sells units of ownership in itself to one or more investors and uses the proceeds to purchase financial assets for the benefit of the investors. The investors have a *pro rata* claim on the assets of the fund proportional to their unit ownership.

commodity. A physical (real) asset used as an input to a production process. Many commodities are traded in cash (spot) markets or on organized exchanges in the form of futures contracts.

common stock (equity; stock). Legal representations of an ownership position in a corporation.

conflict of interest. A situation in which the actions of a person who has a duty to one party could benefit that person (or a related party) at the expense of the party to whom the duty is owed.

contributions. Money added to a pool of assets for the purpose of investment and, eventually, payment of benefits.

correlation. A statistical measure of the covariation of two random variables (i.e., how much two asset returns change together).

custodian bank. A type of bank that provides safekeeping of financial securities for an investor, including the related accounting and reporting services.

defined-benefit plan. A retirement plan in which the participants are promised a fixed benefit. The sponsoring organization takes the risk that its investments will be sufficient to provide these benefits.

defined-contribution plan. A retirement plan in which a participant (and perhaps a sponsoring organization) makes fixed contributions and the participant bears the risk that the assets will be sufficient to provide adequate benefits upon retirement.

diversification. The process of investing in more than one type of asset to reduce the risk of the entire portfolio.

EAFE index. An equity market index that includes securities from countries in Europe, Australasia, and the Far East with well-developed capital markets. US and Canadian securities are not included.

endowment. A gift, usually to an educational institution, whose purpose is to provide funding for a particular mission in perpetuity; collectively, an aggregate of such gifts being managed in a single strategy.

equity. See **common stock**.

expected return. The return on a security (or portfolio) that an investor anticipates receiving over a given time horizon.

expense ratio. Annual fee that a mutual fund or exchange-traded fund charges its shareholders for fund administration, management, operating, and distribution services, expressed as a percentage of the market value of the fund's assets.

fiduciary. A person or entity that assumes responsibility to manage or oversee a pool of assets on behalf of some other person or entity, such as a defined-benefit plan or endowment. The fiduciary has a duty to act solely for the benefit of that entity (not for himself or herself or some other entity).

fiduciary duty. A legal or ethical relationship of confidence or trust between one party and another party or parties.

financial asset (security). A legal representation of the right to receive prospective future benefits under stated conditions.

fixed-income security. See **bond**.

foundation. An entity that has some public mission (e.g., to cure a given disease) and provides grants to other entities to further that mission (e.g., by conducting scientific research to find a cure). It owns a pool of assets that are invested to provide income to fund that mission.

funded ratio (benefit security ratio). Ratio of the value of a fund's assets to the value of the fund's liabilities.

general partner. An individual or firm that sources and obtains financing for the purchase of an asset and then manages that asset on behalf of other providers of capital (the limited partners).

governance structure. A set of processes by which a fund is managed for the benefit of some group of beneficiaries.

growth stocks. The stocks of companies that have experienced or are expected to experience earnings-per-share growth higher than the market as a whole. Growth stocks also tend to display high price-to-earnings ratios relative to the market. Also called "glamour stocks."

hedge fund. A form of active management distinguished by a lack of traditional guidelines or benchmarks; a hedge fund typically uses derivatives, leverage, and/or short selling. The term is often synonymous with **absolute return fund**.

high-yield (junk) bonds. Below-investment-grade bonds that have higher yields (coupon payment divided by price) than other investment-grade bonds of similar maturity because of greater uncertainty of coupon and principal payment.

indexing. See **passive management**.

information ratio. A risk-adjusted measure of portfolio active management performance. Mathematically, over an evaluation period, it is the annualized ratio of active management return to active management risk, where risk is measured as the standard deviation of the portfolio's active management returns.

internal rate of return. See **money-weighted rate of return**.

investable universe. The aggregate of securities that is appropriate and available for selection under a particular investment mandate.

investment committee. A group of individuals who are responsible for determining the investment policy of a fund.

investment consultant. A professional (usually associated with a firm) who offers advisory services to a fund, most often in the areas of asset allocation, investment policy, and manager selection.

investment-grade bonds. Generally, bonds that possess bond ratings of BBB (Standard & Poor's) or Baa (Moody's Investment Services) or higher. Such

ratings permit them to be purchased by regulated financial institutions, such as banks.

investment manager. A person or entity that creates and manages portfolios of securities for clients with money to invest.

investment policy. A component of the investment process that involves determining a fund's mission, objectives, and attitude toward the trade-off between expected return and risk.

investment policy statement. A formal written document describing a fund's investment policy.

investment return. The percentage change in the value of an investment in a financial asset (or portfolio of financial assets) over a specified time period.

investment risk. The potential for loss accepted by an investor in the pursuit of investment return; alternatively, the uncertainty associated with the end-of-period value of an investment.

investment skill. The ability of an active manager to select portfolios that consistently have average returns greater than a given performance benchmark.

liability. The present value of the accrued benefits promised to the beneficiaries of a fund.

limited partner. An individual or entity that provides equity financing to a general partner for the purchase of an investment but does not participate in the ongoing management of the investment.

liquidity. Property of a security that allows investors to convert the security into cash at a price similar to the price of the previous trade in the security (assuming that no significant new information has arrived since the previous trade).

mandate. Strategy or performance benchmark used by an investment manager on behalf of and at the direction of a client.

market capitalization. Aggregate market value of a security, equal to the market price per unit of the security multiplied by the total number of outstanding units of the security.

market cycle. A period of time over which a particular security market moves from one peak to another or from one trough to another.

market index. A collection of securities whose values are averaged to reflect the overall investment performance of a particular market for financial assets.

money-weighted rate of return (internal rate of return). The rate of return on a portfolio over a particular period of time. It is the discount rate that equates the present value of cash flows into and out of the portfolio, plus the portfolio's ending value, to the portfolio's beginning value.

mutual fund. A managed investment company, with an unlimited life, that stands ready at all times to purchase its shares from its owners and usually will continuously offer new shares to the public.

outsourced chief investment officer. A service offered by investment organizations to actively assist sponsors of retirement plans, endowment funds, and foundations in carrying out a range of governance and management responsibilities, including investment policy design, asset allocation, manager selection and monitoring, and performance reporting.

overfunded. The status of a fund whose assets are greater in value than the associated plan's liabilities.

passive management (indexing). The process of buying and holding a well-diversified portfolio designed to produce substantially the same returns as a specified market index.

peer group. A set of investors (funds or managers) whose returns are used for a comparison with those of a given fund to determine how the given fund ranks among similar funds.

performance appraisal. The part of the performance evaluation process that attempts to determine whether the investment returns over an evaluation period have been achieved by skill or luck.

performance attribution. The part of the performance evaluation process that identifies sources of returns for a portfolio relative to a designated benchmark over an evaluation period.

performance evaluation. A component of the investment process involving periodic analysis of how a portfolio performed in terms of both returns earned and risks incurred.

performance measurement. The part of the performance evaluation process that calculates a portfolio's rate of return over an evaluation period.

plan participant. A member of a defined-benefit or defined-contribution plan to whom benefits are promised or are being paid.

policy asset mix. A set of asset classes and desired percentage allocations to each class such that the total portfolio displays the investor's desired risk and expected return profile; also referred to as the "policy portfolio," "policy benchmark," "policy asset allocation," or "strategic asset allocation."

private equity. A broad asset class generally involving buyouts, venture capital, and distressed debt converted into equity.

real estate. An investment in land and physical structures intended to provide a stream of rental or lease income and possibly capital appreciation.

rebalancing. The process of buying and selling assets to restore a fund to its policy asset mix after market movements or net cash flows have changed the actual market weights of the various asset classes.

record keeper. An investment organization responsible for maintaining the financial and investment details of the individual participants' records in a retirement plan.

relative performance. The difference between a portfolio's return and the benchmark's return.

risk budgeting. A risk management technique in which assets are allocated efficiently so that the expected return of each asset is proportional to its contribution to portfolio risk.

risk capacity. Financial ability of an investment organization to withstand adverse investment results.

risk management. A part of the investment process in which the risks of a portfolio are identified and quantified; strategies are then developed to control those risks.

risk tolerance. The trade-off between risk and expected return demanded by a particular investor.

scenario analysis. A process whereby, for the purpose of designing appropriate investment strategies, an investor considers a number of possible future economic investment environments and the likelihood of those environments occurring.

security. See **financial asset**.

separately managed account. An investment vehicle that takes in funds from a single investor and uses the proceeds to purchase financial assets for the sole benefit of that investor. The investor directly owns all assets held in the account. Also called "separate account."

Sharpe ratio. A risk-adjusted measure of portfolio performance in which risk is measured by the standard deviation of the portfolio's returns. Mathematically, over an evaluation period, it is the annualized ratio of the excess return (the actual return less the risk-free return) of the portfolio divided by the portfolio's standard deviation.

staff. The professionals who, on a day-to-day basis, administer the investment program of a fund.

standard deviation. A statistical measure of the variability (range of potential outcomes) of investment returns.

stock. See **common stock**.

stress test. A form of analysis in which one estimates the impact of various adverse situations on the returns of a portfolio.

time-weighted rate of return. The rate of return on a portfolio over a particular period of time. Effectively, it is the return on \$1.00 invested in the portfolio at the beginning of the measurement period.

trustee. A person who has fiduciary responsibility for a pool of assets.

uncertainty. The state of incomplete knowledge about the present and future with respect to an investment.

uncorrelated. The condition in which the returns of two or more assets do not go in the same direction at the same time.

underfunded. The status of a fund whose assets are less in value than the liabilities for which those assets exist.

value stocks. The stocks of companies that have experienced poor past price performance or whose issuing companies have experienced relatively poor past earnings compared with the market as a whole. Value stocks tend to display low price-to-earnings ratios relative to the market. Also called "distressed stocks."

venture capital. A form of private equity involving non-publicly-traded equity investments in which a general partner provides capital to an entrepreneur to begin or grow an enterprise with the intention of eventually making a profit by taking the company public or selling it to another business.

volatility. The characteristic that financial asset returns vary over time in unpredictable ways or amounts. This term is often used interchangeably with "standard deviation of the asset's returns."

Further Reading

Must-Reads

Four top-notch general-interest books on investing that provide a basic education in sound investment principles (start with Malkiel):

Bernstein, Peter L. 1996. *Against the Gods: The Remarkable Story of Risk*. New York: John Wiley & Sons.

Chancellor, Edward. 2000. *Devil Take the Hindmost: A History of Financial Speculation*. New York: Plume.

Kahneman, Daniel. 2011. *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.

Malkiel, Burton G. 2007. *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing*, revised and updated ed. New York: W.W. Norton.

Further Education

The following are well-written, highly regarded books about investing. Swensen's book, in particular, deals with setting up a superior investment management *process* (actual investment results, of course, are not guaranteed):

Ambachtsheer, Keith P., and D. Don Ezra. 1998. *Pension Fund Excellence*. New York: John Wiley & Sons.

Bernstein, Peter L. 2005. *Capital Ideas: The Improbable Origins of Modern Wall Street*. New York: John Wiley & Sons.

Bogle, John C. 2010. *Common Sense on Mutual Funds*, fully updated 10th anniversary ed. Hoboken, NJ: John Wiley & Sons.

Bookstaber, Richard. 2007. *A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation*. Hoboken, NJ: John Wiley & Sons.

Ferguson, Niall. 2008. *The Ascent of Money: A Financial History of the World*. New York: Penguin Press.

Graham, Benjamin. 2003. *The Intelligent Investor*, revised ed. updated with new commentary by Jason Zweig. New York: HarperCollins Publishers/HarperBusiness Essentials.

Swensen, David F. 2000. *Pioneering Portfolio Management: An Unconventional Approach to Institutional Investment*. New York: Simon & Schuster/Free Press.

One journal article on investing that we highly recommend is by a Nobel Prize-winning economist and comes to a startling conclusion that should keep all of us humble:

Sharpe, William F. 1991. “The Arithmetic of Active Management.” *Financial Analysts Journal*, vol. 47, no. 1 (January/February): 7–9. doi:10.2469/faj.v47.n1.7

Resources for Investment Committees

Many short articles on investment committee processes are available, but few publications take an in-depth and comprehensive look at the role of groups charged with overseeing the investment of pools of capital. Three books are worth a read:

DiBruno, Rocco. 2006. *Best Practices for Investment Committees*. New York: John Wiley & Sons.

Greenwich Roundtable. 2014. *Best Governance Practices for Investment Committees*.

Olson, Russell L. 2005. *The Handbook for Investment Committee Members*. New York: John Wiley & Sons.

Shorter articles of note include the following:

Drew, Michael E., and Adam N. Walk. 2016. “Governance: The Sine Qua Non of Retirement Security.” *Journal of Retirement* (Summer): 1–10.

Ellis, Charles D. 2011. “Best Practice Investment Committees.” *Journal of Portfolio Management*, Winter: 139–147. doi:10.3905/jpm.2011.37.2.139

Vanguard Group. 2004. *Investment Committees: Vanguard’s View of Best Practices*.

Wood, Arnold S. 2006. *Behavioral Finance and Investment Committee Decision Making*. Charlottesville, VA: CFA Institute.

Ethical and Professional Standards

The first two publications in this list deal with standards for investment managers and staff; the other two cover standards for trustees:

CFA Institute. 2014. *Code of Ethics and Standards of Professional Conduct*. Charlottesville, VA: CFA Institute (<http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2014.n6.1>).

Schacht, Kurt, Jonathan J. Stokes, and Glenn Doggett. 2009. *Asset Manager Code of Professional Conduct*, 2nd ed. Charlottesville, VA: CFA Institute (<http://www.cfapubs.org/toc/ccb/2009/2009/8>).

Schacht, Kurt, Jonathan J. Stokes, and Glenn Doggett. 2010. *Investment Management Code of Conduct for Endowments, Foundations, and Charitable Organizations*. Charlottesville, VA: CFA Institute (<http://www.cfapubs.org/toc/ccb/2010/2010/15>).

CFA Institute. 2015. *Code of Conduct for Members of a Pension Scheme Governing Body*. Charlottesville, VA: CFA Institute (<http://www.cfapubs.org/doi/abs/10.2469/ccb.v2008.n3.1>).

Textbooks and Articles

The following small volume expands on many of the topics in Sessions 4, 6, and 8 and offers trustees a nonquantitative discussion on evaluating investment performance:

Siegel, Laurence B. 2003. *Benchmarks and Investment Management*. Charlottesville, VA: Research Foundation of CFA Institute.

A useful discussion of performance evaluation is also presented in this book chapter:

Bailey, Jeffery V., Thomas M. Richards, and David E. Tierney. 2009. "Evaluating Portfolio Performance." In *Investment Performance Measurement*. Edited by Philip Lawton and Todd Jankowski. Charlottesville, VA: CFA Institute.

For those trustees with the time and interest, this textbook sponsored by CFA Institute provides comprehensive and in-depth—but largely nontechnical—coverage of all aspects of institutional investing:

Maginn, John L., Donald L. Tuttle, Dennis W. McLeavey, and Jerald E. Pinto. 2007. *Managing Investment Portfolios: A Dynamic Process*, 3rd ed. Hoboken, NJ: John Wiley & Sons.

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