



INDEPENDENT FIDUCIARY SERVICES, INC.

Independent Fiduciary Services, Inc.

**Fiduciary Performance Audit
of the
The Ohio Police and Fire Pension Fund**

***Directed by the
Ohio Retirement Study Council***

December 2006

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Introduction

This Report is presented in four sections: an executive summary; background information and methodology; detailed discussion and analysis; and exhibits.

Section I, the Executive Summary, offers a high level overview of the major themes in the Report. The Executive Summary should be used in the context of the full report.

Section II, Background and Methodology, describes Independent Fiduciary Services® (“IFS”) and the methodology we followed in performing this assignment. It then explains the overall format of this Report and concludes with caveats and observations about the substantive sections of the Report.

The next Section III, Discussion and Analysis, comprises the body of the report. Section III is split into the two primary categories specified in the “ORSC Scope of Work” – Investment Issues and Management Issues. Within each of the two primary categories, the Report is then divided into task areas or sections that match the specific topics identified in the ORSC Scope of Work. The discrete issues raised in the ORSC Scope of Work are then addressed within each section. Many of the discrete issues stated in the ORSC Scope of Work are interconnected or duplicative. To facilitate readability, the Report integrates the discussion of overlapping issues.



Many readers of this Report will not be pension fund industry experts, whereas others will. For that reason, the Report provides preparatory narrative (referred to as “fundamental principles”) explaining some of the basic standards, concepts and risks (i.e., the potential impact of failure to establish and/or implement the stated principles) to assist the readers in understanding the basis for the subject matter Observations. Our findings and recommendations are based on the review we conducted of each objective/task area in coordination with the Board, the Executive Director, the Chief Investment Officer and the investment staff. At Exhibit A, we provide a compilation of our recommendations, in a matrix format, which will allow the Board to track its action regarding each.

Section IV, Exhibits, contains supporting material, tables and charts that are referenced within the body of the report. However, many charts and tables are inserted in the body of the report where feasible.



Section I.

Executive Summary

Basis for the Review

The Ohio Police and Fire Pension Fund (OP&F) provides pension, disability, survivor, and health care benefits to retired Ohio police officers and firefighters and their survivors. The Ohio General Assembly created OP&F in 1965, replacing 454 separate local police and fire pension funds in Ohio. OP&F's statewide operation began in 1967 when the local pension funds transferred assets and liabilities to OP&F of approximately \$75 million and liabilities of \$490 million. OP&F serves over 50,000 active and retired members and survivors.

The Ohio Retirement Study Council (ORSC) was created by the Ohio General Assembly in 1968, and is one of the oldest permanent pension oversight commissions in the nation. Its purpose is to advise and inform the state legislature on all matters relating to the benefits, funding, investment and operation of the five statewide retirement systems in Ohio: OP&F, the State Teachers Retirement System of Ohio (STRS), the Public Employees Retirement System (PERS), the School Employees Retirement System (SERS), and the Highway Patrol Retirement System (HPRS). The statutes governing the ORSC are found in Chapter 171 of the Ohio Revised Code.

The ORSC, pursuant to R.C. §171.03(B), selected Independent Fiduciary Services[®] (IFS) to perform fiduciary performance audits of OP&F and STRS (referred to as the "Funds" or the "Systems"). The task areas are broken out into A. Investment Issues and B. Management Issues:

A. Investment Issues

- *Current Investment Policies;*
- *Portfolio Risk*



- *Investment Performance;*
- *Investment Management Structure and Costs;*
- *Use of External Consultants*
- *Asset Allocation*
- *Brokerage Practices*
- *Due Diligence Procedures/Selection of Investment Service Providers*
- *Statutory Provisions and Administrative Rules*
- *Conflicts of Interest*
- *Custodian*
- *Internal Controls and Risk Management*
- *Investment Accounting*

B. Management Issues

- *Board Governance, Policies and Oversight*
- *Efficiency and Effectiveness of OP&F's Organizational Structure and Resources*
- *Ability to Attract and Retain Employees*
- *Monitoring of Investments and Reporting*
- *Reporting to the ORSC*

The following paragraphs describe in summary fashion some of the highlights of our Report. IFS has performed numerous operational reviews of public pension funds over the past twenty years. Although we make numerous recommendations that we believe will enhance the System's investment program, the results of this review demonstrate that OP&F is generally in line with best practices with regard to much of its overall governance, administration and management of its investment program. We thank the Board members for their time during this project. We also thank Mr. Estabrook and his staff for all of their time and cooperation during our review. We especially thank Mr. Miller for coordinating the project and seeing to our needs and numerous requests for information.



Key Observations and Recommendations

A. Investment Issues

1. The Investment Policy Statement

We found that OP&F's Investment Policy Statement is generally thorough and contains most of the essential elements. However, we note in our Report a few areas where the Investment Policy could be enhanced primarily through expansion or clarification, such as: clearly defining the Fund's mission and purpose, expanding the discussion on risk and liquidity needs to reflect the Board's risk tolerance and cash needs more clearly; defining Total Fund benchmarks such as a Policy Index; as well as clarifying and expanding the discussions regarding the proxy voting process and brokerage. OP&F has a separate Investment Policy for private equity, which we believe to be a best practice and we note in our Report a few areas where the Policy could be improved, e.g., by adding more thorough discussions of roles and responsibilities as well as on the asset class in general and the risks associated with it.

2. Portfolio Risk

We found that the primary tools used to structure and control risk at OP&F are the Fund's Investment Policy Statement and Guidelines. The Fund's Policy Benchmark is the stated benchmark for the total Fund and assists in establishing a risk framework for the total Fund. We recommend that OP&F consider establishing an Annual Investment Plan that would outline the Fund's long-term return and risk expectations as well as specific investment objectives for the shorter and longer-term.



3. Investment Performance

We evaluated the investment performance of the OP&F total Fund as well as each asset class for the five years ending 30, 2005. We compared the performance to the Fund's stated benchmarks as well as to peer universes, including the custom peer group surveyed. For the five year period analyzed, the Total Fund outperformed its Policy Index and performed close to median in the public fund universe. We also found that the staff appears to have been successful in controlling the risk of the overall Fund over the last five years versus its Policy Index. The analysis of shorter time periods and each asset class can be found within our Report. In this section we also assessed the benchmarks used to evaluate the Total Fund and each asset class and found that they are generally reasonable, although we did make a few recommendations for consideration. For the most part, we did not identify any sources of particular concern with regards to performance, risks and benchmarks, with the exception of the Alternatives asset class where longer term performance has been poor.

4. Investment Structure and Costs

Our review of investment structure and costs included an assessment of the System's use of active versus passive management, the number of managers used, the use of internal versus external management and the investment management costs. We found that the System appears to be using an appropriate amount of passive management as well as an appropriate number of investment managers. The System only manages cash internally. In addition, the System appears to be paying reasonable investment management fees on an overall basis.

5. Use of External Consultants

OP&F retains Wilshire Associates as its general investment consultant. Overall, we found that Wilshire is providing the contractually required services and that the work product produced is in conformance with industry best practices for a reasonable fee. Wilshire does not



acknowledge its status as a fiduciary, however, and we recommend that this be clarified. We also recommend that OP&F seek to expand the requirements for Wilshire (as well as the investment managers) to make annual disclosures related to potential conflicts of interest with investment managers or other service providers.

OP&F employs The Townsend Group as its real estate specialty consultant. Townsend is widely recognized as one of the most capable real estate consulting firms in the U.S. serving institutional investors. Their relationship with OP&F was expanded after our due diligence and fieldwork to become a more full service consultant.

6. Asset Allocation

Overall, we found that the OP&F Board used an appropriate process to set its asset allocation. We reviewed the 2004 Asset Liability Study conducted by their investment consultant and found that it was sufficient, reasonable assumptions were used and the target asset allocation appears to be fairly efficient. In our Report, we make a few recommendations concerning the need to address how the System will meet the statutorily required amortization period of 30 years as well as the ongoing feasibility of the 8.25% actuarial rate. In addition, we recommend that the rebalancing policy be expanded and clarified and reiterate that it is important for the Board to receive continuing education on the sophisticated topics involved with setting the asset allocation policy.

7. Brokerage Practices

OP&F appears to have a reasonable set of practices in place to evaluate and control its transaction costs. OP&F uses a third party service to measure and evaluate its transaction costs. Recently OP&F began using a commission recapture program with two of its investment managers. Since the passage of S.B. 133, effective September 15, 2004, OP&F has adopted a policy to increase its utilization of Ohio-qualified brokers as required. In our Report, we



recommend, however, that the System develop and adopt a more comprehensive brokerage policy that covers these subjects in more detail, as well as other areas of potential concern, such as converter trades and use of minority and women-owned brokers.

8. Due Diligence Procedures/Selection of Investment Service Providers

OP&F has an Investment Manager Search Policy, amended in 2003, that defines the manager search and selection process. There are separate real estate and private equity documents that contain implementation sections that supplement the broad policy, which could be better organized. Based on our document review and interviews, it appears that the process has been strictly followed. We found that the staff works in tandem with the respective investment consultants to perform due diligence on prospective investment managers and make recommendations to the Investment Committee.

9. Statutory Provisions and Administrative Rules

We reviewed Ohio law, primarily Ohio Revised Code Chapter 742, to determine whether it constrains the OP&F investment program. While we also note many positive features of the law in our Report, we recommend the law be changed in order to permit the Fund to contract directly with the custodian bank and that the Treasurer's staff and Fund's staff should attempt to eliminate duplication of effort in reconciling and auditing the custody bank's work. We also recommend that the Board amend its IPS to address the legislative provisions related to investments in Ohio business and businesses owned and controlled by women or minorities and articulate procedures for evaluating these types of investments as well as monitoring and evaluating compliance with the law.

In this section we also evaluated the impact of Senate Bill 133. At the time of our due diligence and fieldwork, OP&F was in the process of implementing the new law. This law also has positive and negative features, e.g., we believe that the requirement to develop an orientation



and continuing education program board members is useful (although we believe Trustees may also be able to receive worthwhile training outside Ohio), while the Ohio-qualified agent and manager rules are ambiguous and create a risk that OP&F's decisions regarding the selection of agents and investment managers may not result in the engagement of the best qualified, available firms. S.B. 133 also changes the powers of the Attorney General, e.g., S.B. 133 now explicitly authorizes the AG to sue any Board member for both money damages and injunctive relief in the event of a breach of fiduciary duty, and we recommend that the statute be amended to authorize the Board to retain independent outside legal counsel without the prior approval of the State Attorney General.

10. Conflicts of Interest

S.B. 133 imposed several new requirements, beyond what was required by Chapter 742, regarding ethics and conflicts of interest. OP&F already had a Policy Statement for Board members and a Code of Ethics for staff and has made reasonable steps to implement S.B. 133's rigorous requirements for which we recommend only minor modification. For example, the Board adopted in October 2003, and amended in July 2004, a detailed Travel Policy, however we recommend revising it to require submission of receipts for all expenses other than gratuities. We also found that OP&F should adopt a prohibited transaction policy to define the term "parties in interest" and they should develop a process for analyzing transactions with "parties in interest" to assure that their terms and conditions satisfy the legal standard of comparability to the terms of similar transactions between unrelated parties.

11. Custodian

Chapter 113 of the Ohio Revised Code provides that the Ohio Treasurer of State is the statutory custodian for all state agency funds. During our review we found no instance where the Treasurer acted inconsistent with the authority granted in the current Ohio statutory custody model. The Ohio Treasurer of State delegates custody functions to one or more financial



institutions (that maintains an Ohio presence) for each respective Ohio pension fund; Huntington Bank is the custody bank for OP&F. Currently no “top-tier” custodial banks are headquartered in Ohio. While the regional banks are capable to perform many functions, they have limited capability in other areas, such as global custody services, for which other institutions must be retained.

While we understand that OP&F has been permitted to provide input into the selection process, it is not OP&F’s right to do so. Requiring OP&F to use a bank that does not have the necessary systems and required level of services results in exposure to various risks and therefore we found that the current statutory custody model impairs OP&F’s ability to invest Fund assets effectively and efficiently. We recommend that Ohio law be amended to establish an alternative statutory custodial model that is more consistent with best practices – a legal and operational structure that empowers the OP&F Board to decide whether to change custody banks, who to select, and the authority to manage the provider of its custodial services.

12. Internal Controls and Risk Management

We found that the fundamental elements of an internal controls and risk management process are in place, and are being followed, but the process should be better documented. Overall, we found that the controls over payment policy and procedure documentation (*The Investment Manager and Custodian Invoice Review Procedures*) are too brief and lacking in detail and specificity. However, we did not find any evidence that an appropriate process for verifying reasonableness of the invoice amounts (given asset values) was not in place and being followed.

We also found that Internal Audit is understaffed and OP&F should increase this department to be more aligned with OP&F’s size, its needs and industry practice. Given the current staff size, it is virtually impossible to properly audit OP&F, which is not a reflection on the current staff. However, we believe the internal audit staff is at an appropriate level within the



organization and properly aligned. We also recommend some additional planning and monitoring tools for internal audit in our Report.

13. Investment Accounting

At OP&F investment accounting functions are performed by the investment managers, the custodian and by OP&F's investment department staff, with the PAM Investment Accounting package. Although accounting systems are maintained by the managers and custodian, and OP&F relies on the custodian to maintain the original book of record, it is a best practice to also maintain a parallel accounting system for control purposes.

B. Management Issues

1. Board Governance, Policies, and Oversight

We found that the policies and rules used by the System for Board governance are generally appropriate and effective. The System's Policies and Rules cover all of the significant aspects of governance a sophisticated public pension fund requires. OP&F's nine member Board is slightly smaller than the average of similar funds (10.2). S.B. 133 significantly changed the makeup of the Board by removing the Attorney General, the State Auditor and a municipality fiscal officer and replacing them with three "investment members." The addition of these new members creates the potential for conflicts of interest and we recommend increased disclosures and prohibitions. We also recommend that the Board amend its Governance Policy to render all trustees eligible to serve as officers.

The information available to IFS gives us no reason to believe that the Board is not currently in compliance with its internal governance procedures and statutory provisions and rules. Many of the statutory provisions have been recently changed as a result of S.B. 133, and the Board has been adopting new policies and modifying existing ones to implement these changes.



2. Organizational Structure and Resources

Our review of staff size and position descriptions did not uncover any unusual elements. In our review of reporting lines, we found that it would be helpful to add a description of roles and responsibilities of key OP&F staff to the Governance Policy. We reviewed the OP&F Employee Handbook conflict of interest and professional ethics guidelines and found that the requirements imposed on the investment staff appear reasonable. We also reviewed the OP&F's communication program and found that OP&F has an extensive and documented communications plan and they use several tools to accomplish their goals (e.g., newsletters, guidebooks, targeted communications, e-mail, call center, etc.).

3. Ability to Attract and Retain Employees

OP&F's investment and key staff salaries appear to be generally competitive, based on the limited survey data. OP&F does not offer incentive compensation, which is typical for funds that use external management, but does have a "Discretionary Non-recurring Reward (Bonus) Program" that allows non-recurring rewards up to 3% of an individual's base wages or \$3,500 (whichever is lesser). Based on our analysis, OP&F's fringe benefits are also competitive with those offered by peer funds. As called for by the scope of work, we reviewed Deloitte & Touche's June 2002 compensation study and concluded that the overall approach used in the study was thorough and in line with best practices for such a study, although we did find a few areas that we believe could have been more completely addressed and explain those in the Report.

4. Monitoring of Investments and Reporting

We reviewed the various investment performance reports provided to the Board and determined that they generally contain the necessary elements for the Board to conduct proper oversight, although we do note a few areas where the general investment consultant's quarterly



report and the internally generated private equity report could be strengthened. Our analysis of a sampling of the investment guidelines provided to the external investment managers showed that they generally contain the essential elements, although we recommend a few enhancements, such as stipulating that brokerage practices require best execution.

5. Reporting to the ORSC

The ORSC's enabling statute, Chapter 171 of the Ohio Revised code, is particularly specific in defining the reporting requirements imposed on ORSC and, in turn, on the retirement systems under its jurisdiction. The ORSC must report to the General Assembly on proposed changes to the retirement laws as well, semi-annual investment reviews and annual actuarial reviews, among other topics. In order for the ORSC to fulfill its duties, it requires each of the retirement systems to undertake various management activities and to submit a number of reports on various subjects (such as health care, disabilities, etc.). The ORSC retains its own investment consultant, Evaluation Associates ("EAI"), independent of the retirement systems' investment consultants, which provides a semi-annual comparative study report to ORSC. The information currently received by the ORSC from the systems and provided by the ORSC to the executive branch, the legislature, and the public appears to be very comprehensive and more than adequate to fulfill its oversight requirements. However, we do make a number of recommendations in our Report to enhance the reporting received by the ORSC and ensure that it adds value and contains all of the necessary information.



Section II.

Background, Review Methodology, and Limitations on the Report

IFS specializes in evaluating the organizational governance, day to day administration, and investment programs of pension systems using combined expertise in investment practices, pension fund administration and fiduciary responsibility. In operation for almost 20 years, IFS has performed similar evaluations for numerous other public and private pension funds, and is recognized as the leading firm in the industry performing this type of consulting services.

The specific details, scope and depth of the review are defined by the July 21, 2004 Agreement, and the September 14, 2005 Amendment, between the ORSC and IFS.

Throughout the Report, as part of our fiduciary review methodology, we identify and highlight our findings or observations and provide recommendations. As part of this process, we set forth and explain the fundamental principles and criteria we use for the scope area being evaluated. Our goal is not only to identify problems, it is to “add value” by identifying alternatives intended to enhance the pension fund’s operations and/or address prospective problematic issues. For this reason, the initial standard we typically use in making our findings and recommendations is industry “best practice.” A “best practice” is not necessarily the “norm” or most common practice, rather it is the most effective and efficient means (e.g., a process, procedure or structure) of doing something in a given situation to achieve an optimal outcome. Since effectiveness and efficiency are situational, what is a best practice for one operation may not be a best practice for all operations.

A best practice is often viewed as the baseline, the experience-tested optimum standard, which is then modified to suit a particular organization. What is a “best practice” for an individual organization is determined by examining how a particular function is carried out and



then concluding what course of action/methodology would enhance the process. To appreciate the importance of “best practices” it is essential to recognize the difference between a function being achieved and a function being achieved in an effective and efficient manner – the distinction is analogous to the differentiation between being good and being great. IFS’ declaration of a “best practice” is based on a combination of various legal standards (enacted and proposed) – e.g., ERISA,¹ UPIA,² UMPERSA,³ secondary research from authoritative industry sources (e.g., studies and pronouncements by DOL, SEC, and industry professional organizations), its own empirical assessments of pension fund practices attained performing similar fiduciary reviews, and the extensive experience of the firm’s staff, many of whom, having worked at pension funds have first-hand knowledge of the nuances of pension fund processes.

Our approach also recognizes that it is difficult to transform the status quo without an apparent problem. A pension fund may not have the inclination or statutory ability to bring its operations in line with best practices. For this reason, we attempt to also include alternative recommendations, where feasible, which take into consideration the practical realities of the pension fund’s circumstances and functional environment. We note these situations in the text of the report. The terms OP&F, the Fund and the System are used interchangeably throughout this Report.

¹ The Employee Retirement Income Security Act of 1974 (ERISA) is a federal law that sets minimum standards for most voluntarily established pension and health plans in private industry to provide protection for individuals in these plans.

² The Uniform Prudent Investor Act (UPIA) was promulgated by the National Conference of Commissioners on Uniform State Laws (the “Uniform Law Commissioners”) in 1994. The Prefatory Note to UPIA states that the model law “undertakes to update trust investment law in recognition of the alterations that have occurred in investment practice.” UPIA was endorsed by the American Bar Association and has been adopted in 46 states.

³ The Uniform Management of Public Employees Retirement Systems Act (UMPERSA) was promulgated in 1997 by the Uniform Law Commissioners to provide legal rules that would permit public employee retirement systems to invest their funds in the most productive and secure manner, with a minimum of regulatory interference. UMPERSA modernizes, clarifies, and makes uniform the rules governing the investment and management of public retirement systems’ assets. UMPERSA was endorsed by the American Bar Association. A number of public pension fund organizations participated in the development of the law (e.g., the National Council of Public Employees Retirement Systems (NCPERS) the National Council on Teacher Retirement (NCTR), and various members of the National Association of Public Pension Attorneys (NAPPA). However, because UMPERSA did not address portability, pension board representation, full funding, service credit purchase, disclosure and reporting proxy voting, contractual rights to benefits, and domestic relations orders, it was not endorsed by the public pension fund organizations that participated in its development.



The analysis leading up to this Report progressed through the following stages:

Document Collection

The first stage in our process was collection – with the staff’s cooperation – of information regarding the Board’s investment program, practices and operations. This included amassing extensive data and documents, such as the Board’s enabling and related statutes, written operating policies and procedures governing the organization, written investment policies and guidelines, service provider contracts, and other materials. This phase was conducted primarily in July and August 2004, with additional documents requested as necessary.

Analysis

The next stage of our process, which continued throughout the project, was analysis. In undertaking this review, IFS employed a team approach, assigning certain of its personnel to concentrate on particular subject areas. Throughout the process, we coordinated and integrated our efforts and maintained communication with representatives of the Board.

Interviews & Discussions

The third stage of the process was to hold a series of interviews with people directly associated with the Board. These included face-to-face and/or telephone interviews with the Board Members, the Executive Director, investment staff members, legal counsel, various service providers and constituent groups. The main interview phase was conducted in two phases in October and November 2004. Subsequent interviews were conducted in person in Columbus and by telephone.



Survey and Research

IFS developed a lengthy survey directed at peer public pension funds. We developed a list of peer funds (the “custom peer group”), which was approved by OP&F, based on certain factors. Experts will acknowledge that no two pension funds are precisely identical. Some argue the various differences among the pension cancel each other out and therefore asset size is the appropriate measure of comparability. The distinctions among pension funds are many. However, some have more factors in common than others. Therefore, we use commonality of characteristics to measure comparability. The greater the number of shared characteristic, the greater the level of comparability. We define the OP&F “peer group” as the pension funds with the greatest level of comparability to OP&F.

To determine comparability and define the OP&F “custom peer group,” we considered not only the size of the fund (e.g., assets under management), but also the complexity of the investment portfolio (e.g., the extent of participation in various asset classes the asset classes utilized, whether the majority of assets were internally or externally managed, the use of active versus passive management of investment assets, whether the entity was responsible for investments and benefits administration, etc.). Based on the comparability characteristics, IFS identified twelve funds as suitable for participation in the survey pool. (See Exhibit B – Custom Peer Group Survey Recipients.) Using commonality of characteristics IFS would typically not consider all the other Ohio public pension funds as peers; however for certain portions of the analysis we did compare OP&F to the other four Ohio funds, as requested.

Five funds responded, including Ohio SERS (see Exhibit C – Custom Peer Group Survey Respondents), although a couple funds did not provide all of the information requested. Several recipients declined to participate due to the significant amount of time required to compile the necessary information to respond to the survey. To promote participation we agreed, if requested, to maintain the confidentiality of information and to provide participants with a copy of the survey results. Where confidentiality is a consideration we do not attribute such information to a



specific organization. Rather, when reviewing such information each survey participant was assigned a code letter.

The results of the survey are incorporated throughout the Discussion and Analysis section of the report where applicable. We can not attest to the accuracy of the data provided by the peer funds.

In addition to the survey we also researched the enabling statutes, regulations, and governance documents of the peer group members to obtain information that was not requested in the survey or where clarification was needed.

Draft, Preliminary, and Final Report

The written Report also progressed through several stages. IFS submitted several draft versions of the Report and had numerous discussions with both OP&F staff and the ORSC staff, who both provided written comments. This approach is consistent with IFS' review methodology.

This process of draft, comment and redraft enabled relevant parties to point out matters that, in their view, were either factually or conceptually inaccurate, incomplete or misleading, and enabled us to obtain additional information and prepare a revised draft and subsequently a final report that takes into account all relevant comments. The final product reflects the combined analytical and writing efforts of a diverse team of investment professionals.

Report Caveats

This Report should be read and evaluated with several caveats in mind:



- First, many of the subjects addressed in this Report are inherently judgmental and not susceptible to absolute or definitive conclusions. Many of our conclusions constitute alternatives for the Board and staff to consider in light of OP&F's evolving investment program, management and practices now and over the coming years.
- Second, in conducting this review, we assumed the information we were provided, whether by the Service Providers, OP&F or the peer funds, is accurate, and could be relied upon, including the information presented in response to the survey. We can not attest to the accuracy of the data provided by the survey peer group respondents. We sought to cross-verify certain information among different interviewees, survey respondents and documents, but the process of cross-verification was limited.

We were not hired to detect or investigate fraud, concealment or misrepresentations and did not attempt to do so. We were not hired to, and did not attempt to conduct a formal or legal investigation or otherwise to use judicial processes or evidentiary safeguards in conducting our review. Our findings and conclusions are based upon our extensive review of documents, the interviews we conducted with the Board, staff, and others associated with OP&F, independent analysis, and our experience and expertise.

- Third, this Report does not and is not intended to provide legal advice. Although the report considers various legal matters, IFS' analysis, findings and recommendations are not intended to provide legal interpretations, legal conclusions or legal advice. For that reason, action upon such matters should not be taken without obtaining legal advice addressing the appropriate statutory or regulatory interpretation and legal findings regarding such matters.



- Fourth, our observations are necessarily based only on the information we considered as of and during the period we performed our review, especially as of June 30, 2005 for the investment holdings.
- Fifth, our Report cannot and does not attempt either to assess the manner in which any of our recommendations may be implemented or observed in the future, or predict whether OP&F's practices, as represented to us, will be observed in the future. Nor does our Report supplant or reduce the ongoing independent fiduciary duty of the Board and staff to structure and evaluate their investment program or policies and procedures.
- Sixth, although this Report sets forth observations and recommendations regarding OP&F's internal controls, we did not conduct – or attempt to conduct – a full or formal examination of OP&F's internal control system. This Report is not intended as a substitute for such an examination, if one is appropriate. The scope of our work was limited by our contract with the Board.
- Finally, although we have discussed our findings with, and submitted draft versions of our Report to OP&F and to the ORSC, its final form and content reflect the independent judgment of IFS. The extent to which our Report and recommendations are implemented is the Board's decision.



Section III.

Discussion and Analysis

A. Investment Issues

1. The Investment Policy Statement

a. Introduction

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT POLICY STATEMENTS:

- *An investment policy statement (“Investment Policy” or “IPS”) is a key governance document that sets forth the long-term, broad foundation and framework for the entire investment program.*
- *In accordance with “best practices,” an IPS should address and define the Trustees’ investment objectives; tolerance for risk; permissible investment strategies, instruments and asset classes; measurement tools and policies; as well as the liquidity needs and cashflow requirements of the fund.*
- *An IPS is not intended to serve as discrete guidelines for investment managers, as operating procedures for the plan or as a planning document for short term investment issues.*
- *An IPS is a long-term document that should be reviewed critically on an annual basis in order to determine whether revisions to long-term goals and strategies are necessary.*
- *An IPS should establish that all planning and investment decisions are made in the best interest of the pension fund’s participants and beneficiaries and designed to provide benefits and defray reasonable expenses of plan administration in a prudent manner.*



Key Purpose of an IPS

The key purpose of an IPS is to articulate the consensus views of the Board of Trustees regarding the overall investment program and its major components, and to explicate policies to assist the Trustees with major issues (e.g., developing a long-term strategic asset allocation, selecting service providers and performing due diligence, monitoring performance and investing assets consistent with appropriate fiduciary standards).

Key Elements of an Investment Policy Statement

The following is a list of the key elements that an IPS should address:

- The System's mission and purpose;
- The System's investment objectives;
- The roles and responsibilities of the essential parties, e.g., Board of Trustees, investment staff, the investment consultants, investment managers, custodian(s) and other service providers as well as the decision-making process;
- The System's risk tolerance;
- The liquidity needs of the System;
- The System's long-term strategic asset allocation:
 - Specific targets and ranges, and
 - Rebalancing process;
- Standards and measures of investment performance, including:
 - The process for monitoring and evaluating performance of the System and the individual managers (both external and internal, if applicable), and
 - The Policy Index for the total Fund;
- Broad System and asset class investment guidelines, including:
 - Permissible and impermissible asset classes, investment strategies and instruments, and



- Reasons and general parameters for each major asset class;
- Criteria and procedures regarding specific miscellaneous subjects, including:
 - Securities lending,
 - Proxy voting, and
 - Brokerage; and
- A statement regarding the process for periodic review of the IPS.

b. Evaluation of OP&F's Current Investment Policy Statement

BACKGROUND

We reviewed the Statement of Investment Policy and Guidelines for the Ohio Police & Fire Pension Fund (“OP&F IPS”) to determine whether, in our opinion, it contains all of the essential elements.

The OP&F IPS states that the overall objectives of the OP&F are:

- 1) To have the ability to pay all benefits and expense obligations when due;
- 2) To maintain the purchasing power of the current assets and all future contributions by maximizing the rate of return on Fund assets;
- 3) To achieve and maintain a fully funded status with regard to the accumulated benefit obligation; and
- 4) To control costs of administering OP&F and managing the investments.

The Board is also obligated by Section 742.11 of the Ohio Revised Code to “discharge their duties with respect to OP&F solely in the interest of the participants and beneficiaries....



with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity, and familiar with such matters would use in the conduct of an enterprise of a like character and like aims.”

Not including certain critical elements could expose OP&F to undue risk, such as not evaluating the Fund’s performance correctly, not structuring the Fund in an optimal fashion to meet its objectives, or not achieving the actuarial assumed rate of return, which could lead to underfunding over the long-term.

OBSERVATIONS REGARDING OP&F’S CURRENT INVESTMENT POLICY STATEMENT:

- Overall the OP&F IPS contains most of the basic elements typically found in an investment policy statement reflective of best practices.
- To be more reflective of best practices, the IPS should be enhanced by fine tuning a few of its current components.

The following is a discussion of specific areas of the OP&F IPS which could be enhanced or fine tuned. *(Note: The IPS was updated in April 2005 after IFS’ initial fieldwork and due diligence. We revised our comments to reflect those changes.)*

1) OP&F’s IPS Mission and Purpose

FUNDAMENTAL PRINCIPLES REGARDING MISSION AND PURPOSE SECTION OF IPS:

- *A Mission and Purpose section in an IPS is best used to briefly describe the plan: why the plan exists, who the participants and beneficiaries are, who contributes to the plan, and the benefits the plan expects to offer over time.*
- *The Mission and Purpose section should establish who has responsibility for formulating policies and procedures in order to meet the pension fund’s goals.*



OBSERVATIONS REGARDING OP&F'S MISSION AND PURPOSE WITHIN THE IPS:

- Section 742.02 O.R.C. states that OP&F was created for the purpose of providing disability benefits and pensions to the members of the fund and their surviving spouses, children and dependent parents.
- The OP&F IPS does not specifically express the mission or the purpose of the plan as a distinct section of the IPS or as part of the introduction. Arguably the mission and purpose is implicit given the stated objectives. But, ideally the mission and purpose should be defined and distinctively identified.

Recommendation A1

Amend the IPS to include a separate section in the introduction entitled “mission and purpose” which specifically defines (a) why the plan exists, (b) who the participants and beneficiaries are, (c) who contributes to the plan, (d) the benefits the plan expects to offer over time, and (e) who have ultimate authority over the System. At a minimum, the IPS should reference Section 742.02 O.R.C.

2) OP&F's IPS Objectives

FUNDAMENTAL PRINCIPLES REGARDING IPS INVESTMENT OBJECTIVES:

- *The IPS should clearly define the Board's acceptable level of risk, since this definition serves as a guidepost for the investment program itself. The plan's level of risk is determined to a large extent by the asset allocation and allowable or prohibited investment strategies.*
- *The Investment Policy Statement should provide a clear statement of the System's investment objectives, which come from a number of inputs: actuarial, financial, and accounting sources. Together, these inputs define the objectives of the System. The trustees and pension fund staff have the responsibility of creating an investment program that satisfies all these objectives simultaneously. The IPS investment objectives should include:*



- *A rate of return in excess of inflation that equals or exceeds the actuarial rate of return over an established investment horizon;*
 - *A rate of return that enables the System to meet liabilities and fulfill minimum funding requirements;*
 - *Consideration of whether and how to maintain a certain funded ratio (or alternatively, the goal of improving the funded ratio);*
 - *Sufficient liquidity to satisfy annual cash flows; and*
 - *A rate of return that equals or exceeds the System's long term policy index with an acceptable level of risk.*
- *OP&F's investment objectives should grow out of – and conform to – the investment horizon of OP&F, its current and expected future cash flow needs and liability stream. It is necessary to establish clear total fund performance objectives, e.g., “earn a rate of return in excess of inflation, which meets or exceeds the pension system's assumed actuarial rate and is consistent with the pension system's long-term Policy Index,” to help shape the entire investment program. Establishing objectives for each asset class and strategy likewise can help shape their nature and structure.*

OBSERVATIONS REGARDING OP&F'S IPS INVESTMENT OBJECTIVES:

- OP&F's stated investment objectives appear generally reasonable and appropriate; but could be enhanced by fine tuning components for the objectives, for example:
 - The objectives, although clearly expressed as objectives in the “introduction” section of the OP&F IPS, do not have a distinctive heading/label.
 - The Board recognizes the importance of both the asset side and the liability side, by considering the funded status;
 - ✓ OP&F set a long-term total Fund performance expectation of 4% annualized real rate of return, intended to be consistent with its October 2004 Asset Allocation Study; and
 - ✓ The OP&F IPS states the additional goals of meeting or exceeding the actuarial rate over the long-term (currently 8.25%) and ranking in the top half of a



comparable public fund universe over the long-term, “without unnecessary risk to principal.”

- ✓ However, in light of the recent historical and current low levels of inflation, a return of the CPI plus 4% would not likely approach the actuarial assumed rate of return of 8.25%.
- The OP&F IPS does not state what the assumed actuarial rate is and/or what the expected return on the total fund is.
- The OP&F IPS does not mention the 30 year amortization period required by Senate Bill 82, effective December 6, 1996. (This Observation is discussed in more detail below in subsection 4.)

3) OP&F’s IPS Risk, Risk Tolerance and Liquidity Needs

FUNDAMENTAL PRINCIPLES REGARDING OP&F’S IPS RISK, RISK TOLERANCE AND LIQUIDITY NEEDS:

- *The Trustees are ultimately responsible for the types of risk and amount of risk the investment program will incorporate, at the total Fund level and within each asset class. They must determine and specify the types and levels of risk suitable for each portion of the portfolio and the portfolio as a whole.*
- *The Trustees should have an awareness of the risk level of the Fund’s asset allocation and reach a consensus as to what is acceptable. The asset allocation outlined in an IPS is an expression of a Board’s required and expected return, as well as the Board’s acceptance of the risk associated with the strategies it deploys to earn that rate.*
- *The risk level of the investment program also needs to be evaluated with regard to the likelihood of meeting the actuarial rate of return and how it affects the plan’s ability to satisfy liabilities within the established funding period and meet liquidity needs (i.e., generating sufficient cash flow to meet payments).*



- *When establishing the asset allocation policy, the Board needs to understand how volatility of returns on the downside can impact liquidity needs, future liabilities and cash flow requirements.*
- *Mature pension plans typically have negative cash flow (i.e., benefit payments exceed investment income and contributions) as the number of retired participants exceeds the number of active participants (or the ratio of active participants to retirees declines), and therefore liquidity can become an issue.*

OBSERVATIONS REGARDING OP&F'S IPS RISK, RISK TOLERANCE AND LIQUIDITY NEEDS:

- The IPS does not clearly state the risk tolerance of the Board.
 - The OP&F IPS states “the risk/return characteristics of the OP&F shall be reviewed on a periodic basis (no less than every five years) through a comprehensive asset allocation and liability study. The stated goal of the study is to formulate a portfolio which maximizes return while minimizing overall risk through the most efficient combination of legal asset classes.” We agree that this is sound practice, however, there is a range of “efficient” portfolios (rather than a single portfolio) that can maximize return for given levels of risk.
 - The OP&F IPS does not state or allude to the level of the Board’s risk tolerance, i.e., whether the Board is willing to accept above average market risk given its long time horizon, or something similar. Risk tolerance is also affected by the funded status of a plan, i.e., if a plan is underfunded and is willing to take greater risk to increase the funded level or if a plan’s benefit payments exceed its contributions and it needs greater liquidity.
 - The IPS could better articulate the risk management process toward the fulfillment of very specific investment goals. How much risk the System may take is not only a function of how much it needs to earn, but how much it can afford to lose relative to meeting its liabilities and how the gap between assets and liabilities may widen.



Recommendation A2

Amend the IPS to expand the discussion on risk and define more clearly the Board's risk tolerance, and reference its risk management process.

- The IPS does not sufficiently address OP&F's liquidity requirements.
 - The Board should also take into account current and future cash flow needs for the Fund. The Board is required to consider liability characteristics such as current and future values of benefits and contributions when setting its asset allocation. However, the IPS does not address the cash position of the System.
 - The IPS does not require that volatility analysis be used to evaluate the System's ability to satisfy this funding requirement or assess the extent to which the funded ratio may decline in certain scenarios.

Recommendation A3

The Board should more clearly address the cash needs of the System in the IPS.

4) OP&F Funding Requirements

FUNDAMENTAL PRINCIPLES REGARDING FUNDING REQUIREMENTS:

- *The main purpose of an investment program for a pension plan is to satisfy current and future benefit obligations. These obligations are determined primarily by benefit levels, the investment rate of return and contributions made by employers and/or employees.*
- *Funding requirements are determined by the actuarially assumed rate of return on investments, projected demographic and benefit changes and other inputs to the actuary's analysis (such as forecasted changes in interest rate levels), including legislative standards for satisfying long term liabilities. The funding requirements are the amounts needed to meet future liabilities within a specific time frame, while satisfying current liabilities. A plan with a funded ratio of less than 100% is considered "underfunded."*



- *Funding requirements have an impact on the asset allocation philosophy, i.e., a Board for an under funded plan may determine it needs to take on a high level of risk to reach full funding, or alternatively, the Board may decide it needs to protect the principal and adopt a conservative asset allocation.*

OBSERVATIONS RELATED TO OP&F FUNDING REQUIREMENTS:

- The IPS does not address OP&F's plan to satisfy its funding requirements.
 - As we discuss in Investment Issues Section 6(A) of this Report, Asset Allocation, the October 2004 Asset Allocation Study conducted by Wilshire shows that the System's funding ratio will drop in future years. However, it does not address how OP&F will meet the funding standard established by Senate Bill 82, effective December 6, 1996.
 - ✓ The funding period, the time in which unfunded liabilities are amortized, is statutorily required to be 30 years or less.
 - ✓ Wilshire's October 2004 Asset Allocation study states that "based on the market value of assets, the funded status declined from 102% at January 1, 2000 to 71% at January 1, 2003." They estimated the funded ratio as of January 1, 2004 to be 81% on a market value basis, but also showed that the then current asset allocation would cause the funded ratio to drop again to 71% over the next 10 years.⁴

⁴ Wilshire's funded ratio calculations are done using the market value of assets divided by the estimated actuarial liability rather than using the actuarial value of the assets, which involves smoothing the rate of return over five years. Wilshire states in their October 2004 Asset/Liability Study that they believe the "market value of assets provides an indication of the future direction of the actuarial value of assets." Funded ratios based on market versus actuarial values can vary dramatically. For example, at January 1, 2003 the funded ratio based on the market value of assets was 71% versus 85% using the actuarial value of assets. The differences are more significant after a period of volatile returns, such as those experienced in 1999-2001. The differences should gradually diminish on a forward looking basis using the same expected rate of return.



- The Board and staff do not appear to have commissioned any exercise to determine how much the System will need to earn in the future and how long it will take to bring the System into compliance with the statutory funding requirements of Senate Bill 82, effective December 6, 1996.
- The Board and staff also do not appear to have performed any kind of volatility analysis that would reveal how the System's underperforming or outperforming the expected return of 8.25% would impact future funding requirements.

Recommendation A4

The Board, in the IPS, should address how it plans to meet the statutory 30 year funding period requirement.

5) Identification of Roles, Responsibilities, and Process

FUNDAMENTAL PRINCIPLES REGARDING IPS DOCUMENTATION OF ROLES AND RESPONSIBILITIES:

- *The IPS should clearly delineate the responsibilities of the Board and distinguish them from those of the Investment Staff and/or the service providers (e.g., the investment consultant).*
- *Among the critical documents that define an investment program are the asset liability study, asset allocation analysis, annual audited financial report and the actuarial study.*
- *The IPS should be used to identify the schedule by which each critical document should be produced, including the frequency, and critical observations from each should be incorporated in the investment policies of the plan.*

OBSERVATIONS REGARDING IPS DOCUMENTATION OF ROLES AND RESPONSIBILITIES:

- The OP&F IPS defines roles and responsibilities of distinct groups of individuals associated with the investment program.



- o For example the Board and the Investment Committee's (which is a committee of the whole), roles and responsibilities include the following designations, among others:
 - ✓ "Establish the strategic investment policy for OP&F (asset allocation) and periodically review policy in light of any changes in actuarial variables and market conditions."
 - ✓ "Select qualified consultants and investment managers to advise on and manage OP&F's assets."
 - ✓ "Review the overall investment performance to determine whether it meets the benchmarks established by the Board."
- o The responsibilities of the staff, investment consultants and investment managers are outlined appropriately, including such tasks as monitoring compliance with guidelines and the OP&F IPS, reporting to the Board, etc.

6) Strategic Asset Allocation and Rebalancing

FUNDAMENTAL PRINCIPLES REGARDING STRATEGIC ASSET ALLOCATION AND REBALANCING *(in the context of the IPS):*

- *Another fundamental purpose of the IPS is to establish the pension fund's strategic (or long-term) asset allocation. The targets for each asset class should be based on and generally consistent with the results of the pension fund's most recent asset allocation study. It should reflect the balance between the Board of Trustee's risk tolerance (willingness to accept short-term volatility of returns and the possibility of negative total return over short periods) and the desire to achieve the pension fund's long-term investment objectives.*
- *The IPS should also define the rebalancing process. Rebalancing ranges around the long-term targets are set up to ensure that asset allocation "drift" is minimized. When an asset class exceeds the range around the long-term target, the IPS should describe the process and timing for rebalancing, including, for example, whether it is to the target or*



half-way. Over time, disciplined rebalancing may enhance performance and manage overall risk.

- *To further control risk, the Board of Trustees should diversify within each asset class by style, capitalization, sector, etc.*

OBSERVATIONS REGARDING STRATEGIC ASSET ALLOCATION AND REBALANCING *(in the context of the IPS):*

- The OP&F IPS establishes the System’s asset allocation policy.
 - The OP&F IPS acknowledges that the Board must “determine the allocation of assets among distinct capital and private markets.... Consistent with commonly recognized financial principles.”
 - The Board is also required to consider liability characteristics such as current and future values of benefits and contributions.
 - The IPS outlines the target allocation and range for each of the following asset classes: domestic equity, international equity, domestic fixed income, high yield, real estate, emerging markets, private equity and cash equivalents.
- The OP&F IPS states that the “Board will cause the staff and investment manager(s) to rebalance” if an asset class falls outside the range.
 - In practice, we understand that staff will rebalance when outside ranges, not necessarily to target, and does not need Board approval to take such action. *(See additional discussion and recommendation in Investment Issues Section 6(A) Asset Allocation.)*



7) Evaluation of Investment Performance

FUNDAMENTAL PRINCIPLES REGARDING EVALUATION OF INVESTMENT PERFORMANCE *(in the context of the IPS):*

- *In addition to the overall investment objectives, an IPS should also establish the standards and measures of investment performance, including designating benchmarks which reflect performance expectations for each asset class and for the Fund as a whole. For the total Fund, “best practices” suggest employing a Total Fund Policy Index and an Asset Allocation Index. Published market indices are weighted to create a “Policy Index” that matches the Fund’s long-term normal asset allocation and the weights remain fixed over time. The Policy Index serves as an objective measure of total Fund performance. Differences in performance between the Fund’s actual return and the Policy Index can be attributed to:*
 - *asset allocation “drifts” from the long-term target,*
 - *over or under-performance by the Fund’s investment managers, and*
 - *tactical decisions to overweight or underweight an asset class.*
- *As an additional measure, many funds also (as a matter of policy) establish an “Asset Allocation” index. This also is constructed using published market benchmarks. In contrast to the Policy Index, the Asset Allocation Index’s asset class weights change to reflect the actual asset allocation of the Fund as it “drifts” or as tactical decisions are made to overweight or underweight an asset class. Therefore, this benchmark adjusts for the asset allocation drift over time. A Fund’s excess or under-performance versus the Asset Allocation Index is mainly attributable to the performance of the underlying investment managers (internal or external).*

OBSERVATIONS REGARDING EVALUATION OF INVESTMENT PERFORMANCE *(in the context of the IPS):*

- The IPS does not designate market index benchmarks for the OP&F Total Fund.
 - The OP&F IPS designates market indexes for each asset class (and some sub-asset classes), such as the Wilshire 5000 for domestic equity, but it does not specify an overall Policy Index or Asset Allocation Index for the Total Fund. *(See also discussion on Benchmarks in Investment Issues Section 3(A).)*



Recommendation A5

Amend the IPS to designate a Policy Index and an Asset Allocation Index as total Fund benchmarks.

8) Investment Guidelines

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT GUIDELINES (in the context of the IPS):

- *Many institutional investors distinguish between investment policy provisions applicable to a Fund as a whole from more particularized investment guidelines for individual portfolios and investment managers (internal or external).*
- *Individual investment manager guidelines should be separate and distinct from the IPS.*
- *The IPS should reflect policy provisions that apply to all managers, internal and external, for the portfolio as a whole and for broad asset classes, e.g., minimum levels of diversification, prohibited securities or strategies, etc. By contrast, customized guidelines should be developed for each manager or account to articulate and manage the particular risks associated with the unique investment process, strategy and risk characteristics of each.*
- *An IPS should also indicate the types of investment strategies, vehicles and sub-classes that, as a matter of policy, are permissible and those that are prohibited across the entire Fund in order to avoid unintended investments in prohibited asset classes, such as the following:*
 - *international (non-dollar) denominated stocks and bonds (if permitted, currency hedging should also be addressed),*
 - *below investment-grade fixed income,*
 - *derivatives,*
 - *real estate, and*
 - *alternative investments, e.g., hedge funds, private equity.*

OBSERVATIONS REGARDING INVESTMENT GUIDELINES (in the context of the IPS):

- The OP&F IPS follows this general layout by outlining broad guidelines for each asset class and breaking it down to the active/passive component within each class, where



appropriate, indicating the types of investment strategies, vehicles and sub-classes that, as a matter of policy, are permissible.

- When IFS conducted our initial review of documents and interviews, we determined that it would be prudent to enhance the specificity of the IPS investment guideline language regarding derivatives and currency hedging.
 - o **Derivatives** – equity managers are allowed to use derivatives “whose underlying asset is allowed by statute” and fixed income managers are permitted to use “low risk mortgage derivatives” but “high risk derivatives are prohibited.” Derivative usage is quite complex and can be valuable for enhancing net returns and controlling risk; however, derivatives are also potentially dangerous if not properly controlled. Characteristics of derivatives that may pose significant risks include (but are not limited to) leverage, exposure to counterparties, and illiquidity.
 - ✓ Since we conducted our fieldwork, OP&F adopted a “Derivatives Policy Statement” on April 27, 2005, which addresses our initial concerns. (*See also discussion on individual manager guidelines in Management Issues Section 4(B)*).
 - o **Currency Hedging** – Active international equity managers are allowed to “enter into forward exchange or futures contracts on currency provided that use of such contracts is designed for defensive purposes.” Allowing all international equity managers to hedge at their discretion could lead to a lack of uniformity in policy implementation. Currency is also one of the primary factors leading to the relatively low correlations between domestic and international equities and allowing hedging could reduce that diversification benefit. When a manager is hired, the Board should know whether that manager typically engages in hedging as part of its documented investment philosophy and strategy – not all managers have the skill to hedge currencies in an effective manner.



Recommendation A6

Consider revising the IPS so that hedging is allowed only in individual investment manager guidelines, after discussion with the manager and the manager has requested such authority.

9) Securities Lending

FUNDAMENTAL PRINCIPLES REGARDING SECURITIES LENDING (*in the context of the IPS*):

- *The IPS should indicate whether or not the System is allowed to participate in a securities lending program as well as the broad parameters of the program, e.g., collateral should have a market value of 102% for U.S. securities and be marked to market daily.*

OBSERVATIONS REGARDING SECURITIES LENDING (*in the context of the IPS*):

- The OP&F IPS meets this standard and requires that the Investment Committee receive quarterly reports on the program.

10) Proxy Voting

FUNDAMENTAL PRINCIPLES REGARDING PROXY VOTING:

- *DOL has indicated that “the voting of proxies is a fiduciary act of plan asset management.” Proxy voting rights are plan assets that must be voted in accordance with ERISA’s fiduciary duties. Accordingly, fiduciaries may not ignore a proxy solicitation or vote automatically with management and must cast their votes so as to “maximize the economic value of the plan holdings.” Therefore, fiduciaries must carefully analyze the impact of their vote on the economic value of the plan’s investment. DOL has suggested that ERISA funds develop written policies or guidelines for the voting of proxies⁵.*
- *Public pension funds are not subject to ERISA. However, courts have typically referred to DOL pronouncements for guidance in interpreting issues of fiduciary duty. Understandably, many public pension plans have adopted ERISA-like standards*

⁵ Avon letter (issued February 1988) and Interpretive Bulletin 94-1 (July 28, 1994).



regarding their proxy voting practices. Accordingly, the proxy voting rights of public pension plans are, more often than not, exercised in accordance with the fiduciary duties of loyalty and prudence. The duty of loyalty requires that proxy votes be exercised solely in the interests of the participants and beneficiaries and for the exclusive purpose of providing benefits and defraying administrative expenses. The duty of prudence requires that the proxy votes be exercised with the care, skill, prudence and diligence that a prudent person, knowledgeable in such matters and similarly situated, would exercise.

- *In order for the Board to fully avail itself of its rights as a shareholder, the IPS should indicate who has responsibility for voting proxies. If investment managers are delegated the responsibility, the System should establish a process by which voting can be monitored. The IPS should require periodic reporting of proxy voting (no less than annually) and it should indicate whether or not managers are permitted to “abstain” from voting on any issue or whether votes should be either “for” or “against.” Manager voting reports to the Trustees should summarize each proxy issue and indicate whether the manager’s vote was for or against management’s recommendation. The Board needs to make sure that managers receive written guidelines established by the Trustees, if any, and adhere to them.*
- *There are costs associated with implementation of a proxy voting process (e.g., the staff resources required to administer the program, hiring a third party to vote, monitor, and report on the proxies). Therefore, trustees should conduct a cost/benefit analysis in order to determine “whether the plan’s vote, either by itself or together with the votes of other shareholders, is expected to have an effect on the value of the plan’s investment that will outweigh the cost of voting.”⁶*
- *The direct impact that proxy voting has on the value of stock is not easily measurable. The general perception is that proxy voting is a significant component of corporate governance that affords shareholders the opportunity to influence companies in ways that improve performance and share price and thus add value. That value must be weighed against the cost of administering the proxy voting process. For example, with respect to foreign securities, DOL has recognized that the costs to the plan of voting a proxy may exceed the economic value, given the difficulties in ascertaining and following complex foreign laws, regulations and corporate practices. DOL has indicated that fiduciaries may take such factors into account in determining whether to vote foreign stock proxies.*

OBSERVATIONS REGARDING PROXY VOTING (*in the context of the IPS*):

- Section VII of the OP&F IPS states that proxies “may be executed by the Senior Investment Officer and the Chief Investment Officer, or their designees, and by

⁶ 29 C.F.R. §2509.94-1



designated outside money managers,” but we understand that staff votes all domestic equity proxies. Section II of the IPS lists proxy voting as a responsibility of both staff and the investment managers.

- Institutional Shareholder Services⁷ (ISS) helps OP&F develop the proxy voting policy and gives them custom guidelines.
- OP&F’s investment managers vote the international equity proxies.
- OP&F staff is required to report to the Board semi-annually. In Section II of the IPS, Roles and Responsibilities, staff is required to “promptly vote all proxies” and investment managers are required to “if directed, promptly vote all proxies.” It is not clear whether it is up to staff or the Board to direct investment managers to vote proxies and whether or not the System could use ISS to vote proxies as well.

Recommendation A7

Clarify the proxy voting process in the IPS to better describe who can vote proxies and at whose direction.

11) Brokerage

FUNDAMENTAL PRINCIPLES REGARDING BROKERAGE *(in the context of the IPS):*

- *The IPS should acknowledge that brokerage commissions are a plan asset and, as such, the Trustees will monitor them (typically with the assistance of the investment consultant).*
- *It should also indicate that investment managers are obligated to seek best execution on all trades and whether or not they are permitted to enter into soft-dollar arrangements, provided that:*

⁷ ISS is a leading provider of proxy voting and corporate governance services with over 20 years of experience. ISS serves more than 1,600 institutional and corporate clients worldwide with its core business — analyzing proxies and issuing informed research and objective vote recommendations for more than 33,000 companies across 115 markets worldwide. In July 2005, ISS acquired Investor Responsibility Research Center’s (IRRC) commercial proxy voting and screening business.



- *Such arrangements are consistent with applicable law and best execution obligations and*
- *All amounts paid for brokerage and related services are reasonable.*
- *The IPS should also address what the Fund's policies are regarding commission recapture or directed brokerage, if any, and it should establish a process by which the Trustees will monitor the Fund's investment manager brokerage commission activity and practices.*

OBSERVATIONS REGARDING BROKERAGE *(in the context of the IPS):*

- The OP&F IPS requires the Board to monitor the costs of the investment operations on a semi-annual basis, but it does not specifically require them to monitor brokerage. However, certain of the asset class guidelines in Section VI. Specific Guidelines mention trading. For example, the general guidelines for active large cap domestic equity managers state that “trading shall be left to the discretion of the investment manager” except OP&F reserves the right to direct some commissions. *(See also discussion and recommendation in Section 7(A) of this Report – Brokerage.)*

Recommendation A8

Expand the IPS to define clearly how brokerage commissions should be monitored and what types of arrangements (e.g., commission recapture) are permissible.

12) Securities Litigation

FUNDAMENTAL PRINCIPLES REGARDING IPS SECURITIES CLASS ACTION LITIGATION PROVISION:

- *Much like public pension funds' initial reaction to proxy voting, whether or not, and to what extent, public pension plans are obligated to pursue securities class action litigation continues to be a subject of debate for some funds.*
- *Trustees have a fiduciary duty to prudently invest and manage plan assets. Securities class action litigation affects investment returns. The Department of Labor (DOL) views securities class action claims as plan assets. The claims afford Trustees the opportunity*



to recover losses resulting from the wrongful actions of a company in which they have invested. Since the claims are plan assets, DOL has advised ERISA funds that trustees have an affirmative duty to determine whether it would be in the best interest of plan participants to become actively involved in securities litigation, and a duty to take reasonable steps to realize on claims.⁸ In fact, depending on the circumstances, it may not only be prudent to initiate litigation, but may be a breach of a fiduciary duty not to pursue a valid claim⁹. DOL's reasoning was based on trust law principles. The Trustees' duties extend to actively monitoring situations where "the activities of the plan alone, or together with other shareholders, are likely to enhance the value of the plan's investment, after taking into account the costs involved."¹⁰

- Public pension funds are not subject to ERISA; however, most are governed by fiduciary standards that are similar, if not identical, to ERISA principles. For that reason, it is probable that courts will take ERISA principles into account when construing whether public pension fund trustees have an affirmative duty regarding securities class actions under their respective state or local law.
- An IPS should specify whether or not the Fund considers class action claims to be plan assets, and if so how the trustees plan to meet their fiduciary responsibility in this area. The absence of a written policy would place a Fund's ability to recoup plan assets at risk and expose them to institutional memory risk, i.e., the risk that awareness of the process is not readily known and those that know about and understand the process will leave.

OBSERVATIONS REGARDING IPS SECURITIES CLASS ACTION LITIGATION PROVISION:

- We acknowledge that OP&F is conscious of its responsibility in this area and has taken steps to monitor securities class actions and claims,¹¹ however the OP&F IPS makes no reference to how the trustees address their fiduciary responsibility regarding securities class action litigation or the proof of claims process.
- The OP&F Board adopted a "Securities Litigation Policy" on October 26, 2005, after our fieldwork for this report had been completed. The policy states that "OP&F staff shall

⁸ DOL *amicus* brief submitted in *Bragdon v. Telxon Corp.* 98 Civ. 2876 (N.D. Ohio).

⁹ See, e.g., *Martin v. Feilen*, 965 F.2d 660, 667 (8th Cir. 1992)

¹⁰ Interpretive Bulletins Relating to ERISA, 59 Fed. Reg. 38,860, 38,860-61(1994).

¹¹ OP&F has a contractual agreement, dated May 24, 2004, with Investor Responsibility Support Services (IRSS). IRSS is used by a number of public pension fund to assist them in monitoring securities class actions and filing and monitoring proof of claims



implement and maintain appropriate procedures to support this policy.” This policy should be incorporated by reference into the IPS.

Recommendation A9

Now that the securities class action litigation and claims management policy has been adopted, an implementation protocol should also be adopted.¹² The IPS should reference the existence of the securities class action policy and implementation protocol.

13) Periodic Review of the IPS

FUNDAMENTAL PRINCIPLES REGARDING REQUIREMENTS FOR REVIEW OF THE IPS:

- *The IPS should specify the frequency of its review and who has responsibility for such review.*

OBSERVATIONS REGARDING REQUIREMENTS FOR REVIEW OF THE IPS:

- Section II. of the IPS, Definition of Responsibilities, requires the Investment Committee of the Board to “[R]eview, on a continuing basis, the current Investment Policies of OP&F and recommend changes to the Board, as appropriate.” In addition, Section X of the IPS requires that “the Board in conjunction with its consultant will review [this policy statement] at least once a year to determine if revisions are warranted.”
- We find the stated frequency and designation of responsibility to be appropriate.

¹² The following is a list of typical implementation protocol components: claims identification process; designation of individual(s) responsible for monitoring filings sources to identify claims (e.g., staff or outside service provider); determination of class membership (review trading activity to determine whether the pension fund purchased shares during the “class period”; determination of estimated value of potential claim (using a predetermined formula) establishment of a minimum loss threshold (the amount below which the fund’s losses will not ordinarily justify the expenditure of significant fund resources); second tier assessment process (assessing whether the involvement of the fund will benefit plan participants); assignment of responsibilities (the role and authority of key parties – the board, a committee, pension fund staff, outside service providers (monitoring firm, legal counsel, the custody bank, etc.)



14) Consideration of Ohio Based Businesses

Section V of the IPS, entitled Investment Implementation, discusses the use of qualified investment managers and the search policy established by the Board and states “Ohio based firms shall also be given consideration, providing that specified criteria are met.” Investment in Ohio based businesses is encouraged, but not mandated by Section 742 of the Ohio Revised Code. S.B. 133 contains additional language increased the duty to use “Ohio Qualified” firms, but again only if they meet appropriate standards. *(See IFS’ more in-depth discussion and recommendations in Investment Issues Section 9(A) of this Report – Statutory Provisions and Administrative Rules of this Report.)*

In addition, private equity investments in Ohio limited partnerships are permissible, whereas other types of direct investments in limited partnerships can only be in partnerships that are also held by one of OP&F’s “fund-of-funds.” *(See the discussion below in subsection 15 of this section of the Report –The Private Equity Investment Policy.)*

The OP&F IPS also contains a detailed policy on manager selection, monitoring and evaluation. *(These subjects are covered under Sections 8(A) & 4(B).)*

15) Private Equity Investment Policy

FUNDAMENTAL PRINCIPLES REGARDING IPS FOR PRIVATE EQUITY:

- *Private equity is generally believed to offer a higher expected rate of return, but at a much higher risk level, than other possible asset classes. For this reason, it is beneficial to have a thorough, distinct investment policy for this asset class.*
- *A Private Equity IPS should typically contain the following essential elements:*
 - *Purpose/strategic objective for this asset class*
 - *Roles and responsibilities of the parties involved*
 - *Investment/performance objectives*
 - *Approach to the asset class*



- *Implementation strategy*
- *Permissible/prohibited investments*
- *Due diligence guidelines*
- *Reporting requirements*
- *Legal constraints (if any)*

OBSERVATIONS REGARDING IPS FOR PRIVATE EQUITY:

We reviewed the Private Equity Investment Policy as revised December 16, 2003 (note: this policy was revised again on October 26, 2005) (“Private Equity IPS”) to determine whether it contains all of the critical elements. We found the following:

- OP&F has a separate IPS for its private equity portfolio. In order to avoid undue risk in this “alternative” asset class, we view this approach as a best practice.
- The Private Equity IPS contains most of the essential elements. It provides the Board with the requisites of investing in private equity in order to avoid unnecessary or unplanned risk in this already “risky” asset class.

The following is a discussion of each of the key elements of the Private Equity IPS:

- **Private Equity IPS Purpose** - The Private Equity IPS clearly states the purpose of the IPS in particular and the investment philosophy regarding this asset class. The System believes that it is important to gain access to “top tier” limited partnerships and that the best method for them is through “fund-of-funds” and some limited partnership investments.
- **Private Equity IPS Permissible Investments** - The Private Equity IPS also contains a brief discussion of the types of investments available in the asset class. However, it does not contain a glossary of terms or an in-depth discussion of the



asset class. Private equity investing involves specific technical terminology with which the Board or external audience associated with the Board (legislatures, beneficiary and participants groups, etc.) may not be familiar.

Recommendation A10

We recommend including a glossary of private equity terms and an in-depth discussion of the asset class in the Private Equity IPS, either in the IPS or in a separate appendix to the Private Equity IPS.

- **The Private Equity IPS Roles and Responsibilities**

The document briefly outlines the roles and responsibilities in Section III. Implementation.

- **Staff** - Staff is responsible for selection of potential investments for consideration by the Board, who has ultimate approval.
- **Consultant** - OP&F does not use a separate private equity consultant and the general investment consultant is not involved in the selection of partnerships or implementation of the policy. The staff has the ability to select a gatekeeper/advisor specifically for private equity through an RFP, but they have not done so at this time. Since the System has mainly limited itself to fund-of-funds investments, a gatekeeper may not be necessary.
- If the Board wanted to increase its overall allocation to this asset class and/or pursue more limited partnership and/or direct investments, it should seriously consider hiring a specialist, especially since it does not receive assistance from its general investment consultant. Such a consultant may allow the System to gain access to additional “top tier” partnerships as well as perform increased due diligence and monitoring.



Recommendations A11 – A12

We recommend the Board consider hiring a specialist private equity consultant/gatekeeper if it chooses to expand its allocation to this asset class.

We recommend the Private Equity IPS be amended to define the roles and responsibilities of staff, Board and any consultant in more detail, consistent with the approach used in the total Fund IPS.

- **The Private Equity IPS Investment/Performance Objectives**

- The Private Equity Portfolio has appropriate total portfolio performance objectives. The document states that performance of the total portfolio will be calculated on a time-weighted rate of return basis. The stated long-term objective is the Wilshire 5000 plus 5%, net of fees, over rolling 10-year time periods. We find this is an appropriate benchmark.
- Performance for individual investments is to be calculated on a dollar-weighted or IRR basis, which is the industry standard. No benchmark is used for the individual investments.
- We understand that staff also evaluates all private equity investments benchmarked on a vintage year basis to the Venture Economics universe on an IRR (or dollar-weighted return) basis. This information first becomes available five years after each respective vintage year. The Board may also want to see these vintage year comparisons

Recommendation A13

Consider revising the IPS to include reference to the use of vintage year performance comparisons for individual private equity investments.



- **The Private Equity IPS Asset Class Approach**

- The Private Equity IPS outlines the System’s approach to this asset class in Section III. Implementation and IV. Investment Guidelines. The Implementation section describes how the System will invest in fund-of-funds and only use individual partnerships on an “opportunistic” basis. Investments in individual partnerships are limited to partnerships that are in one of the fund-of-fund investments or a partnership with a “significant presence in the state of Ohio.”
- The amount allocated to the asset class is a function of the System’s asset allocation policy outlined the total fund IPS. The Private Equity IPS describes the selection process for new investments and the due diligence that must be performed. It also contains a brief description of the various types of private equity investments (e.g., venture capital, buyouts, mezzanine debt).
- The investment strategy for private equity calls for the portfolio to be diversified by type of investment, geography, vintage year, stage, capitalization, industry as well as by general partner. The Private Equity IPS also outlines maximum and minimum percentage interest and dollar amount for each investment. In addition, OP&F requires its managers to be able to manage liquidations of distributed stock, but it can hire a distribution manager through an RFP if deemed necessary.
- Although in general the overall approach is sound, as noted in an earlier recommendation, if the Board were to increase its allocation to this asset class it should consider the use a gatekeeper/advisor and invest in more individual limited partnerships. Even though fund-of-funds provide access to many top tier funds and perform an additional monitoring/due diligence function, they also impose an additional layer of fees. The System would also have more control over the structure



of the portfolio through the use of individual partnership investments. Given the current lack of private equity advisor, the emphasis on fund-of-funds makes sense.

- The Board's diversification requirements help reduce the risk of the private equity portfolio, however, there are many specific investment risks associated with this asset class such as use of leverage, illiquidity, structural risk and operating/business risk. In addition, the return stream for private equity is different from that provided by other types of investments.
- The Private Equity IPS could be expanded to discuss more fully the risks inherent in this asset class in order to assist the Board and to exemplify that they are fully informed.

Recommendation A14

Consider adding a more in-depth discussion on the risks specific to this asset class, consistent with the earlier recommendation for a glossary and in-depth asset class discussion.

- **The Private Equity IPS reporting Requirements**

- Section VI, Investment Manager Monitoring and Evaluation, states that private equity investments should be reviewed in accordance with the System's Investment Manager Monitoring and Evaluation Policy. This appears to be a reasonable reporting approach.

2. Portfolio Risk

FUNDAMENTAL PRINCIPLES REGARDING PORTFOLIO RISK:

- *In general, pension funds have a very long-term investment horizon and can afford to take on market risk. The OP&F Board is required to abide by the "prudent expert*



principle,” which, among other things, requires the Board to diversify the investment holdings to minimize the risk of loss and maximize the rate of return. This does not mean, however, that the Board can not take on investment risk where appropriate, but that it must do so in a prudent fashion and best practices dictate the use of “whole portfolio theory.” For example, adding asset classes that are viewed as risky in isolation (e.g., private equity) can reduce the overall risk level of the total Pension Fund when combined with other low correlated asset classes. The appropriate level of risk varies by pension plan, asset class as well as investment strategy.

- *An Investment Policy Statement provides an overall framework from which Fund investment staff can analyze external investment managers and investment strategies, as well as other service providers, and which assists in implementing an investment program designed to meet the Fund’s long-term risk and return objectives for funding the long-term benefit needs of participants.*
- *Consistent with this IPS, many public funds also maintain and update yearly an Annual Investment Plan which assists the Fund and investment staff with executing investment policy, as well as short to intermediate term investment and risk objectives, on a year to year basis.*
- *There is also risk associated with active management versus passive management (see discussion in Task 4(A) Investment Structure) as well as the general plan risk of not meeting funding requirements and/or the actuarial assumed rate of return.*

GENERAL OBSERVATIONS REGARDING PORTFOLIO RISK:

- After reviewing various documents made available to IFS, it appears that the major instrument used to structure and control risk at the Fund and asset class level is the Fund’s IPS and Guidelines.
- In terms of establishing a risk framework around the total Fund, the Fund’s Policy Benchmark is the stated benchmark for the total Fund. This Policy Benchmark is represented by a custom blended benchmark which replicates the Fund’s total risk and return (on an actual and prospective basis). The Policy Benchmark is comprised of the returns of each index multiplied by the Policy Allocation target percentages (see discussion in Investment Issues Section 3(A) below) of each passive benchmark, which represent the major asset classes, and stated sub-asset classes, of the Total Fund.



Recommendation A15

In conjunction with the overall framework of the Fund's stated investment policy, consider establishing an "Annual Investment Plan" outlining the long-term return and risk expectations by asset class and for the total Fund (and any changes from the prior year), as well as specific objectives which the Fund's investment staff would like to accomplish in conjunction with the Trustees and/or the consultant(s) over the coming year, e.g., evaluating possible new asset classes or strategies, reviewing passive vs. active management, etc.

Total Fund risk and asset class risk controls and other risk factors are reviewed and discussed in greater detail within each specific investment performance section for the total Fund and each asset class

3. Investment Performance

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT PERFORMANCE:

- *In order to evaluate the performance of a fund or account, fair and objective goals, or benchmarks, should be established. Typically, these goals are established in a formal manner, as part of the IPS for a fund, or within the Investment Manager Guidelines for an investment account. Also, typically, multiple goals are established so that the limitations of any one goal do not cloud the objectivity or value of the evaluation.*
- *The main performance goals should include: meeting or exceeding the actuarially assumed return on investments, meeting or exceeding the return of a Total Fund benchmark (such as a Policy Benchmark) and any other specific objectives set, all at an appropriate level of risk.*
- *Peer comparisons are also used in evaluating performance. Universe data exist from a number of sources and may be used to evaluate an individual investment manager, a particular asset class, or the fund as a whole. Total fund peer comparisons should be used primarily for information purposes since no two funds will have exactly the same asset allocation and investment objectives.*
- *An industry standard is to evaluate performance over a market cycle which is defined as a period of time that includes a prolonged period of negative returns as well as a prolonged period of positive returns. The generally accepted approximation of a market cycle is three to five years. We analyze five years of performance below.*



BACKGROUND

The following performance analyses compare the Total Fund and each of the Fund's major asset classes, on a gross of fee basis, to their respective primary benchmarks, as well as against the most applicable universe of public fund plan sponsor returns within IFS' Wilshire Cooperative (Co-op) universe¹³, at the Total Fund and asset class level, for the period ending June 30, 2005. In some instances, a comprehensive universe was not available. In these cases, a universe of similar investment strategies was utilized for comparative purposes, where and when available.

Following the investment performance summary and evaluation of each asset class, including appropriate benchmarking and universe comparisons, a general summary of specific risk factors and a benchmarking assessment is reviewed and reported.

a. Total Fund

1) Performance Evaluation

The following performance summary will detail the Total Fund performance as compared to its policy benchmark, OP&F's custom peer group¹⁴, along with universe rankings within IFS' comparable fund universe (the total fund universe contains 1,557 funds and the public fund universe contains 178 funds), over annualized and rolling one year periods from June 30, 2000, through June 30, 2005.

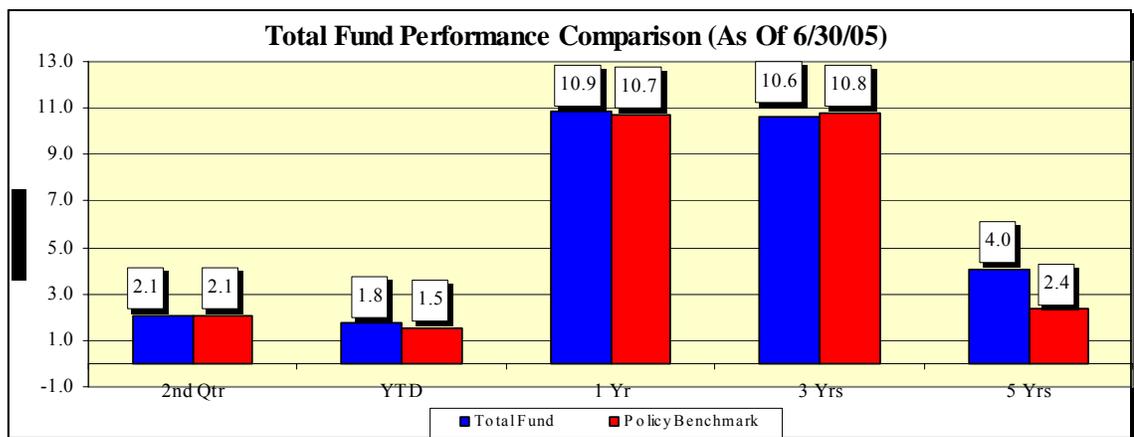
OBSERVATIONS REGARDING TOTAL FUND PERFORMANCE:

¹³ The Wilshire Cooperative is a collaboration between Wilshire Associates and more than 60 independent investment consulting firms to provide performance measurement and analytical services to their plan sponsor clients www.wilshire.com. The investment performance data for their universe comparisons are generally composed of gross-of-fee returns.

¹⁴ Four peer funds provided performance information in response to the custom survey.



- As highlighted below, for the year-to-date period ending June 30, 2005, the Total Fund returned 1.8% and outperformed the policy benchmark return of 1.5% by 30 basis points. This year-to-date performance ranked 22nd within IFS’ universe of a variety of total fund portfolios. Over the one year period ending June 30, 2005, the Total Fund’s performance returned 10.9% and exceeded the policy benchmark by 20 basis points, ranking 11th in IFS’ total fund universe. Over the three and five year annualized periods studied, the Total Fund generated annualized returns of 10.6% and 4.0%, on a gross of fee basis, underperformed the benchmark by an annualized 20 basis points and outperformed 160 basis points, respectively. Universe rankings over the three and five year periods were respectable as the Total Fund ranked 14th and 52nd within IFS’ total fund performance universe.
- The following is a graphical performance summary highlighting the Total Fund’s absolute performance, relative excess returns and universe rankings for the period ending June 30, 2005, as previously described above.



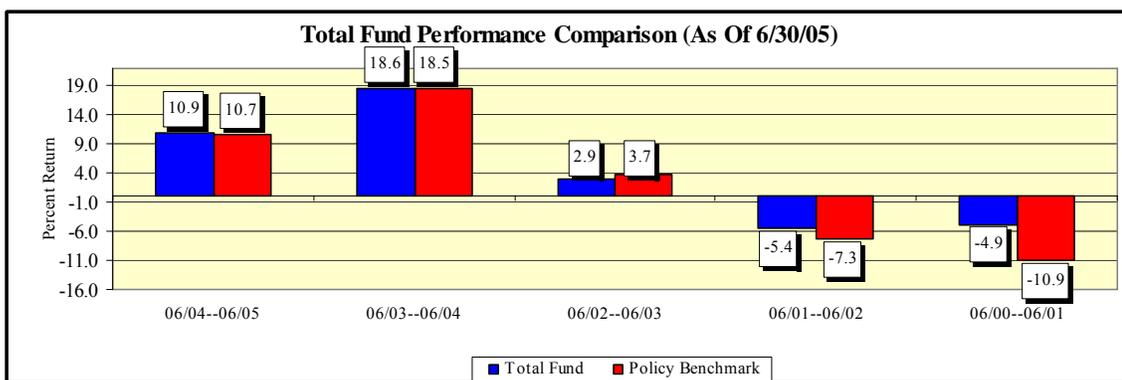
| Ohio Poice & Fire Total Fund Performance Comparison | | | | | |
|--|----------------|-------------|-------------|---------------------------|--------------|
| | <u>2nd Qtr</u> | <u>YTD</u> | <u>1 Yr</u> | <u>Annualized Returns</u> | |
| | | | | <u>3 Yrs</u> | <u>5 Yrs</u> |
| Total Fund | 2.1 | 1.8 | 10.9 | 10.6 | 4.0 |
| <i>Policy Benchmark</i> | <i>2.1</i> | <i>1.5</i> | <i>10.7</i> | <i>10.8</i> | <i>2.4</i> |
| <i>CPI</i> | <i>0.6</i> | <i>2.2</i> | <i>2.5</i> | <i>2.6</i> | <i>2.4</i> |
| <i>Excess (Total Fund - Policy Benchmark)</i> | <i>0.0</i> | <i>0.3</i> | <i>0.1</i> | <i>-0.2</i> | <i>1.7</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>44th</i> | <i>22nd</i> | <i>11th</i> | <i>14th</i> | <i>52nd</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>61st</i> | <i>28th</i> | <i>11th</i> | <i>11th</i> | <i>54th</i> |

- Table A1 below includes the Total Fund annualized investment performance returns from the custom peer group survey. Overall, the Fund outperformed (gross of fees) the custom peer group’s average and median Fund over the one and three year time periods.

| Table A1: Custom Peer Group Total Fund Cumulative Returns | | | |
|--|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | 10.4% | 11.9% | 5.4% |
| Public Employees' Retirement Fund of Indiana | 9.8% | 10.2% | N/A |
| School Employees Retirement System of Ohio | 10.5% | 9.4% | 2.4% |
| Indiana State Teacher's Retirement Fund | 9.3% | 9.6% | 5.0% |
| Average Return | 10.0% | 10.3% | 4.3% |
| Median Return | 10.1% | 9.9% | 5.0% |
| Ohio Police & Fire Pension Fund | 10.9% | 10.6% | 4.0% |

- The following Total Fund performance comparison highlights performance of the Total Fund, on a gross of fee basis, over rolling one year periods (ending June), from July 2000 to June 2005. The purpose of this summary is to demonstrate year to year performance consistency of the Total Fund versus the Total Fund’s primary policy benchmark, as well as the universe of total fund returns.





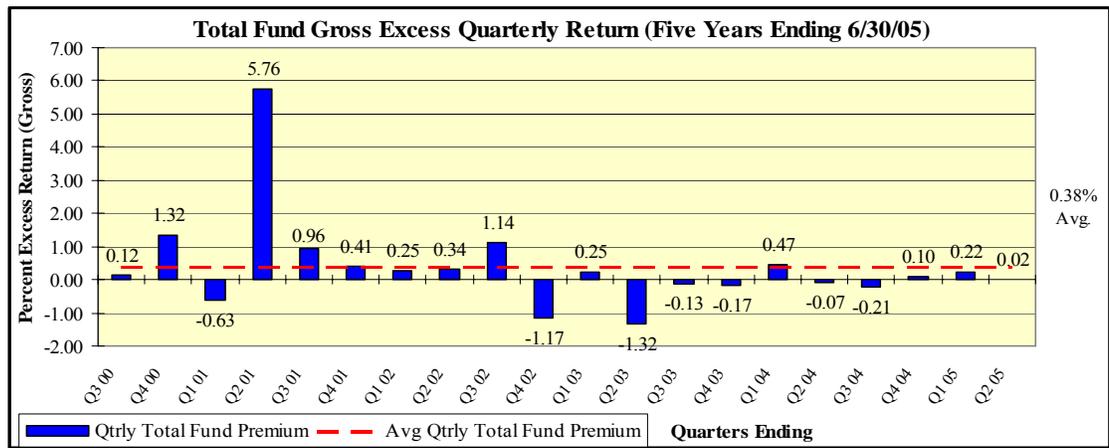
| | Rolling One Year Returns | | | | |
|--|--------------------------|--------------|--------------|--------------|--------------|
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Fund | 10.9 | 18.6 | 2.9 | -5.4 | -4.9 |
| Policy Benchmark | 10.7 | 18.5 | 3.7 | -7.3 | -10.9 |
| CPI | 2.5 | 3.3 | 2.1 | 1.1 | 3.2 |
| Excess (Total Fund - Policy Benchmark) | 0.1 | 0.1 | -0.8 | 1.9 | 6.0 |
| Total Fund Rank (Percentile) | 11th | 15th | 66th | 55th | 71st |
| Public Fund Rank (Percentile) | 11th | 8th | 76th | 56th | 65th |

- Table A2 below contains the historical consecutive investment performance returns from the custom peer group survey. As can be seen below, the Fund underperformed the peer group, gross of fees, for three of the five annual time periods, but outperformed over the two most recent years.

| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
|--|--------------|--------------|-------------|--------------|--------------|
| Oklahoma Teachers' Retirement System | 10.4% | 20.6% | 5.2% | -5.0% | -2.1% |
| Public Employees' Retirement Fund of Indiana | 9.8% | 16.3% | 4.7% | -4.5% | N/A |
| School Employees Retirement System of Ohio | 10.5% | 16.5% | 1.8% | -7.8% | -6.8% |
| Indiana State Teacher's Retirement Fund | 9.3% | 15.1% | 4.8% | -3.8% | 0.8% |
| Average Return | 10.0% | 17.1% | 4.1% | -5.3% | -2.7% |
| Median Return | 10.1% | 16.4% | 4.7% | -4.8% | -2.1% |
| Ohio Police & Fire Pension Fund | 10.9% | 18.6% | 2.9% | -5.4% | -4.9% |



- With the exception of underperformance in 2003, the Total Fund generated excess returns over the policy benchmark (gross of fees) in four out of the five one year periods reviewed. Given the relatively high allocation to equities (49% to Domestic Equities and 21% to International Equities of the Total Fund as of 6/30/05), it is not surprising that the Total Fund’s universe rankings were strongest in the periods of rising equity markets. Weaker universe rankings were exhibited in the more difficult portions of the U.S. equity bear market in 2001, 2002, and 2003.
- A summary of the Total’s Fund’s excess quarterly returns versus the Fund’s Total Fund Policy Index is found below.



- As the reader can observe from this line of analysis, although the equity bear market in 2001 and 2002 presented headwinds for the Fund, the Fund was able to achieve excess returns versus the Policy Index on a fairly regular basis through the bear market until the middle of 2002. Substantial gains were made versus the Fund’s Policy Index in 2001, particularly in the second quarter 2001. As the equity market improved in 2003, 2004 and 2005, the Total Fund has been unable to improve excess returns over the Policy Index like the excess returns produced during the equity bear market of 2000 – 2003.



- Based on the above analysis, the Fund has outperformed the Fund's Custom Policy Index by 38 basis points (38/100th of 1%) per quarter gross of fees, or 30 basis points (30/100th of 1%) net of fees (assuming fees of 7.75 basis points per quarter) based on total investment management fees and expenses as outlined in Wilshire's "Investment Performance Analysis Report" as of June 30, 2005.
- Based on IFS' review of various documentation, the Fund does not seem to publish or report an annual investment plan like the ORSC State Teachers Retirement System. Among, other items, an annual investment plan would highlight findings of the Fund's recent asset allocation or asset liability study, would target the Fund's excess return over the Fund's policy benchmark on an annual basis, as well as establish other targeted risk controls like a target for tracking risk by asset class and for the total Fund in general.

2) Total Fund Portfolio Risk

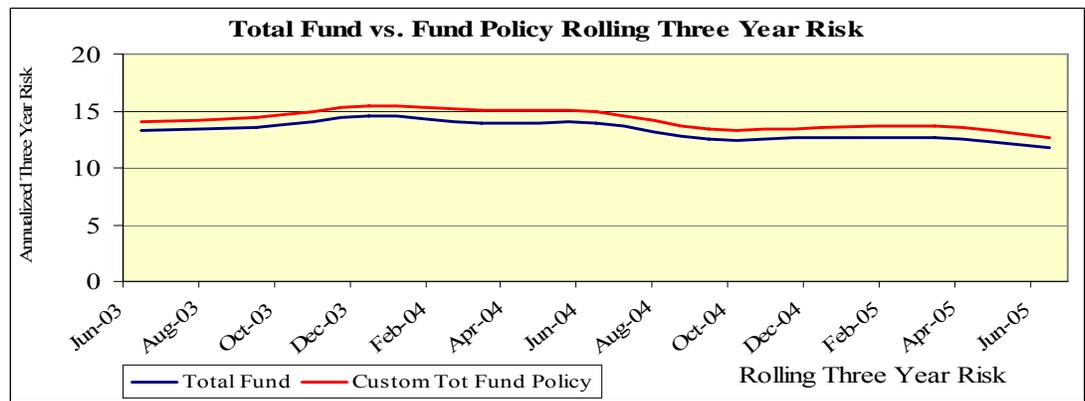
FUNDAMENTAL PRINCIPLES REGARDING TOTAL FUND PORTFOLIO RISK:

- *In addition to performance versus the Fund's stated policy benchmark, it is important to evaluate what kind of risk the Fund has taken to achieve the performance returns for the Total Fund and the Fund's underlying asset classes versus the appropriate benchmark.*
- *The Board should be aware of risks such as benchmark/style drift, standard deviation or volatility of returns, among others. There are also security specific types of risk such as illiquidity, associated with appraised assets like private equity or real estate, and those associated with derivatives. Individual manager guidelines are useful to articulate and manage the particular risks associated with each manager's unique investment process, strategy and risk characteristics.*
- *One of the primary methods to measure portfolio risk is by measuring the Fund's total standard deviation over a specific time frame or over a rolling time period. In essence, standard deviation measures the volatility of returns over time. Ideally, investment programs should seek a desired return objective while minimizing risk, or standard deviation of returns.*



OBSERVATIONS REGARDING TOTAL FUND PORTFOLIO RISK:

- After analyzing the pattern of performance over the past five years on a discrete and rolling three year basis, IFS concludes that the Fund’s investment staff (and the Fund’s investment strategies on a combined basis) has been successful in controlling the risk of the overall Fund over the long and intermediate term versus its appropriate benchmark. A summary of the Fund’s total portfolio risk on a rolling three year basis (ending quarterly) versus that of the Fund’s policy index is displayed below.



| <u>Three Year Rolling Average</u> | |
|-----------------------------------|---------------------------------|
| <u>Total Fund</u> | <u>Custom Total Fund Policy</u> |
| 13.2 | 14.2 |

- As demonstrated above, on a three year rolling basis, the Fund’s total portfolio risk was less than the three year rolling risk of the policy benchmark over every three year period reviewed by IFS for the three year periods ending June 2003 through June 2005. On average over this rolling three year analysis, the Fund’s total risk averaged 13.2%, or 7% less than the 14.2% three year average rolling risk of the Fund’s policy benchmark.



3) Benchmark Assessment

FUNDAMENTAL PRINCIPLES REGARDING BENCHMARK APPROPRIATENESS:

- *Appropriate benchmarks should be used to evaluate total pension fund performance as well as individual investment portfolios. Performance benchmarks are objective standards used to assist in evaluating a fund's asset class or manager's investment performance. Benchmarks should be broad and representative proxies for relatively large economic segments of the capital markets and they should also be investable.*
- *Institutional investors typically use at least two types of performance benchmarks: "policy" benchmarks and "strategic" benchmarks.*
 - ***Policy benchmarks** generally represent the investment opportunities of a broad asset class and are used as a reference point against which the investor can compare its total asset class returns. For example, a domestic equity investment structure designed to provide broad asset class exposure may use the Wilshire 5000 Index or the Russell 3000 Index (two broad measures of the domestic stock market) as a policy benchmark as opposed to the S&P 500 Index, which is more concentrated in larger-capitalization stocks. Policy benchmarks can also help define the types of investment managers that a fund should use to achieve its investment objectives for the asset class and the nature of the manager's investment mandate.*
 - ***Strategic benchmarks** are generally more narrowly defined and typically focus on a particular investment "style" or strategy within an asset class. They more clearly describe the expected range of investment opportunities for a given manager and more objectively measure the manager's value added, or the manager's return independent of its investment style. For example, an investor setting a strategic benchmark for a domestic equity investment manager that seeks to purchase large capitalization stocks that it believes will grow their earnings above the average rate relative to the market (i.e., a "large cap growth" manager) may select a large cap growth benchmark such as the Russell 1000 Growth Index as an appropriate strategic benchmark. Therefore, the manager's excess return above the "comparable style" strategic benchmark is generally due to its active decisions as opposed to its investment style being "in favor" relative to a style-neutral strategic benchmark. (Note: This report does not discuss benchmarks at the individual manager or strategy level.)*



OBSERVATIONS REGARDING BENCHMARK APPROPRIATENESS:

- The Fund’s total blended Policy Benchmark is represented by benchmarks below in the weights prescribed under “Policy Allocation.”

| <u>Allowable Asset Classes, Policy Benchmark & Policy Allocation Summary</u> | | | | | | |
|---|--------------------------------------|--------------------------|---------------------|-------------|------------|--|
| <u>Asset Class</u> | <u>Policy Benchmark</u> | <u>Policy Allocation</u> | <u>Policy Range</u> | | | |
| | | | <u>Range</u> | <u>High</u> | <u>Low</u> | |
| 1. Domestic Equity | Wilshire 5000 | 46% | +/- 5% | 51% | 41% | |
| 2. International Equity | MSCI EAFE Index | 17% | +/- 2% | 19% | 15% | |
| 3. Domestic Fixed Income | Lehman Aggregate | 18% | +/- 2% | 20% | 16% | |
| 4. High Yield | CSFB Domestic Plus High Yield | 5% | +/- 2% | 7% | 3% | |
| 5. Real Estate | NCREIF Index + 1% before fees | 8% | +/- 2% | 10% | 6% | |
| 6. Emerging Markets | MSCI Intl. Emerging Markets Free | 3% | +/- 2% | 5% | 1% | |
| 7. Private Equity | Wilshire 5000 +5% net of fees | 3% | +/- 2% | 5% | 1% | |
| 8. Cash Equivalents | Short Term High Quality Money Market | 0% | +/- 0.5% | 0.5% | -0.5% | |
| Total Fund | | 100% | | | | |

- According to the Fund’s IPS, and based on the expected return (inflation as measured by the Consumer Price Index plus 4.0%) and risk expectations of the Fund over the long term, coupled with the objective of outperforming the Fund’s actuarial assumption, the above benchmarks appear reasonable in benchmarking each particular asset class and respective sub-asset class.
- We suggest a few enhancements for consideration within each asset class section of this report below.

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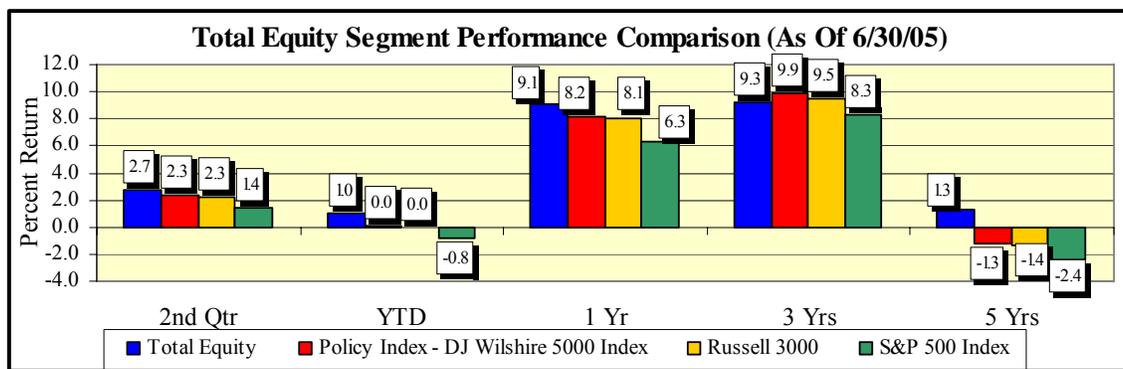


b. Domestic Equity

1) Performance Evaluation

OBSERVATIONS REGARDING DOMESTIC EQUITY PERFORMANCE:

- Over the short and intermediate term, spanning the past five years, the Fund’s performance has generally outperformed the Fund’s equity benchmark, Dow Jones Wilshire 5000.
- This outperformance versus the benchmark is observed over the past quarter, year-to-date, one year, and five year annualized periods highlighted, on a gross of fee basis through June 30, 2005. The domestic equity composite only underperformed the equity benchmark for the three year period ending June 30, 2005, by 70 basis points.



| | 2nd Qtr | YTD | Annualized Returns | | |
|---|-------------|-------------|--------------------|-------------|-------------|
| | | | 1 Yr | 3 Yrs | 5 Yrs |
| Total Equity | 2.7 | 1.0 | 9.1 | 9.3 | 1.3 |
| Policy Index - DJ Wilshire 5000 Index | 2.3 | 0.0 | 8.2 | 9.9 | -1.3 |
| Russell 3000 | 2.3 | 0.0 | 8.1 | 9.5 | -1.4 |
| S&P 500 Index | 1.4 | -0.8 | 6.3 | 8.3 | -2.4 |
| <i>Excess (Total Equity - Custom Benchmark)</i> | <i>0.4</i> | <i>1.0</i> | <i>0.9</i> | <i>-0.7</i> | <i>2.6</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>28th</i> | <i>29th</i> | <i>39th</i> | <i>62nd</i> | <i>45th</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>31st</i> | <i>31st</i> | <i>50th</i> | <i>56th</i> | <i>39th</i> |

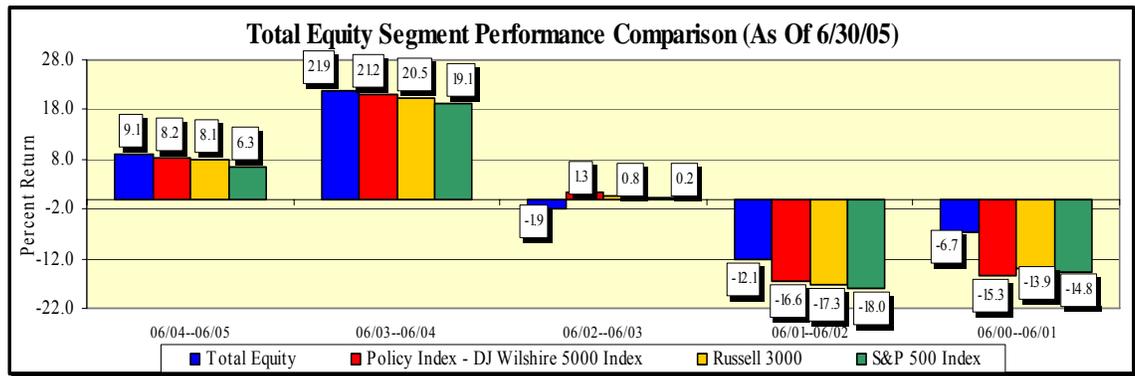


- A comparison of the Fund’s relative domestic equity universe rankings versus other total fund portfolios is shown above. For the most part, the Fund’s domestic equities rank in either the second or third quartiles of IFS’ equity returns universe of total fund portfolios over the second quarter 2005 (28th rank), year-to-date period (29th rank), one year (39th rank), three year (62nd rank) and five year (45th rank) annualized period. A comparison of the Fund’s relative domestic equity rankings versus other total fund public portfolios universe is also available in the performance comparison table above.
- Table A4 below represents the domestic equity annualized returns of the custom peer group survey. As can be seen below, the Fund’s domestic equity composite outperformed the average and median Fund over the one and five year time periods.

| Table A4: Custom Peer Group Domestic Equity Cumulative Performance | | | |
|---|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | 11.3% | 13.1% | 2.8% |
| Public Employees' Retirement Fund of Indiana | 8.2% | 11.0% | N/A |
| School Employees Retirement System of Ohio | 7.3% | 9.3% | -1.4% |
| Indiana State Teacher's Retirement Fund | 2.3% | 7.7% | -0.4% |
| Average Return | 7.3% | 10.3% | 0.3% |
| Median Return | 7.8% | 10.1% | -0.4% |
| Ohio Police and Fire Pension Fund | 9.1% | 9.3% | 1.3% |

- The Fund’s total equity segment outperformed its Equity benchmark in four of the five one year periods (one year ending June 2001, June 2002, June 2004 and June 2005), and underperformed the Custom Equity benchmark in only one of the five one year rolling periods (one year ending June 2003).





| Ohio Police & Fire Equity Segment Performance Comparison | | | | | |
|---|--------------------------|--------------|--------------|--------------|--------------|
| | Rolling One Year Returns | | | | |
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Equity | 9.1 | 21.9 | -1.9 | -12.1 | -6.7 |
| Policy Index - DJ Wilshire 5000 Index | 8.2 | 21.2 | 1.3 | -16.6 | -15.3 |
| Russell 3000 | 8.1 | 20.5 | 0.8 | -17.3 | -13.9 |
| S&P 500 Index | 6.3 | 19.1 | 0.2 | -18.0 | -14.8 |
| <i>Excess (Total Equity - Custom Benchmark)</i> | <i>0.9</i> | <i>0.7</i> | <i>-3.2</i> | <i>4.5</i> | <i>8.6</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>39th</i> | <i>52nd</i> | <i>70th</i> | <i>31st</i> | <i>43rd</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>50th</i> | <i>51st</i> | <i>68th</i> | <i>25th</i> | <i>34th</i> |

- Based on a review of the Fund’s equity structure, it appears that the Fund has maintained a large cap and neutral to slight value bias in the recent periods observed. If this structure was maintained over much of the past five years, it appears that the Dow Jones Wilshire 5000 is an appropriate benchmark to measure performance of the Fund’s domestic equity program.
- The table below represents the domestic equity consecutive returns of the custom peer group survey. As can be compared below, the Fund’s domestic equity composite outperformed the average and median Fund over three of the five annual time periods.



| Table A5: Custom Peer Group Domestic Equity Annual Performance | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
| Oklahoma Teachers' Retirement System | 11.3% | 27.5% | 2.0% | -14.2% | -7.7% |
| Public Employees' Retirement Fund of Indiana | 8.2% | 24.7% | 1.3% | -14.6% | N/A |
| School Employees Retirement System of Ohio | 7.3% | 21.4% | 0.2% | -15.6% | -15.4% |
| Indiana State Teacher's Retirement Fund | 2.3% | 22.2% | -0.1% | -13.6% | -9.2% |
| Average Return | 7.3% | 24.0% | 0.9% | -14.5% | -10.8% |
| Median Return | 7.8% | 23.5% | 0.8% | -14.4% | -9.2% |
| Ohio Police & Fire Pension Fund | 9.1% | 21.9% | -1.9% | -12.1% | -6.7% |

2) Domestic Equity Portfolio Risk Factors

BACKGROUND

IFS analyzed certain risks as of June 30, 2005, as well as portfolio risks which were measured as part of a rolling time series over the past five years. As of June 30, 2005, IFS reviewed the Fund's equity portfolio risk versus the equity portfolio's primary and secondary benchmark in terms of sector allocation, equity style allocation (based on equity holdings based style analytics), capitalization allocation and a range of relevant portfolio comparative statistics. IFS then analyzed and reviewed other risks of the equity program, including a returns based style analysis (to further test the equity program with its stated benchmark) as well as a review of the equity program's standard deviation (or volatility) of returns versus its primary and secondary equity benchmarks.

FUNDAMENTAL PRINCIPLES REGARDING EQUITY PORTFOLIO RISK:

- *Equity portfolio risk should be measured in several different ways, such as versus the equity portfolio's benchmark in terms of sector allocation, equity style allocation, capitalization allocation and a range of relevant portfolio comparative statistics (see below).*



- *The Fund can measure its current portfolio risks based on a host of portfolio characteristics versus the benchmark to determine if it is taking any outsized risks from a variety of perspectives. These characteristics include:*
 1. *Number of stocks (how concentrated or diversified is the portfolio),*
 2. *Beta (how volatile is the portfolio versus the volatility of the S&P 500 which is set at 1.0),*
 3. *Portfolio yield (indicates whether portfolio is value, core or growth oriented),*
 4. *Price to earnings ratio (P/E),*
 5. *R-squared (measures suitability of portfolio to given benchmark),*
 6. *Market capitalization (weighted average and median market capitalization)*

- *Equity style is generally defined along the lines of large cap (generally over \$10 billion in market capitalization), mid cap (generally \$2.5 billion to under \$10 billion in market capitalization) and small cap securities (generally \$250 million to under \$2.5 billion in market capitalization), as well as securities being characterized as being value (possess higher yields, lower price to book ratios and favorable price to cash flow ratios), neutral (or core – which possess market like characteristics within in a range of the market) and growth (lower than market yields, higher than market book values and accelerating earnings growth) oriented securities.*

- *Based on our experience, IFS believes that most larger institutional investors seek to structure a broadly diversified domestic equity portfolio and use either the Wilshire 5000 Index or the Russell 3000 Index as their domestic equity Policy Index. The Wilshire 5000 and Russell 3000 Indices represent approximately 100% and 98% of the entire U.S. equity market capitalization whereas the S&P 500 represents only about 80%.*

- *More broadly diversified equity portfolios can offer less volatility of returns than portfolios concentrated in one style. Historical analysis suggests that all styles come into and out of favor over time, with no one style consistently outperforming others. Therefore, a bias to any style may introduce added “risk” (i.e., performance which varies significantly from the benchmark which the Trustees have adopted as the “benchmark” for the Fund in that asset class) to the Fund with no expected additional long-term return. Thus, a “style neutral” approach is often sought by many funds.*

- *An investment structure which is significantly different from the equity policy benchmark introduces a “bias” or “bet” both to and away from another style within that benchmark:*
 - *An “overweight” to any one style (e.g., overweight to large-cap growth) must also include an “underweight” in another style (e.g., underweight to small cap or to value) relative to the overall equity benchmark.*

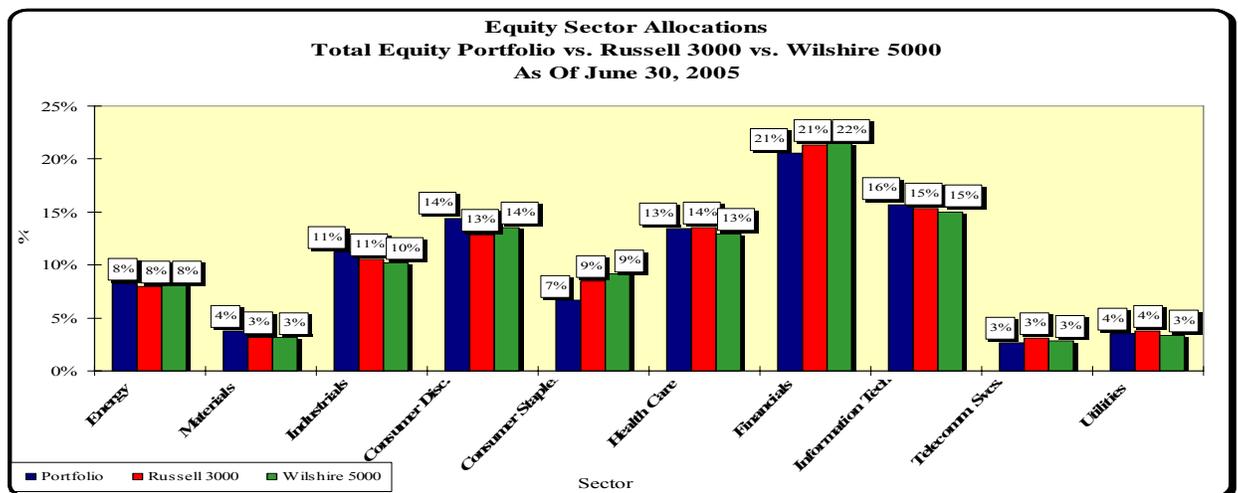


- The result of the above is a “bet” that the overweight style will outperform the underweight styles.
- As mentioned above, one method to measure portfolio risk by asset class is to measure each asset class composite’s total standard deviation over a specific time frame or over a rolling time period.

OBSERVATIONS REGARDING DOMESTIC EQUITY PORTFOLIO RISK:

Equity Sector Allocation Risk

- As of June 30, 2005, the Fund’s total equity program was diversified across all of the equity market’s 10 major sectors as highlighted on the “Equity Sector Allocations” chart on the following page. The largest underweight was the Consumer Staples sector which was 6.6% versus 9.2% for the index weight, or an absolute difference of 2.5%. The next largest underweight was the Financials sector at 20.5%, which was 1.0% below the benchmark’s 21.5% Financials sector allocation. Industrials, on the other hand, at an allocation of 11.2%, was the largest overweight versus the index weight of 10.2%. An allocation of the total domestic equity program as compared to the index is displayed below.



| Equity Sector Exposure Comparison | | | | | | | | | |
|--|--------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|
| | Energy | Materials | Industrials | Con. Disc. | Con. Staples | Health Care | Financials | Info. Tech. | Telco. Svcs. |
| Tot. Dom. Eq. | 8.2% | 3.8% | 11.2% | 14.4% | 6.6% | 13.4% | 20.5% | 15.7% | 2.6% |
| Wilshire 5000 | 8.3% | 3.2% | 10.2% | 13.6% | 9.2% | 12.9% | 21.5% | 15.0% | 2.8% |
| <i>Difference</i> | <i>-0.1%</i> | <i>0.6%</i> | <i>1.0%</i> | <i>0.8%</i> | <i>-2.5%</i> | <i>0.5%</i> | <i>-1.0%</i> | <i>0.7%</i> | <i>-0.2%</i> |

- As displayed above, the Fund’s total domestic equity program seems to be fairly risk controlled based on its overall sector allocation versus the benchmark, diversified across all the equity sectors of the market and the Fund is not making a substantial underweight or overweight allocation decision versus the benchmark.

Equity Portfolio Characteristic Risks

- A summary sampling of the Fund’s total equity portfolio characteristics as of June 30, 2005 is found below:

| Portfolio Characteristics | | | |
|----------------------------------|-----------------|---------------|--------------|
| Statistic | Total | | |
| | Domestic Equity | Wilshire 5000 | Russell 3000 |
| Number of Stocks | 1,406 | 4,937 | 2,999 |
| Beta (vs. S&P 500) | 1.02 | 1.05 | 1.02 |
| Yield (In Percent) | 1.47 | 1.69 | 1.71 |
| P/E | 19.87 | 21.40 | 21.15 |
| Standard Error | 2.29 | 1.55 | 1.56 |
| R-Squared | 0.92 | 0.96 | 0.96 |
| Wtd. Avg. Mkt. Cap. | \$54.6B | \$72.1B | \$72.2B |
| Median Mkt. Cap | \$4.1B | \$0.3B | \$1.0B |

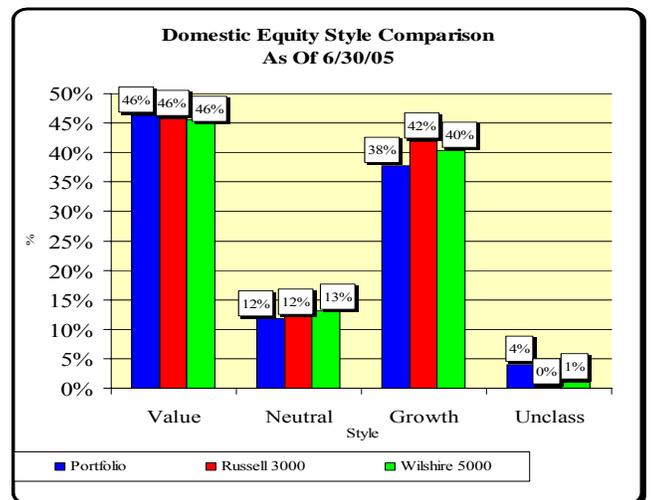
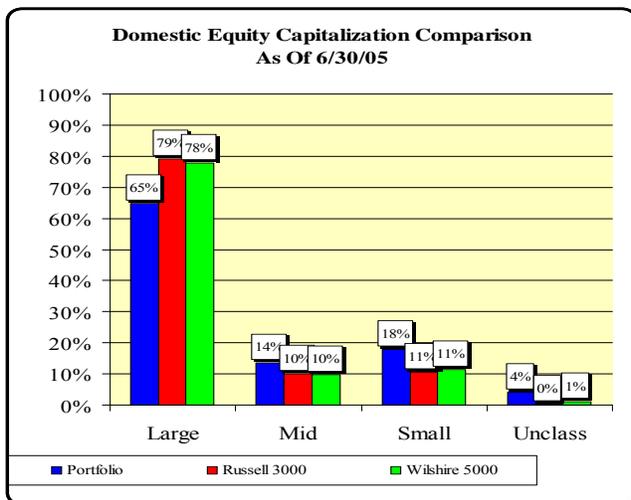
- Overall, in addition to diversification by sector, the portfolio is well diversified by number of securities in the portfolio at 1,406. The domestic equity portfolio beta of 1.02 is slightly less than the 1.05 beta of the total stock market (Wilshire 5000), and equal to the Russell 3000’s 1.02 beta which means the Fund’s equity portfolio and the Russell 3000 are 2% more volatile in both up and down equity markets versus the S&P 500.



From a yield perspective, the Fund’s yield is 1.47%, slightly less than the 1.69% and 1.71% yields of the Wilshire 5000. The Fund’s P/E of 19.9 is also lower than the Wilshire 5000’s and Russell 3000’s P/Es of 21.4 and 21.2. The lower P/E implies the Fund’s equity program is possibly slightly more oriented to value based securities than the market benchmarks. Generally, R-squared is used to measure a portfolio’s relevance to a certain benchmark, and typically any portfolio R-squared measure of 0.7 or greater versus a specific benchmark indicates that the benchmark is a “reasonable fit” for adequate benchmarking purposes. In terms of total weighted average and median market capitalization of the portfolio, the weighted average of the portfolio is nearly 25% less than the Wilshire 5000 and the Russell 3000, whereas the median market capitalization of the portfolio of \$4.1 billion is over ten times larger than the Wilshire 5000 and nearly four times larger than the Russell 3000 median market capitalization.

Equity Portfolio Holdings Style Risk

- The allocation of the Fund’s domestic equity portfolio by capitalization and equity style is highlighted below.

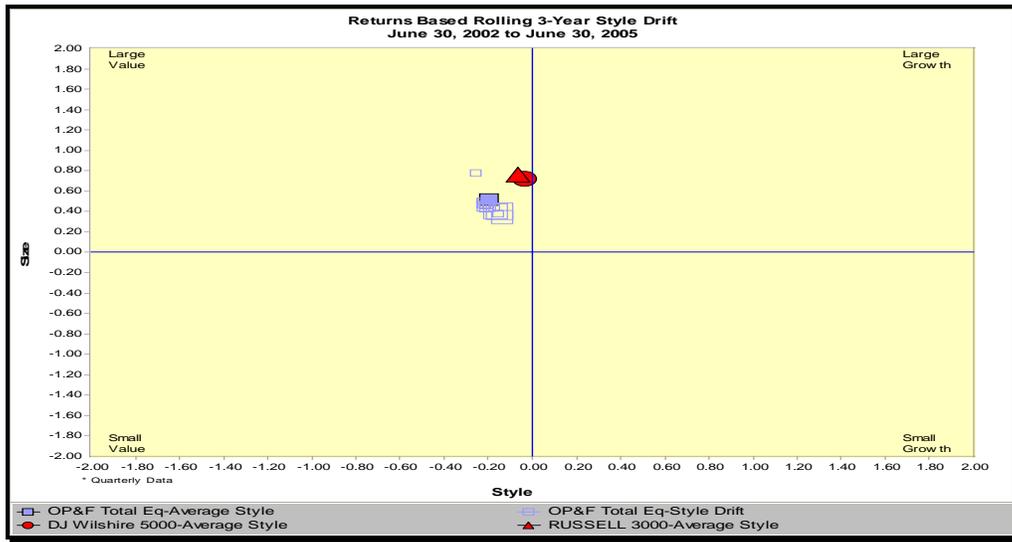


- As of June 30, 2005, the Fund's equity program was diversified across all categories of the equity capitalization and style spectrum. In terms of capitalization allocation risk, the Fund appears to be underweight large cap equities (65%, versus 79% and 78% for the two benchmarks) relative to the Russell 3000 and Wilshire 5000, and overweight mid (14%, versus 10% and 10% for the two benchmarks) and small cap equities (18%, versus 11% and 11% for the two benchmarks) as of June 30, 2005.
- A portion of the Fund's domestic equity program outperformance versus the market benchmarks is due to the overweight in small and mid cap equities (generally the least efficient area of the equity market where more anomalies can be exploited) which have led the equity market through both the bear market in 2000 through late 2002, and over the course of the equity market rebound in late 2002 through mid 2005. If the Fund has maintained an underweight in large cap equities over the past five years, this has clearly helped returns overall since large caps have underperformed mid and small caps over the past five years. In general, if the Fund investment staff continues to see good valuations in mid and small caps, and inefficiencies to exploit, then the Fund investment staff should continue to maintain this overweight, within a prudent degree, along with routine and prudent monitoring to ensure that capitalization overweights do not become too outsized.

Equity Portfolio Returns Style Risk

- In addition to the holdings based risk summary, IFS also conducted an equity style analysis of the Fund's domestic equity program using a returns based style analysis procedure. In this analysis, the Fund's domestic equity program three year rolling returns, for the five year period ending June 30, 2005, were regressed against the large value, large growth, small value and small growth benchmarks. The results of the analysis are exhibited below.





- As was confirmed in IFS' holdings based analysis, the results of the equity returns based style analysis confirm that the Fund's domestic equity program has maintained an average market capitalization less than the Russell 3000 and Wilshire 5000 benchmarks overtime. Additionally, the results of the returns based analysis also suggest that the Fund's domestic equity program has been slightly more value oriented than the market benchmarks over the past five years ending June 30, 2005. Again, the bias in both of these factors has helped the Fund's domestic equity performance and will continue to help outperform the market so long as smaller large cap companies (generally \$10 billion to \$25 billion in market cap), mid cap and small cap companies outperform large cap companies, and value oriented strategies continue to outperform growth oriented strategies.

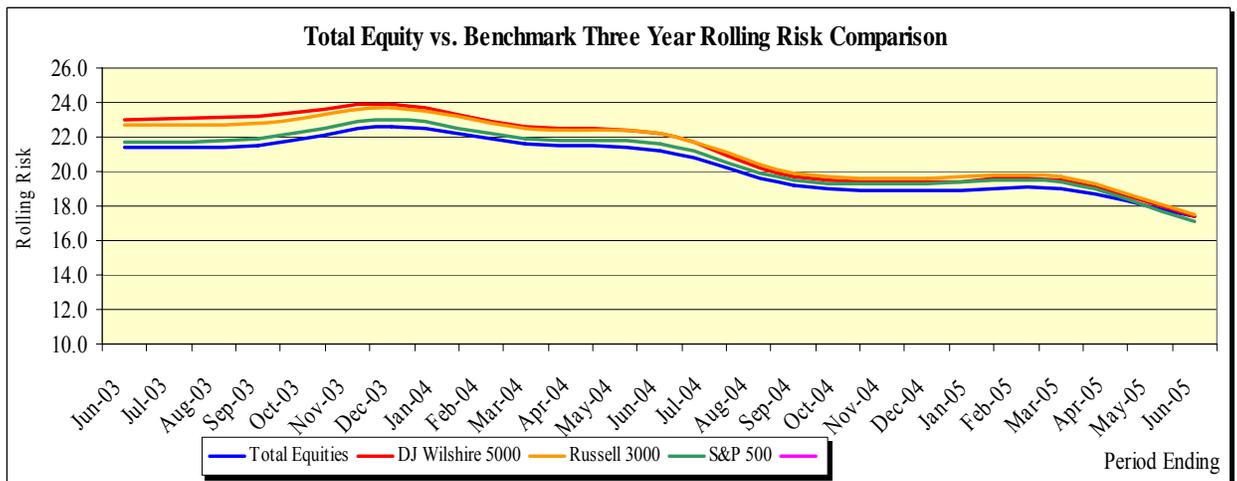
Equity Portfolio Rolling Three Year Risk Analysis (Standard Deviation of Returns)

- After analyzing the pattern of performance over the past five years on a discrete and rolling three year basis, IFS concludes that the Fund's investment staff (and the Fund's domestic equity investment strategies on a combined basis) has been successful in



controlling the risk of the Fund’s domestic equity program over the long and intermediate term versus its appropriate benchmarks.

- Although the three year rolling risk has been converging for the Fund’s domestic equity program and the appropriate benchmarks more recently, over the longer period, the Fund’s equities produced a lower three year rolling risk versus the Custom Equity Benchmark, as well as the Russell 3000 and Wilshire 5000 benchmarks. A summary of the Fund’s domestic equity portfolio risk on a rolling three year basis (ending quarterly) versus that of the Fund’s domestic equity benchmarks is exhibited below.



| <u>Three Year Rolling Average Risk</u> | | | | |
|--|-----------------------|----------------------------|-------------------------|---------------------|
| | <u>Total Equities</u> | <u>Custom EQ Benchmark</u> | <u>DJ Wilshire 5000</u> | <u>Russell 3000</u> |
| Average | 20.3 | 21.2 | 20.6 | 21.2 |

- On average over the past five years, the Fund’s three year rolling risk averaged 20.3, 4.3% less than the Custom Benchmark on a relative basis, and 1.5% and 4.3% less than the Wilshire 5000 and Russell 3000 benchmarks over the same time period on a relative basis.



3) Benchmark Assessment

OBSERVATIONS REGARDING DOMESTIC EQUITY BENCHMARK APPROPRIATENESS:

- After review of the Fund's equity program, including its current equity structure from a style and capitalization perspective, as well as upon review of the Fund's stated equity program objectives in the IPS, the Wilshire 5000 benchmark, the Fund's current domestic equity benchmark, seems to be the most appropriate benchmark for this program. The Wilshire 5000 is the broadest U.S. domestic equity benchmark reflecting the performance of large, mid and small capitalization securities numbering nearly 5,000 as of June 30, 2005.

c. International Equities

1) Performance Evaluation

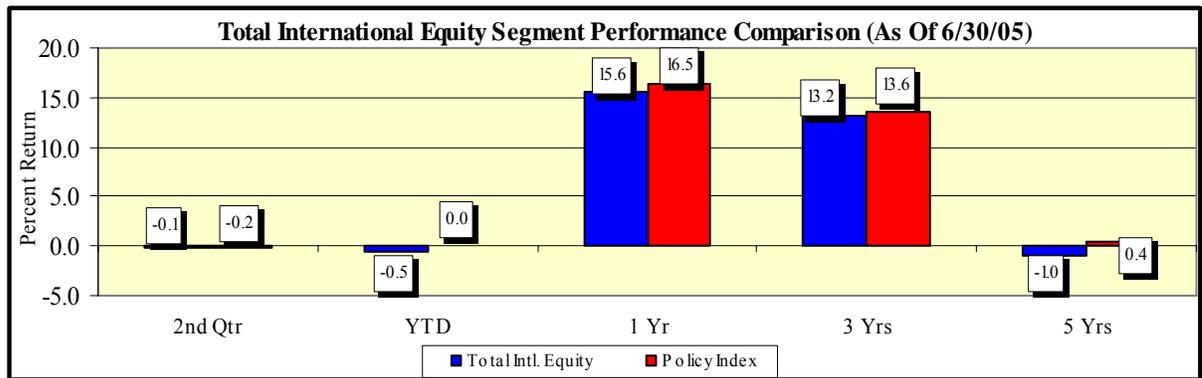
OBSERVATIONS REGARDING INTERNATIONAL EQUITY PERFORMANCE:

- The Fund's total international equity performance over the short and intermediate term, spanning the past five years, has continuously underperformed the Fund's international equity benchmark (MSCI All Country World Ex US (\$Net): First Quarter 2001 to Present, MSCI ACWI X US (G): Fourth Quarter 1994 to Fourth Quarter 2000) with the exception of the second quarter 2005. This underperformance versus the benchmark is observed over the year-to-date, one year, three year, and five year annualized periods highlighted, on a gross of fee basis through June 30, 2005.
- For the one year, three year and five year period, ending June 30, 2005, the Fund's total international equities returned 15.6%, 13.2%, and -1.0% underperforming the international equity benchmark by 0.90%, 0.50%, and 1.50%, respectively on a gross of



fee basis. This performance over the one, three and five year periods ranks the Fund’s international equity composite 33rd, 38th and 75th in IFS’ universe of International Equity Returns of Total Fund Portfolios.

- A comparison of the Fund’s relative international equity rankings versus the international equity returns of the Total Public Fund Sponsors universe is also shown below.



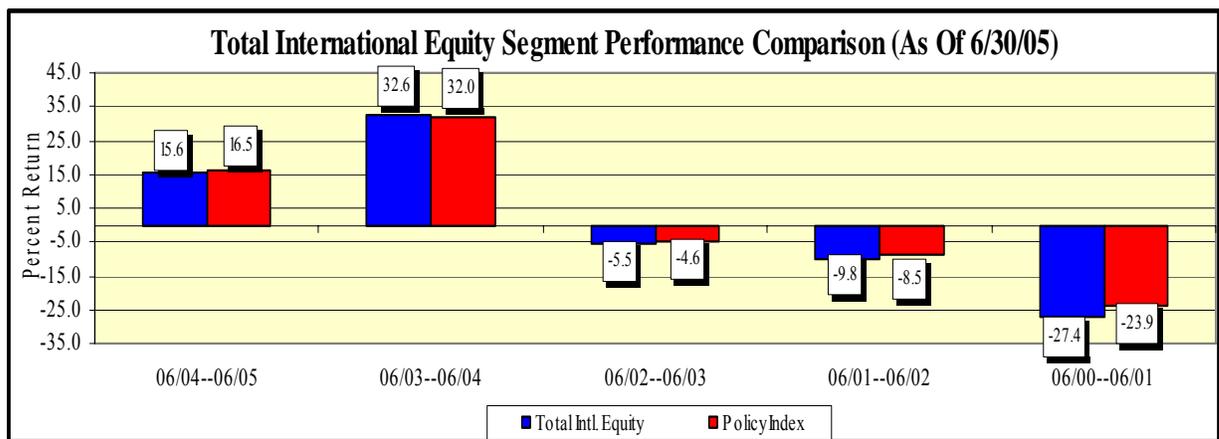
| | 2nd Qtr | YTD | 1 Yr | Annualized Returns | |
|--|-------------|-------------|-------------|--------------------|-------------|
| | | | | 3 Yrs | 5 Yrs |
| Total Intl. Equity | -0.1 | -0.5 | 15.6 | 13.2 | -1.0 |
| <i>Policy Index</i> | <i>-0.2</i> | <i>0.0</i> | <i>16.5</i> | <i>13.6</i> | <i>0.4</i> |
| <i>Excess (Total Intl EQ - Custom Benchmark)</i> | <i>0.2</i> | <i>-0.6</i> | <i>-0.9</i> | <i>-0.5</i> | <i>-1.5</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>48th</i> | <i>64th</i> | <i>33rd</i> | <i>38th</i> | <i>75th</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>38th</i> | <i>66th</i> | <i>52nd</i> | <i>23rd</i> | <i>N/A</i> |

- The table below includes the international equity cumulative investment performance results of the custom peer group survey. As can be seen below, the Fund underperformed both the average of the peer group over the one and five year time periods and the median of the peer group for the one and five year time periods, but outperformed over the three year time frame.



| Table A6: Custom Peer Group International Equity Cumulative Returns | | | |
|--|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | 12.5% | 12.3% | 2.5% |
| Public Employees' Retirement Fund of Indiana | 20.0% | 13.0% | N/A |
| School Employees Retirement System of Ohio | 19.3% | 11.8% | 0.4% |
| Indiana State Teacher's Retirement Fund | 14.3% | 10.0% | -2.4% |
| Average Return | 16.5% | 11.8% | 0.2% |
| Median Return | 16.8% | 12.1% | 0.4% |
| Ohio Police & Fire Pension Fund | 15.6% | 13.2% | -1.0% |

- When analyzing rolling one year returns over the past five years ending June 30, 2005, the Fund's international equities underperformed the policy benchmark in four out of the five periods reviewed with the exception of the one year ending June 30, 2004. However, the Fund's total international equities ranked above the median total fund's international equity program in three out of the past five one year rolling periods ending June.
- A summary of the Fund's total international equity program rolling one year performance, excess returns versus the custom benchmark and rankings in IFS' total fund universe is highlighted below.



| Ohio Police & Fire International Equity Segment Performance Comparison | | | | | |
|---|--------------------------|--------------|--------------|--------------|--------------|
| | Rolling One Year Returns | | | | |
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| * Figures in percent | | | | | |
| Total Intl. Equity | 15.6 | 32.6 | -5.5 | -9.8 | -27.4 |
| <i>Policy Index</i> | 16.5 | 32.0 | -4.6 | -8.5 | -23.9 |
| <i>Excess (Total Intl EQ - Custom Benchmark)</i> | -0.9 | 0.6 | -0.9 | -1.3 | -3.4 |
| <i>Total Fund Rank (Percentile)</i> | 33rd | 28th | 49th | 67th | 82nd |
| <i>Public Fund Rank (Percentile)</i> | 52nd | 39th | 36th | 72nd | 82nd |

- The table below includes the international equity consecutive investment performance results of the custom peer group survey. As can be seen below, the Fund has generally underperformed its custom peer group in this asset class with a couple exceptions.

| Table A7: Custom Peer Group International Equity Annual Performance | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|
| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
| Oklahoma Teachers' Retirement System | 12.5% | 36.3% | -7.5% | -8.3% | -12.9% |
| Public Employees' Retirement Fund of Indiana | 20.0% | 29.1% | -6.9% | -6.5% | N/A |
| School Employees Retirement System of Ohio | 19.3% | 27.6% | -8.1% | -11.9% | -17.4% |
| Indiana State Teacher's Retirement Fund | 14.3% | 26.8% | -8.2% | -11.7% | -24.4% |
| Average Return | 16.5% | 30.0% | -7.7% | -9.6% | -18.2% |
| Median Return | 16.8% | 28.4% | -7.8% | -10.0% | -17.4% |
| Ohio Police & Fire Pension Fund | 15.6% | 32.6% | -5.5% | -9.8% | -27.4% |

2) International Equity Portfolio Risk Factors

BACKGROUND

Like the domestic equity program, IFS also analyzed certain risk factors of the Fund's International Equity portfolio. As outlined below, IFS analyzed certain risks as of June 30, 2005, as well as portfolio risks which were measured off a rolling time series over the past five years. As of June 30, 2005, IFS reviewed the Fund's international equity portfolio risk versus the portfolio's primary benchmark in terms of regional diversification, a range of relevant portfolio comparative statistics and sector diversification. IFS then analyzed and reviewed other risks of



the international equity program, including a rolling risk analysis over the past five years of the international equity program’s standard deviation of returns (or volatility) versus its primary benchmark.

OBSERVATIONS REGARDING INTERNATIONAL EQUITY PORTFOLIO RISK:

International Equity Portfolio Regional Diversification Risk

- As of June 30, 2005, the Fund’s international equity composite (including developed and emerging market strategies) was allocated across regions in similar fashion as its primary benchmark, the Morgan Stanley All Country World Ex-U.S. index, with a few seemingly minor differences. At that time the Fund was overweighted by an absolute 5% to Europe (8.6% in relative terms) and 1% to the Pacific Basin. The Fund was underweighted by an absolute 5% to the Americas (50.0% in relative terms) and 1% to Africa/Mideast/and Other (50% in relative terms).

| Regional Diversification | | | | |
|---------------------------------|-------------------------------------|--------------------------------|------------------------------------|--------------------------------|
| | <u>Total Intl. Equity Comp.</u> | <u>MS ACWI World Ex-US</u> | <u>Overweight/ Underweight</u> | <u>MS Emerging Markets</u> |
| Pacific Basin | 32% | 31% | 1% | 56% |
| Europe | 63% | 58% | 5% | 7% |
| Americas | 4% | 8% | -5% | 19% |
| Africa/Mideast/Other | 1% | 2% | -1% | 18% |
| Total | 100% | 100% | 0% | 100% |

- Given the generally lagging performance of the Fund’s international equity program versus the policy index (shown above), the Fund’s investment staff may want to consider taking a more neutral allocation to the benchmark, if possible, and tightening regional diversification risk controls in an effort to eliminate regional biases and assessing



whether those biases have been a consistent drag on performance over the time period analyzed.

International Equity Sector Allocation Risk

- The Fund’s total international equity program, as of June 30, 2005, was diversified across all of the equity market’s 10 major sectors as highlighted on the “Sector Exposure Comparison” chart below. All sectors were an absolute 1% to 2% overweight or underweight versus the benchmark. An allocation of the total international equity program as compared to the index is displayed below.

| Sector Exposure Comparison | | | |
|-----------------------------------|-------------------------------------|----------------------------------|-------------------|
| | <u>Total Intl. Equity Comp.</u> | <u>MSCI ACWI ex-US Index</u> | <u>Difference</u> |
| Energy | 9% | 10% | 1% |
| Materials | 6% | 8% | 2% |
| Industrials | 9% | 9% | 0% |
| Consumer Disc. | 11% | 11% | 0% |
| Consumer Staples | 7% | 8% | 1% |
| Healthcare | 8% | 7% | -1% |
| Financials | 29% | 27% | -2% |
| Info. Techonology | 8% | 7% | -1% |
| Telecommunications | 8% | 7% | -1% |
| Utilities | 3% | 5% | 2% |
| Total | 100% | 100% | |

- As displayed above, the Fund’s total international equity program seems to be fairly risk controlled based on its overall sector allocation versus the benchmark and diversified across all the equity sectors of the market. The Fund did not maintain a material underweight or overweight decision versus the benchmark.



International Equity Portfolio Characteristic Risks

- Similar to the domestic equity portfolio, IFS measured international equity portfolio risks based on a host of portfolio characteristics versus the benchmark to determine if it was taking any outsized risks from a variety of perspectives as of June 30, 2005.
- A summary sampling of the Fund’s total international equity portfolio characteristics is found below:

| Portfolio Characteristics | | |
|----------------------------------|-------------------------------------|----------------------------------|
| | <u>Total Intl. Equity Comp.</u> | <u>MSCI ACWI ex-US Index</u> |
| Number of Stocks | 1,311 | 1,147 |
| Beta (vs. S&P 500) | 0.8 | 1.5 |
| Yield | 2.8% | 2.7% |
| P/E (ex. Neg.) | 17.2 | 16.8 |
| P/B | 2.2 | 2.1 |
| Weighted Avg. Mkt. Cap. | \$41.9B | \$42.2B |

- Overall, in addition to diversification by sector, the portfolio is well diversified by number of securities in the portfolio. As of June 30, 2005, there were 1,311 international equity securities in the portfolio. The international equity portfolio beta of 0.8 is dramatically less than the 1.50 beta of the MSCI All Country World ex-U.S. Index. Based on this beta measure, the international equity portfolio should be 20% less volatile in both up and down markets versus the S&P 500 as a U.S. equity domestic benchmark. Based on this same statistic, the index beta of 1.5 implies that the market portfolio is 50% more volatile than the S&P 500 in both up and down markets.
- From a yield perspective, the international equity portfolio yield is 2.8%, slightly more than the 2.7% yield of the benchmark. The portfolio P/E of 17.2 is also marginally higher than the index P/E of 16.8. The slightly higher P/E and P/B (price to book ratio) imply the Fund’s international equity program is possibly slightly more oriented to growth



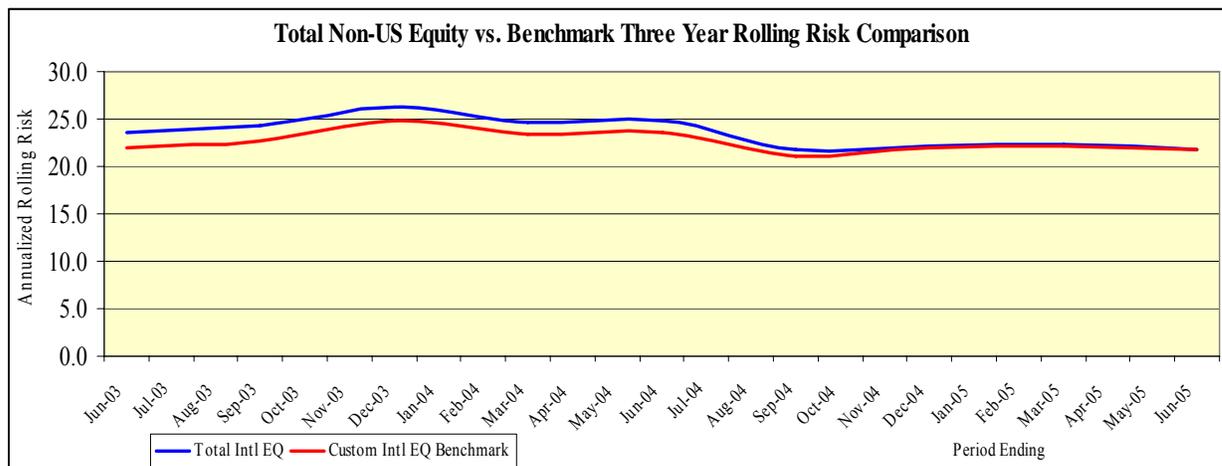
securities than the market benchmark. Since value oriented securities and value strategies have generally performed better than most growth oriented securities and strategies over the past four to five years, this orientation could also explain the international equity program's slight underperformance in four of the past five rolling one year periods ending June 30, 2005.

- In terms of weighted average market capitalization, the international equity portfolio is approximately equal to that of the benchmark as of June 30, 2005. Other than the portfolio beta of the international equity program, the sampling of portfolio statistics above are quite similar to the benchmark. Based on these statistics, the international equity portfolio structure does not seem to indicate risks contained in the portfolio which are materially different than investing in the respective international equity index, the MSCI All Country World ex-U.S. index.

International Equity Portfolio Rolling Three Year Risk Analysis

- In addition to the representative risks described and summarized above, IFS evaluated what kind of risk the Fund has taken to achieve the international equity performance returns versus its appropriate benchmark. Based on the performance over the past five years on a discrete and rolling three year basis, IFS concludes that the Fund's international equity investment staff (and the international equity composite) has been successful in controlling the risk of the Fund's international equity program, within a reasonable band of tolerance, over the long and intermediate term versus its appropriate benchmark. Although the Fund's international equity program three year rolling risk has been improving as it has converged with the benchmark over the past several years, over the five year period, the Fund's international equities produced a slightly higher three year rolling risk versus the benchmark. A summary of the Fund's international equity portfolio risk on a rolling three year basis (ending quarterly) versus that of the Fund's international equity benchmark is displayed below.





| <u>Three Year Rolling Average Risk</u> | |
|--|---------------------------------|
| <u>Non-US Equity</u> | <u>Custom Intl EQ Benchmark</u> |
| 23.5 | 22.6 |

- On average, over the past five years, the Fund’s three year rolling risk averaged 23.5%, approximately 4.0% more than the Custom International Equity Benchmark rolling risk of 22.6% on a relative basis.

Recommendation A16

Given the International Equity program’s underperformance and higher risk versus its benchmark over the five years ended June 30, 2005, IFS recommends undertaking a special investment review (in addition to the ongoing manager monitoring conducted in the regular course of business). IFS recommends reviewing the individual component strategies of the program concerning performance (both versus the benchmark and peer group), styles of management, market capitalization and the co-variance of all of the component strategies¹⁵ and initiating investment manager searches (or consolidating similar strategies where appropriate) to replace underperforming investment managers.

¹⁵ We understand that OP&F has made a number of investment structure changes, including terminating underperforming managers, since our due diligence work was completed.



3) Benchmark Assessment

OBSERVATIONS REGARDING INTERNATIONAL EQUITY BENCHMARK APPROPRIATENESS:

- After review of the Fund's international equity program, including its developed market and emerging market allocation mandates, as outlined in the IPS, the MSCI EAFE Index (developed international equity index) and the MSCI Emerging Market Free Index (emerging market index for companies classified to be in emerging and developing countries) seem to be reasonable benchmarks for benchmarking the separate components of this international equity program.
- We understand the Board adopted the MSCI All Country World ex-U.S. Index as a benchmark in the fourth quarter of 2004. We believe that this is an appropriate benchmark against which to measure the performance and risk of the international equity program on a composite basis since the MSCI All Country World ex-U.S. Index includes both developed and emerging market country allocations.

d. Fixed Income

1) Performance Evaluation

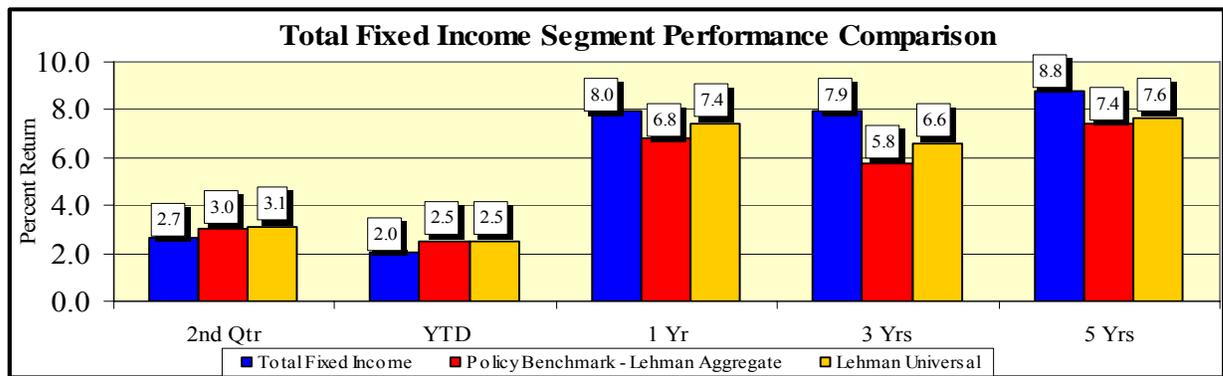
OBSERVATIONS REGARDING FIXED INCOME PERFORMANCE:

- Overall, when reviewing the Fund's total fixed income performance over the five year period ending June 30, 2005, IFS observed that the Fund performed well over the one, three and five year annualized periods. For the one year period, the Fund's fixed income composite return of 8.0% outperformed the Lehman Aggregate index's 6.8% return by 120 basis points and ranked 7th in the universe of comparable total funds in IFS' universe. Over the three and five year annualized periods, ending June 30, 2005, the Fund's total



fixed income composite advanced 7.9% and 8.8% and outperformed the Lehman Aggregate benchmark over both periods by excess returns of 220 basis points and 140 basis points on an annualized basis gross of fees.

- Fixed income performance of the total Fund was also very competitive versus its peer group as the Fund ranked 5th and 7th in the Fixed Income Returns of Total Fund Portfolios universe over the three and five year annualized periods.
- A summary of the Fund’s fixed income program annualized performance versus the Fund’s benchmark (the Lehman Aggregate) as well as the Lehman Universal and rankings in IFS’ Total Fund universe are highlighted below. A comparison of the Fund’s relative fixed income rankings versus the Fixed Income Returns of Public Fund Portfolios universe is also available in the performance comparison table below.



| | Annualized Returns | | | | |
|---|--------------------|-------------|------------|------------|------------|
| | 2nd Qtr | YTD | 1 Yr | 3 Yrs | 5 Yrs |
| Total Fixed Income | 2.7 | 2.0 | 8.0 | 7.9 | 8.8 |
| <i>Policy Benchmark - Lehman Aggregate</i> | <i>3.0</i> | <i>2.5</i> | <i>6.8</i> | <i>5.8</i> | <i>7.4</i> |
| <i>Lehman Universal</i> | <i>3.1</i> | <i>2.5</i> | <i>7.4</i> | <i>6.6</i> | <i>7.6</i> |
| <i>Excess (Total Fixed Income - Lehman Aggregate)</i> | <i>-0.4</i> | <i>-0.5</i> | <i>0.5</i> | <i>1.4</i> | <i>1.2</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>43rd</i> | <i>50th</i> | <i>7th</i> | <i>5th</i> | <i>7th</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>41st</i> | <i>48th</i> | <i>9th</i> | <i>1st</i> | <i>1st</i> |

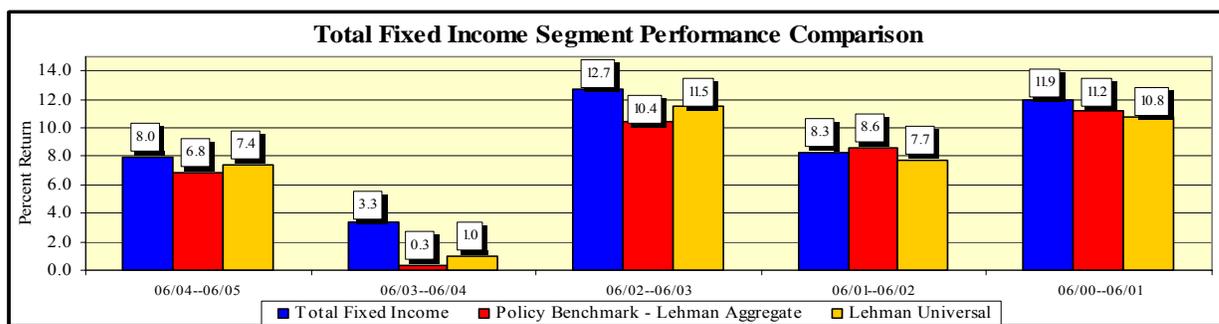


- The table below includes the fixed income cumulative investment performance results of the custom peer group survey. The Fund’s fixed income composite is broken out into a fixed income composite and a mortgage securities segment. The peer group composites, on the other hand, are made up of both fixed income securities and mortgage securities, therefore it is not a true “apples to apples” comparison.

| Table A8: Custom Peer Group Fixed Income Cumulative Performance | | | |
|--|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | 7.7% | 6.4% | 7.5% |
| Public Employees' Retirement Fund of Indiana | 7.7% | 6.6% | N/A |
| School Employees Retirement System of Ohio | 7.0% | 6.4% | 8.1% |
| Public Employee Retirement System of Idaho | N/A | N/A | N/A |
| Indiana State Teacher's Retirement Fund | 6.8% | 6.9% | 7.6% |
| Average Return | 7.3% | 6.6% | 7.7% |
| Median Return | 7.3% | 6.5% | 7.6% |
| Ohio Police & Fire Pension Fund | 8.0% | 7.9% | 8.8% |

- Similar to the strong fixed income returns in excess of the fixed income benchmark over the short to intermediate term, the Fund also has been able to generate excess returns in four of the five year periods over a rolling one year basis (one year ending June 2001, June 2003, June 2004 and June 2005). The Fund’s total fixed income program ranked in the top or second quartile of the Fixed Income Returns of Total Fund Portfolios universe in all five periods (one year ending June 2001, June 2002, June 2003, June 2004, and June 2005).
- A summary of the Fund’s total fixed income program rolling one year performance, excess returns versus the Lehman Aggregate Index and rankings in IFS’ fixed income portfolios universe is highlighted below.





| | Rolling One Year Returns | | | | |
|---|--------------------------|--------------|--------------|--------------|--------------|
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Fixed Income | 8.0 | 3.3 | 12.7 | 8.3 | 11.9 |
| <i>Policy Benchmark - Lehman Aggregate</i> | 6.8 | 0.3 | 10.4 | 8.6 | 11.2 |
| <i>Lehman Universal</i> | 7.4 | 1.0 | 11.5 | 7.7 | 10.8 |
| <i>Excess (Total Fixed Income - Lehman Aggregate)</i> | 1.2 | 3.0 | 2.3 | -0.3 | 0.7 |
| <i>Total Fund Rank (Percentile)</i> | 7th | 12th | 12th | 42nd | 16th |
| <i>Public Fund Rank (Percentile)</i> | 9th | 5th | 12th | 58th | 25th |

- The table below includes the fixed income (mortgage securities are included) consecutive investment performance results of the custom peer group survey. As mentioned above, the Fund’s fixed income return does not include mortgage securities, therefore the peer group returns offer an imperfect comparison.

| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
|--|-------------|-------------|--------------|-------------|--------------|
| Oklahoma Teachers' Retirement System | 7.7% | 0.5% | 11.2% | 7.8% | 10.6% |
| Public Employees' Retirement Fund of Indiana | 7.7% | 1.3% | 10.9% | 7.9% | N/A |
| School Employees Retirement System of Ohio | 7.0% | 1.3% | 11.1% | 9.1% | 12.5% |
| Indiana State Teacher's Retirement Fund | 6.8% | 1.8% | 12.2% | 6.0% | 11.3% |
| Average Return | 7.3% | 1.2% | 11.4% | 7.7% | 11.5% |
| Median Return | 7.3% | 1.3% | 11.2% | 7.9% | 11.3% |
| Ohio Police & Fire Pension Fund | 8.0% | 3.3% | 12.7% | 8.3% | 11.9% |

2) Fixed Income Portfolio Risk Factors

In IFS’ risk factor analysis IFS reviewed current portfolio characteristics based on a sampling of portfolio characteristics versus the benchmark, a fixed income sector allocation



comparison and a rolling three year risk analysis to assess a variety of perspectives on the fixed income program’s risk profile. These different types of risk evaluations are found below.

FUNDAMENTAL PRINCIPLES REGARDING FIXED INCOME PORTFOLIO RISK:

- *In order to determine if the fixed income portfolio is riskier than the index from a number of perspectives as of June 30, 2005, IFS identified a number of portfolio characteristics to review versus the benchmark. Some of these general portfolio characteristics include:*
 1. *Number of issues (how concentrated or diversified is the portfolio),*
 2. *Effective duration (level of portfolio sensitivity to changes in interest rates),*
 3. *Years to effective maturity (option adjusted average portfolio maturity date),*
 4. *Yield to effective maturity (option adjusted yield to maturity),*
 5. *Current yield (blended coupon interest divided by market value),*
 6. *Average quality (average credit rating of the composite fixed income portfolio).*

OBSERVATIONS REGARDING FIXED INCOME PORTFOLIO RISK:

Fixed Income Portfolio Characteristic Risks

- A summary sampling of the Fund’s total fixed income portfolio characteristics is found below:

| Fixed Income Characteristics Comparison | | | |
|--|--|----------------------------|---------------------|
| | Fund Fixed Income <u>Composite</u> | Lehman <u>Aggregate</u> | <u>Differential</u> |
| Number of Issues | 886 | 6,124 | |
| Effective Duration | 3.9 | 4.2 | -0.2 |
| Years to Effective Maturity | 6.8 | 6.8 | 0.0 |
| Yield to Effective Maturity | 4.7 | 4.5 | 0.2 |
| Current Yield | 4.9 | 5.0 | -0.1 |
| Average Quality | A | AA | |



- Based on the sampling of the Fund's fixed income characteristics above, the fixed income program is well diversified by number of issues. In terms of interest rate risk, the portfolio's 3.9 effective duration is 0.2 less (*numbers do not add due to rounding*) than the 4.2 effective duration of the Lehman Aggregate index, which means the Fund's fixed income program has less interest rate risk than the Lehman Aggregate index. So in a period of rising interest rates, the Fund's fixed income program should be expected to outperform the fixed income benchmark, although in a period of falling interest rates, the opposite would be true.
- Based on credit quality, the "A" rated fixed income portfolio is a high quality portfolio, although not as high quality as the "AA" rating of the Lehman Aggregate index (representing the investment grade U.S. fixed income market). Other than those measures, the Fund's fixed income portfolio is fairly comparable to the index based on measures such as years to effective maturity, yield to effective maturity and current yield, although with the single A rating, the Fund's fixed income portfolio seems to have about a 20 basis point (0.20%) yield advantage (4.7% versus 4.5%) over the index as of June 30, 2005.

Fixed Income Sector Allocation Risk

- The Fund's total fixed income program, as of June 30, 2005, was fairly diversified across all of the fixed income market's eight major sectors as highlighted in the "Fixed Income Sector Comparison" chart below, although the Fund's fixed income composite contains material overweights and underweights versus the benchmark in a number of different sectors. Some of the largest differentials versus the index are in the Foreign, Treasuries/Non-Mortgage Governments, Industrials, Government/Corporate Mortgages and Transportation. An allocation of the total fixed income program as compared to the index is displayed below.

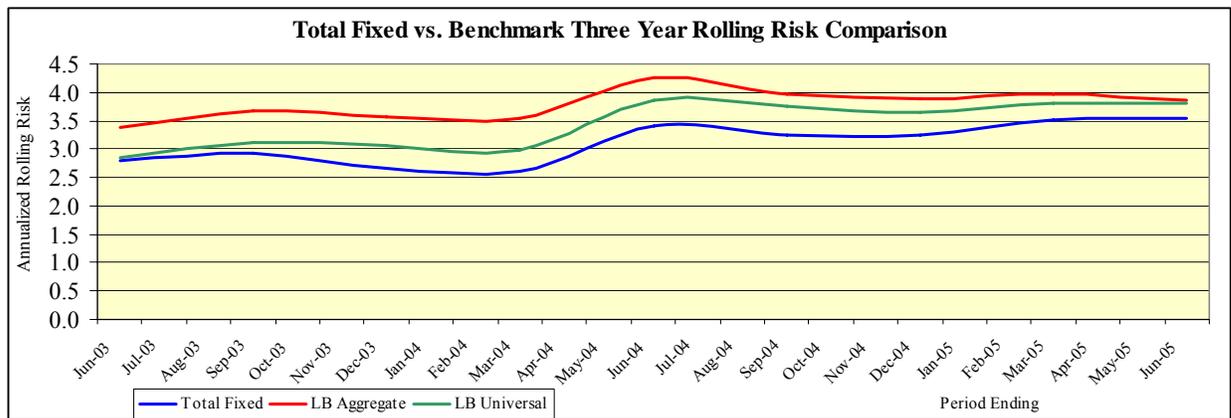


| Fixed Income Sector Comparison | | | |
|---------------------------------------|--|-----------------------------|---------------------|
| <u>Sector</u> | <u>Fund Fixed Income Composite</u> | <u>Lehman Aggregate</u> | <u>Differential</u> |
| Finance | 11% | 8% | 3% |
| Foreign (Yankees) | 1% | 9% | -8% |
| Treasuries/Non Mtg. Govs. | 26% | 37% | -11% |
| Industrials | 22% | 10% | 12% |
| Govt. & Corp. Mortgages | 13% | 0% | 13% |
| Transportation | 22% | 35% | -13% |
| Utilities | 1% | 0% | 1% |
| Misc, Cash & Cash Equiv. | 5% | 2% | 3% |
| Total | 100% | 100% | |

- Although the composite does not track closely to the index in terms of sector allocation, the Fund’s fixed income composite has performed well from several different perspectives and has delivered returns over this period with less risk than both the Lehman Aggregate and Lehman Universal benchmarks.

Fixed Income Portfolio Rolling Three Year Risk Analysis

- A summary of the Fund’s fixed income program three year rolling risk, versus both the Lehman Aggregate and Lehman Universal benchmark, is displayed below.



| <u>Three Year Rolling Average Risk</u> | | |
|---|-----------------------------------|----------------------------|
| <u>Total Fixed</u> | <u>Custom FI Benchmark</u> | <u>LB Universal</u> |
| 3.1 | 3.8 | 3.4 |

- Over the past five years, the Fund’s fixed income and investment staff have performed well, controlling and mitigating the risk (volatility, or standard deviation of returns) of the fixed income program. On average, over the past five years, the three year rolling risk of the Fund’s fixed income program has averaged 3.1%, 18.4% lower than the Custom Fixed Income benchmark and 8.8% less than the Lehman Universal Index on a relative basis.

3) Benchmark Assessment

OBSERVATIONS REGARDING FIXED INCOME BENCHMARK APPROPRIATENESS:

- After review of the Fund’s fixed income program (including its mortgage program below in the following section), including the stated objectives outlined in the IPS, the Lehman Aggregate Index (U.S. investment grade fixed income benchmark) and CSFB Domestic Plus High Yield benchmarks (non investment grade U.S. fixed income securities) appear to be reasonable benchmarks for benchmarking the separate components of the Fund’s fixed income program.
- If the Fund seeks to measure the entire fixed income program on a composite basis against the broadest spectrum of investment grade and non investment grade fixed income securities, as well as dollar denominated international fixed income, emerging market fixed income and other fixed income securities outside of the Lehman Aggregate Index, IFS advises that the Fund consider adding the Lehman Brothers U.S. Universal



Index as a possible new primary or secondary benchmark to measure performance and risk of the composite fixed income program since the Lehman Universal is the broadest measure of investment grade and non-investment grade fixed income securities in the U.S. fixed income marketplace¹⁶.

Recommendation A17

Consider using the Lehman Brothers U.S. Universal Index as a new primary or secondary performance and risk benchmark for a Total Fixed Income Composite, which would include the Core Fixed Composite, High Yield Composite and Mortgage Composite, if feasible. The Lehman Brothers U.S. Universal Index includes all of the securities that make up the Lehman Brothers Aggregate Index, but also includes other securities such as High Yield Corporate bonds, 144A securities and dollar denominated Emerging Market bonds.

e. Mortgage

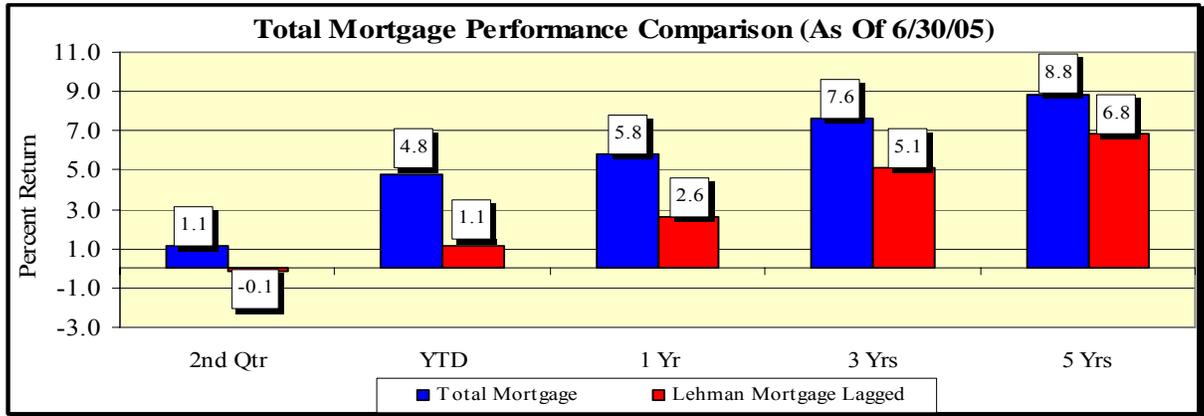
1) Performance Evaluation

OBSERVATIONS REGARDING MORTGAGE PERFORMANCE:

- While ideally the mortgage securities sub-asset class composite should be included in the total fixed income composite in order to get a more accurate measure of total fixed income performance versus the appropriate benchmark and the respective universe of total fixed income programs, we understand that these numbers are lagged one quarter so that this is not practicable.
- A summary of the Fund's mortgage securities program annualized performance, including excess returns versus the Fund's benchmark, the Lehman Mortgage Lagged index, is highlighted below.

¹⁶ The Lehman U.S. Universal Index represents the union of the U.S. Aggregate Index, the U.S. High-Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, the non-ERISA portion of the CMBS Index, and the CMBS High-Yield Index





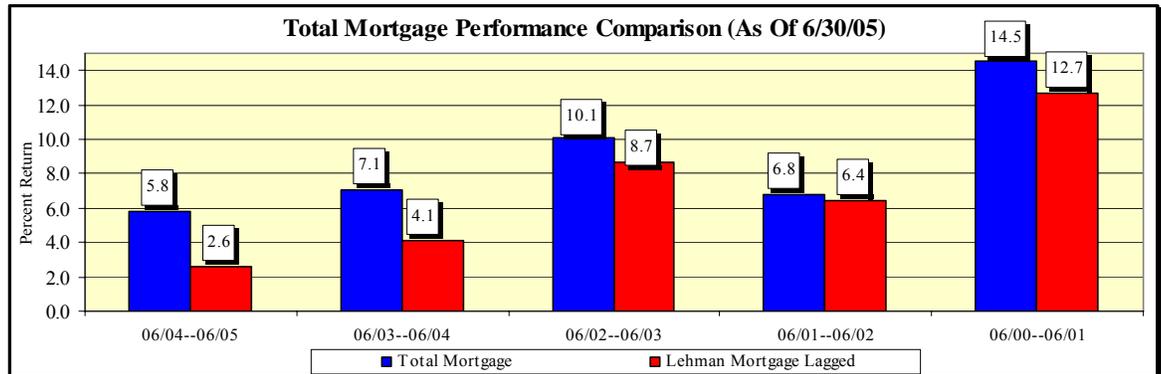
| Ohio Police & Fire Total Mortgage Performance Comparison | | | | | |
|---|--------------------|------------|------------|------------|------------|
| | Annualized Returns | | | | |
| | 2nd Qtr | YTD | 1 Yr | 3 Yrs | 5 Yrs |
| Total Mortgage | 1.1 | 4.8 | 5.8 | 7.6 | 8.8 |
| <i>Lehman Mortgage Lagged</i> | <i>-0.1</i> | <i>1.1</i> | <i>2.6</i> | <i>5.1</i> | <i>6.8</i> |
| <i>Excess (Total Mortgage - Benchmark)</i> | <i>1.2</i> | <i>3.6</i> | <i>3.2</i> | <i>2.6</i> | <i>2.0</i> |

* Figures in percent

- Overall, over the last five years ending June 30, 2005, the Fund’s mortgage performance has been strong versus the index for all periods reviewed as displayed above.
- A summary of the Fund’s total mortgage securities program rolling one year performance ending June 30th and excess returns versus the Lehman Mortgage Lagged Index is also highlighted below.

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| * Figures in percent | Rolling One Year Returns | | | | |
|--|--------------------------|--------------|--------------|--------------|--------------|
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Mortgage | 5.8 | 7.1 | 10.1 | 6.8 | 14.5 |
| <i>Lehman Mortgage Lagged</i> | 2.6 | 4.1 | 8.7 | 6.4 | 12.7 |
| <i>Excess (Total Mortgage - Benchmark)</i> | 3.2 | 3.0 | 1.4 | 0.4 | 1.9 |

- The Fund’s rolling one year performance, ending June 30th, has also been strong. Overall, over the last five rolling one year periods ending June 30, 2005, the Fund’s mortgage composite returns outperformed the index in all five rolling one year periods reviewed as displayed above.

f. Real Estate

1) Performance Evaluation

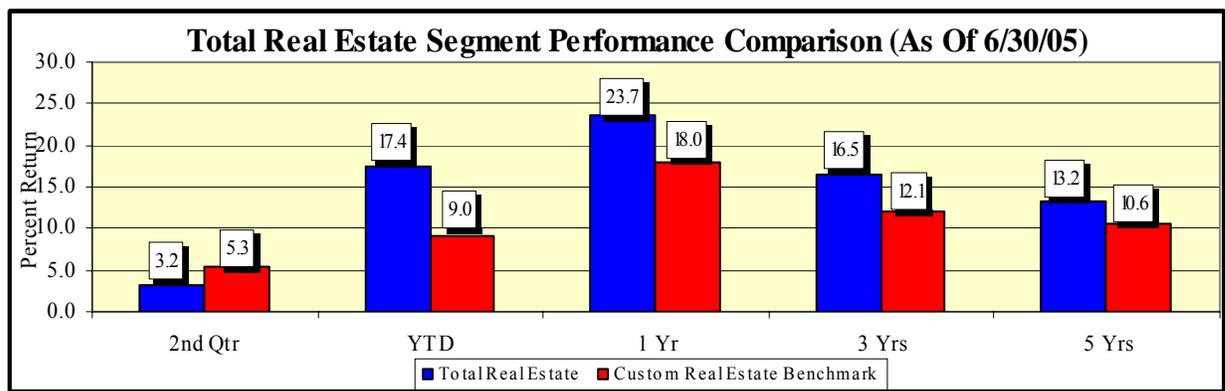
OBSERVATIONS REGARDING REAL ESTATE PERFORMANCE:

- Real estate returns for the Fund, similar to other institutional real estate programs have been quite strong over the five year period ending June 30, 2005. Real estate as an asset class has been an important diversifier for the Fund, like other institutional investors, and



the Fund’s real estate asset class was actually the Fund’s best performing asset class over both the three and five year annualized periods ending June 30, 2005.

- Year-to-date, through June 30, 2005, the Fund’s real estate composite generated a return of 17.4% versus the 9.0% custom benchmark return, producing an excess return over the benchmark of 840 basis points. The Fund’s year-to-date real estate’s return ranked 29th (12th among public funds) among real estate returns in IFS’ universe of total fund portfolios. For the one year period, the Fund’s real estate composite gained an impressive 23.7%, and generated an excess return over the benchmark of 570 basis points, ranking 32nd (6th among public funds) in IFS’ universe of real estate programs.
- Over the three and five year annualized periods, as of June 30, 2005, the Fund’s real estate composite again advanced impressively, returning 16.5% and 13.2% on an annualized basis, outperforming its benchmarks by 440 basis points and 260 basis points on an annualized basis. Over the same time periods the Fund’s real estate composite portfolio ranked 33rd (49th among public funds) and 37th (39th among public funds) in IFS’ universe of real estate programs.
- The Fund’s real estate program’s annualized performance, excess returns versus the Fund’s Custom Real Estate benchmark and rankings in IFS’ total fund and public fund universe is summarized below.



| Ohio Police & Fire Total Real Estate Performance Comparison | | | | | |
|--|------------|-------------|-------------|--------------------|-------------|
| * Figures in percent | | | | Annualized Returns | |
| | 2nd Qtr | YTD | 1 Yr | 3 Yrs | 5 Yrs |
| Total Real Estate | 3.2 | 17.4 | 23.7 | 16.5 | 13.2 |
| <i>Custom Real Estate Benchmark</i> | 5.3 | 9.0 | 18.0 | 12.1 | 10.6 |
| <i>Excess (Total RE - Custom RE Benchmark)</i> | -2.1 | 8.4 | 5.7 | 4.4 | 2.6 |
| <i>Total Fund Rank (Percentile)</i> | 44th | 29th | 32nd | 33rd | 37th |
| <i>Public Fund Rank (Percentile)</i> | 18th | 12th | 6th | 49th | 39th |

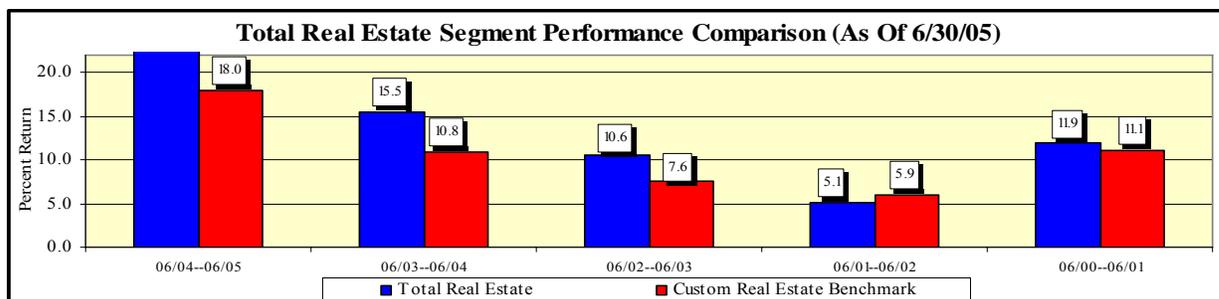
- The table below includes the real estate investment performance results of the custom peer group survey. Only one out of five custom peer group funds provided returns for the real estate segment. P&F outperformed Ohio SERS over the one, three and five year periods.

| Table A9: Custom Peer Group Real Estate Cumulative Performance | | | |
|---|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | N/A | N/A | N/A |
| Public Employees' Retirement Fund of Indiana | N/A | N/A | N/A |
| School Employees Retirement System of Ohio | 22.4% | 13.5% | 10.2% |
| Indiana State Teacher's Retirement Fund | N/A | N/A | N/A |
| Ohio Police & Fire Pension Fund | 23.7% | 16.5% | 13.2% |

- In addition to competitive performance over the one, three and five year annualized periods, the Fund's real estate program has also performed consistently better than the performance of the median real estate program in all five rolling one year periods through June 30, 2005. As compared to the Fund's Custom Real Estate benchmark, the Fund outperformed the benchmark in four out of five rolling one year periods, and the Fund's real estate program outperformed the Custom Real Estate benchmark by an impressive 570 basis points and 470 basis points for the one year periods ending June 2004 and June 2005.
- The rolling one year performance, excess returns versus the Custom Real Estate benchmark and rankings in IFS' universe of managed real estate programs for all plan



sponsors and for public funds are outlined for the Fund’s composite real estate program below.



| | Rolling One Year Returns | | | | |
|--|--------------------------|--------------|--------------|--------------|--------------|
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Real Estate | 23.7 | 15.5 | 10.6 | 5.1 | 11.9 |
| <i>Custom Real Estate Benchmark</i> | <i>18.0</i> | <i>10.8</i> | <i>7.6</i> | <i>5.9</i> | <i>11.1</i> |
| <i>Excess (Total RE - Custom RE Benchmark)</i> | <i>5.7</i> | <i>4.7</i> | <i>3.0</i> | <i>-0.8</i> | <i>0.8</i> |
| <i>Total Fund Rank (Percentile)</i> | <i>18th</i> | <i>12th</i> | <i>6th</i> | <i>49th</i> | <i>39th</i> |
| <i>Public Fund Rank (Percentile)</i> | <i>38th</i> | <i>15th</i> | <i>5th</i> | <i>55th</i> | <i>44th</i> |

* Figures in percent

- Upon reviewing individual periods it becomes apparent that the Fund’s Real Estate team and composite have performed consistently well through the time periods and actually managed to materially outperform the benchmark in four out of the five periods reviewed on a rolling one year basis ending June.
- The table below includes the real estate consecutive investment performance results of the custom peer group survey. Only one out of five custom peer group funds provided returns for the real estate segment.

| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
|--|--------------|--------------|--------------|-------------|--------------|
| Oklahoma Teachers' Retirement System | N/A | N/A | N/A | N/A | N/A |
| Public Employees' Retirement Fund of Indiana | N/A | N/A | N/A | N/A | N/A |
| School Employees Retirement System of Ohio | 22.4% | 13.2% | 5.6% | -1.2% | 12.4% |
| Indiana State Teacher's Retirement Fund | N/A | N/A | N/A | N/A | N/A |
| Ohio Police & Fire Pension Fund | 23.7% | 15.5% | 10.6% | 5.1% | 11.9% |



2) Real Estate Portfolio Risk Factors

FUNDAMENTAL PRINCIPLES REGARDING REAL ESTATE PORTFOLIO RISK:

- *Real estate risk factors include the real estate program's allocation by property type, size and geographic location.*
- *Risk can also be measured and monitored in terms of the standard deviation (or volatility) of returns.*

BACKGROUND

Regarding the Fund's Real Estate program, IFS was able to review risk from a few different perspectives while referencing The Townsend Group's (the Fund's institutional real estate consultant) 2005 report. The Townsend Group report contains a section on "Monitoring Risk Management Policies" which establish a series of risk management guidelines to contain and reduce risk, including policy guidelines which guide the Fund to distribute or diversify real estate investments by:

1. Property type,
2. Location,
3. Size, and
4. Lease rollover allocation.

IFS' evaluation of certain risk factors includes the real estate program's stated strategic real estate allocation, property type allocation, regional property allocation and the calculation of rolling three year risk (standard deviation of quarterly returns) over the past five years based on



the performance information which was provided to IFS by staff. This assessment of risk factors is found below.

OBSERVATIONS REGARDING REAL ESTATE PORTFOLIO RISK:

Strategic Real Estate Allocation

- Based on IFS' review of The Townsend Group's Real Estate Strategic Plan, one of the primary risk controls employed by the Fund is the real estate program's strategic allocation. In an effort to outperform the NCREIF Property Index by 100 basis points over rolling three year periods, the Fund, with advice from The Townsend Group, has set a policy that the real estate program will be allocated based on a combined allocation to "Stable" (lowest risk life cycle of real estate) and "Non-Core" (Enhanced and High Return strategies which possess higher risk) real estate investments. As part of the risk management approach and policy, Stable investments should represent at least a 70% allocation, whereas Non-Core investments should represent no more than a 30% allocation of the real estate program. As of June 30, 2005, Stable return assets were approximately 73% while Enhanced and High Return investments were approximately 27% of the real estate program. Within that Strategic Allocation, the Fund's Real Estate Strategic Plan sets forth the following property type allocation guidelines:

| Property Type | Range |
|----------------------|--------------|
| Office | 20% - 45% |
| Industrial | 15% - 35% |
| Multifamily | 15% - 35% |
| Retail | 15% - 35% |

- As of June 30, 2005, the Fund's real estate program appeared to be within its Strategic allocation policy and its property type guidelines.



Property Type and Regional Property Allocation

- Based on IFS’ review of the property type allocation, IFS confirmed that the real estate program risk is being contained within its prescribed property type policies as outlined above. As of the latest The Townsend Group performance report, as of June 30, 2005, approximately 72% of the real estate portfolio was allocated to Office, Apartments (Multifamily) and Retail. The balance of the program was allocated to Industrial, Hotel and Other property types.
- IFS’ review of the Fund’s real estate program also identified that its core “Stable” investment allocation was well diversified by regional locations. Nearly 42% of the program was allocated to the Southwest and Pacific locations, and approximately 15% was allocated to the Northeast, whereas the remainder of the real estate program was allocated to the Mountain (11%), Southeast (16%) and other locations around the United States. A summary of the Fund’s real estate program allocated by property type and region is summarized below.

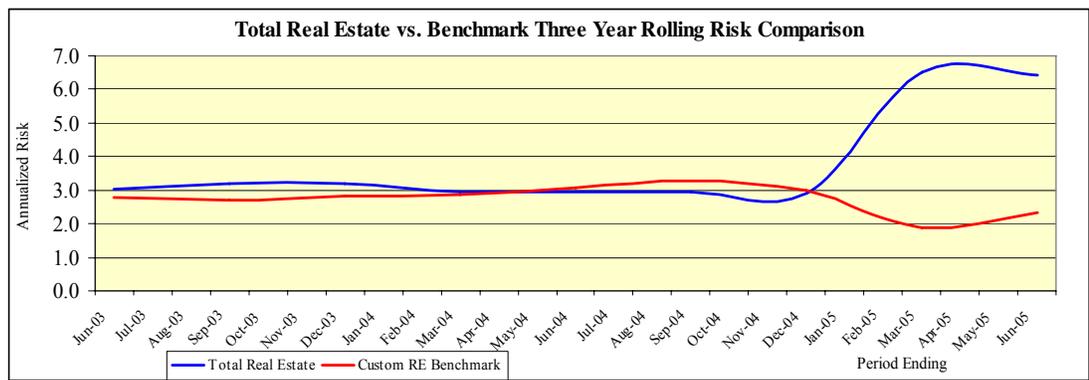
| Composite Real Estate Property Type Allocation | | |
|---|----------------------------|---------------|
| <u>Property Type</u> | <u>Percent Allocation*</u> | <u>NCREIF</u> |
| Office | 22.0% | 37.1% |
| Apartments | 24.0% | 19.5% |
| Retail | 26.0% | 22.7% |
| Industrial | 19.0% | 18.6% |
| Hotel | 3.0% | 2.1% |
| Other | 6.0% | 0.0% |
| * According to Townsend Group | | 100.0% |

| Core Regional Property Allocation | |
|--|-----------------|
| <u>Region</u> | <u>P&F*</u> |
| Pacific | 24.0% |
| Southwest | 18.0% |
| Southeast | 16.0% |
| Northeast | 15.0% |
| Mountain | 11.0% |
| EN Central | 9.0% |
| Mideast | 3.0% |
| International | 3.0% |
| WN Central | 1.0% |
| 100.0% | |
| * According to Townsend Group | |



Rolling Three Year Real Estate Risk Analysis

- IFS also evaluated what kind of risk (or volatility of returns) the Fund has taken to achieve the level of real estate performance returns versus its benchmark, the NCREIF Property Index. Based on the performance over the past five years on a discrete and rolling three year basis, IFS concludes that the Fund’s real estate investment staff (and the real estate composite) have produced slightly more risk than the benchmark over the past five years, however the majority of the risk over the benchmark has occurred over the last year or two through June 30, 2005.
- Over the five year period, the Fund’s real estate program has produced an average three year rolling risk of 3.8%. This is 40.7% higher than the benchmark average three year rolling risk of 2.7%. A summary of the Fund’s real estate program risk on a rolling three year basis (ending quarterly) versus that of the Fund’s real estate benchmark is displayed below.



| <u>Three Year Rolling Average Risk</u> | |
|--|----------------------------|
| <u>Total Real Estate</u> | <u>Custom RE Benchmark</u> |
| 3.8 | 2.7 |



Recommendation A18

IFS suggests that Fund staff work with the consultant to attempt to identify the sources and reasons for the Real Estate program's increased volatility over the past one to two years as a way to further monitor and control risk.

3) Benchmark Assessment

OBSERVATIONS REGARDING REAL ESTATE BENCHMARK APPROPRIATENESS:

- After review of the Fund's real estate program, including its current portfolio structure and the objectives set forth in the IPS, the NCREIF Property Index plus 100 basis points (prior to investment advisor fees), the Fund's current real estate benchmark, seems to be the most appropriate benchmark for this program. The NCREIF Property Index is the most recognized institutional real estate index in the U.S. and is a suitable and appropriate benchmark for the real estate program as of June 30, 2005.

g. Alternatives ("Private Equity")

1) Performance Evaluation

BACKGROUND

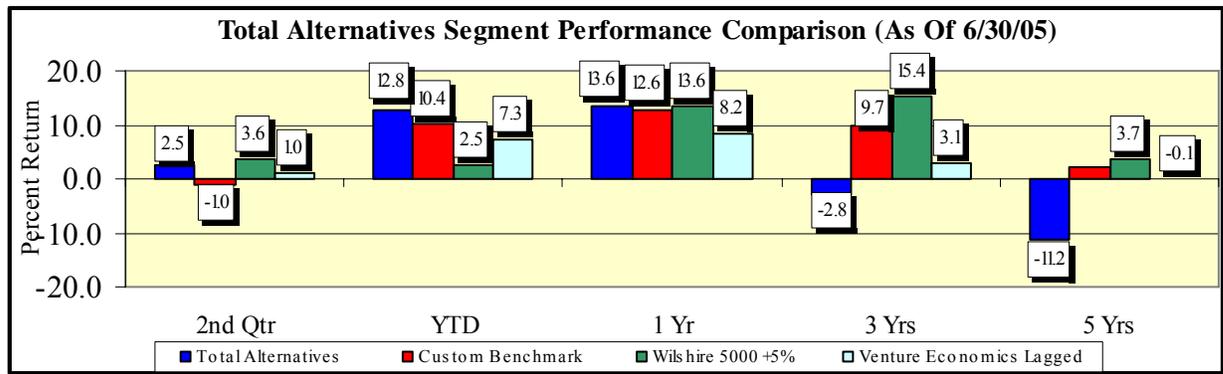
The Fund's Alternatives investment program is a private equity markets strategy which serves to improve absolute returns, risk adjusted returns and diversification for the overall Fund through investments in venture capital, buyout/mezzanine, distressed debt and other related investment strategies. The Alternatives program has not delivered the kind of superior performance that the Fund's Real Estate program has produced for the Fund over the past five years. However, performance has been severely impacted by the second worst bear market in



the modern equity capital markets since 1926, and this market has been even more punishing to many types of venture capital and other private equity market strategies during this time.

OBSERVATIONS REGARDING ALTERNATIVES PERFORMANCE:

- Overall, after several very rough years of performance in 2000 through 2003, the Alternatives program performance has rebounded along with the rebound in the public equity markets in 2004 and through 2005’s second quarter. For the second quarter 2005 and year-to-date period through June 30, 2005, the Alternatives program returned 2.5% and 12.8%. Over the past three years the Alternatives program returned -2.8% on an annualized basis, and an -11.2% annualized return over the five year annualized basis through June 30, 2005. A summary of the program’s annualized performance is exhibited below.



| | Annualized Returns | | | | |
|---|--------------------|-------------|-------------|-------------|--------------|
| | 2nd Qtr | YTD | 1 Yr | 3 Yrs | 5 Yrs |
| Total Alternatives | 2.5 | 12.8 | 13.6 | -2.8 | -11.2 |
| <i>Custom Benchmark</i> | -1.0 | 10.4 | 12.6 | 9.7 | 2.04 |
| <i>Wilshire 5000 +5%</i> | 3.6 | 2.5 | 13.6 | 15.4 | 3.72 |
| <i>Venture Economics Lagged</i> | 1.0 | 7.3 | 8.2 | 3.1 | -0.05 |
| <i>Excess (Total Alternatives - Custom Benchmark)</i> | 3.5 | 2.5 | 1.1 | -12.5 | -13.2 |
| <i>Excess (Total Alternatives - Wilshire 5000 + 5%)</i> | -1.1 | 10.3 | 0.0 | -18.2 | -14.9 |

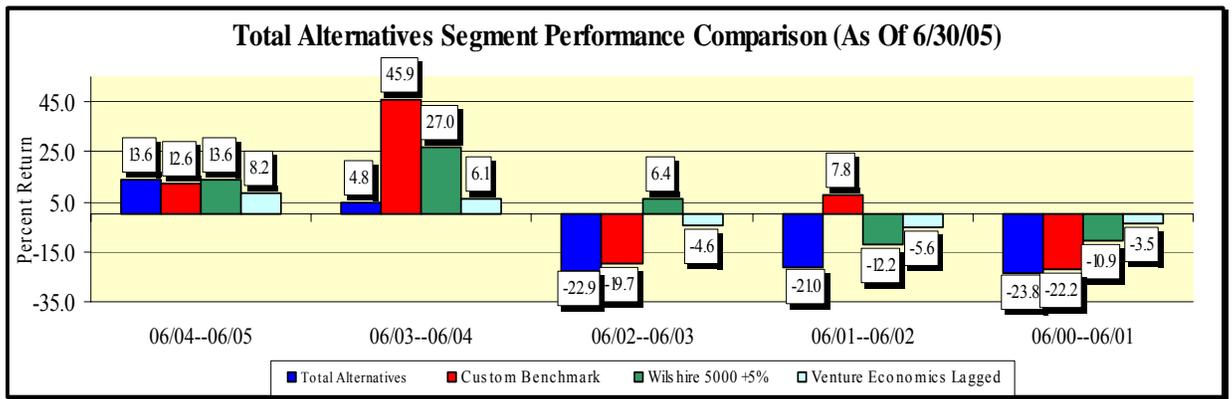


- A universe rankings comparison for the program is not included. Comparisons of alternative strategies within a peer group are difficult and less meaningful due to the different objectives, investment styles, portfolio structure, amounts of leverage and other factors.
- The table below includes the private equity performance results of the custom peer group survey. Only a few of the custom peer group funds provided returns for the private equity segment. OP&F’s performance in this asset class generally lags in this limited peer group analysis. It should be noted that it is best to evaluate private equity over longer term time periods (e.g., 5-10 years). Factors such as J-curves, fund maturity, and the effect of vintage years (the year the fund was established) make short-term performance less meaningful. Short-term returns (one and three year periods) can be misleading when comparing various private equity investments.

| Table A11: Custom Peer Group Alternatives Cumulative Performance | | | |
|---|---------------|----------------|----------------|
| Peer Public Pension Fund | 1 Year | 3 Years | 5 Years |
| Oklahoma Teachers' Retirement System | N/A | N/A | N/A |
| Public Employees' Retirement Fund of Indiana | 42.4% | N/A | N/A |
| School Employees Retirement System of Ohio | 7.7% | -1.4% | -14.9% |
| Indiana State Teacher's Retirement Fund | 22.4% | 12.8% | N/A |
| Average Return | 24.2% | 5.7% | -14.9% |
| Median Return | 22.4% | 5.7% | -14.9% |
| Ohio Police & Fire Pension Fund | 13.6% | -2.8% | -11.2% |

- Upon reviewing the Fund’s Alternative’s program performance over discrete rolling one year periods over the five year period ending June 30, 2005, the program lost over 20% in three consecutive rolling one year periods, ending June 30th (between 2001 and 2003), while for the one year period ending June 2004 and June 2005 the program produced positive returns of 4.8% and 13.6%, respectively.





| | Rolling One Year Returns | | | | |
|---|--------------------------|--------------|--------------|--------------|--------------|
| | 06/04--06/05 | 06/03--06/04 | 06/02--06/03 | 06/01--06/02 | 06/00--06/01 |
| Total Alternatives | 13.6 | 4.8 | -22.9 | -21.0 | -23.8 |
| <i>Custom Benchmark</i> | 12.6 | 45.9 | -19.7 | 7.8 | -22.2 |
| <i>Wilshire 5000 +5%</i> | 13.6 | 27.0 | 6.4 | -12.2 | -10.9 |
| <i>Venture Economics Lagged</i> | 8.2 | 6.1 | -4.6 | -5.6 | -3.5 |
| <i>Excess (Total Alternatives - Custom Benchmark)</i> | 1.1 | -41.1 | -3.2 | -28.8 | -1.6 |
| <i>Excess (Total Alternatives - Wilshire 5000 + 5%)</i> | 0.0 | -22.2 | -29.3 | -8.8 | -12.9 |

- Based on this review, as well as the benchmarking analysis performed, the Alternative program performance has been disappointing over the past five years, in both down as well as up markets. Again, however, due to the substantial bear market in private and public equities that this Fund and the overall market have endured over the past five years, and the equity rebound which has transpired from bear market low, it is likely that more materials gains will be observed as the market and acceptance for public equity offerings improves.
- The table below includes the private equity consecutive investment performance results of the custom peer group survey. Only a few of the custom peer group funds provided returns for the private equity segment. Here again, however, OP&F's alternative performance generally lags its peers.



| Table A12: Custom Peer Group Alternatives Annual Performance | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Peer Public Pension Fund | 06/04-06/05 | 06/03-06/04 | 06/02-06/03 | 06/01-06/02 | 06/00-06/01 |
| Oklahoma Teachers' Retirement System | N/A | N/A | N/A | N/A | N/A |
| Public Employees' Retirement Fund of Indiana | 42.4% | -14.8% | N/A | N/A | N/A |
| School Employees Retirement System of Ohio | 7.7% | 8.5% | -18.0% | -30.9% | -32.7% |
| Indiana State Teacher's Retirement Fund | 22.4% | 7.3% | 9.4% | N/A | N/A |
| Average Return | 24.2% | 0.3% | -4.3% | -30.9% | -32.7% |
| Median Return | 22.4% | 7.3% | -4.3% | -30.9% | -32.7% |
| Ohio Police & Fire Pension Fund | 13.6% | 4.8% | -22.9% | -21.0% | -23.8% |

2) Alternatives Portfolio Risk Factors

BACKGROUND

In terms of identifying portfolio risk factors, IFS' main gauge of risk is the IPS, which outlines how the Fund should implement its Alternatives investments program, as well as the Fund staff's internal report titled "2004 Private Equity Program Update," which also outlines certain investing guidelines and provides how the program is further diversified and summarizes other risks which are being monitored by the Fund staff on a periodic basis. Lastly, IFS reviewed the actual three year rolling risk (standard deviation of returns) of the Alternatives program versus its custom benchmark to assess how much risk the program has assumed versus the benchmark in attempting to outperform its benchmark for the period ending June 30, 2005.

FUNDAMENTAL PRINCIPLES REGARDING ALTERNATIVES PORTFOLIO RISK:

- *Alternatives or private equity portfolio risks stem from the type of investments made, such as: private equity, mezzanine debt, buyout and venture capital limited partnerships and fund-of-funds as well as direct company investments. By their nature, limited partnerships are fairly illiquid; although the stated expected life of a partnership may be seven to ten years, the amount and timing of the final distributions are unpredictable.*



- *Within each type of fund or partnership, risks associated with the diversification of the portfolio apply, including geographic diversification (within the U.S. by region, non-U.S., in-state investing, etc.), size of investments and the industry classification of investments.*

OBSERVATIONS REGARDING ALTERNATIVES PORTFOLIO RISK:

Risks Versus IPS

- The IPS indicates that in diversifying the asset class, the Fund shall invest only in eligible private equity partnerships or funds and shall avoid individual direct company investments. Based on IFS' most recent reporting from the Fund staff in its July 27, 2004, "Private Equity Program Update", the Alternatives portfolio appeared to comprise a variety of investments including single manager private equity, buyout and venture capital funds (including funds specific to Ohio based investments), as well as a variety of diversified buyout, venture capital and international fund of funds. Based on this report there was no indication that the Fund had invested in direct company investments, hence from this perspective, these certain strategic risks are contained and the Fund is in compliance with the provisions of its IPS.

Other Risks Being Monitored By Fund Staff

- In addition to the other risks being monitored above, IFS confirms through the Fund's internal report cited above that the Fund staff is also monitoring other structural risks within the Alternatives program as compared to other established guidelines by Fund staff. These other risks include the allocation of the Alternatives program to venture capital, buyout, distressed debt and other/special situation strategies versus the Fund's reported guidelines. Risks based on geographic/regional allocation, as well as industry allocation are also monitored and reported.
- A summary of the above risk comparisons, based on reporting from Fund staff's "Private Equity Program Update", is further reviewed below:

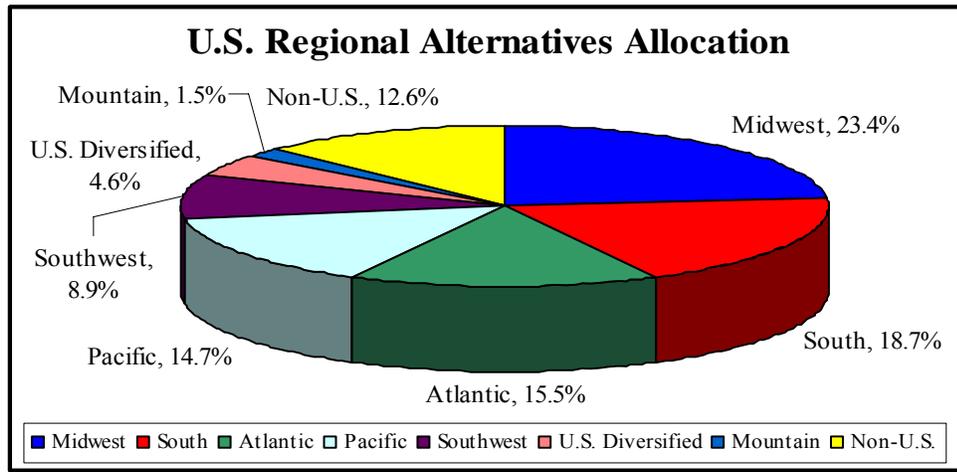


Strategic & Geographic Alternatives Allocation

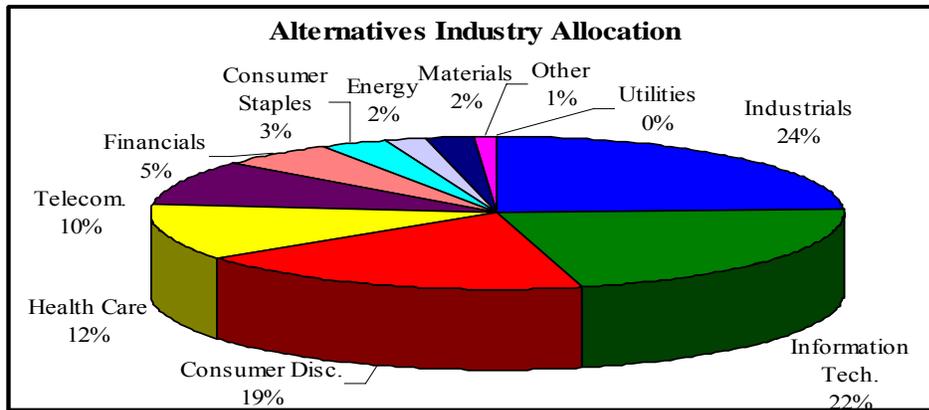
| Strategic Alternatives Allocation | | |
|-----------------------------------|------------|--------------|
| Strategy | Allocation | Policy Range |
| Buyouts | 51.5% | 45%-70% |
| Venture Capital | 41.2% | 30%-50% |
| Distressed/Other | 7.2% | 0%-10% |
| | 100% | |

| Geographic Alternatives Allocation | | |
|------------------------------------|------------|--------------|
| Strategy | Allocation | Policy Range |
| U.S. | 87.4% | 75%-100% |
| Non-U.S. | 12.6% | 0%-25% |
| | 100.0% | |

U.S. Regional Alternatives Allocation



U.S. Regional Alternatives Allocation



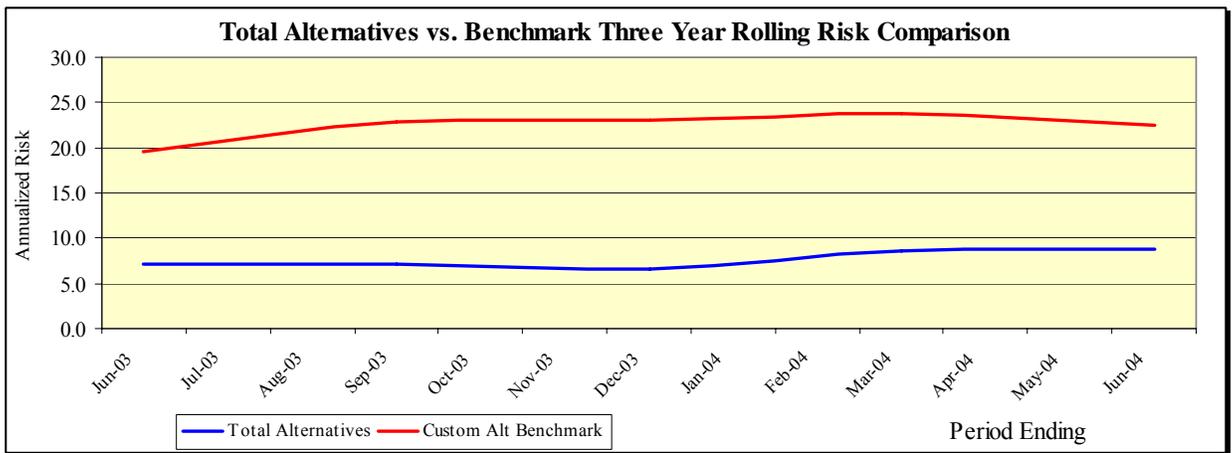
- Based on the limited review of the Alternatives program Strategic and Geographic allocation, as well as allocations by U.S. region and Industry, the program seems to be well diversified, so that the program can weather the risks of investing with any one single Alternatives investment manager, differences in economic performance of any one private company, risks of various regions of the U.S. and different industry risks of the economy as it proceeds through various economic cycles.
- Based on past performance, however, it seems that the Alternatives program has room for additional enhancement. IFS suggests that Fund staff consider other ways to assess the program's allocation, portfolio structure and related risks, either through additional research or by working with a private equity consultant, as discussed earlier. For example, Fund staff may also want to consider comparing investments by industry sector to those of the overall economy and/or versus the sector allocations of the Wilshire 5000 and Russell 2000 to assess how the program compares to the overall broad equity market, as well as the small cap equity market. This would perhaps create more awareness of certain risks which currently may not be monitored by Fund staff.

Rolling Three Years Alternatives Risk Analysis

- IFS also evaluated what kind of risk (or volatility of returns) the Fund has taken to achieve the level of performance returns versus its benchmark, the Custom Alternatives Benchmark (100% S&P 500 Lagged +5% through 6/30/01, 100% Wilshire 5000 Lagged +5% from 9/30/01 – Present). Based on the performance over the past five years on a discrete and rolling three year basis, IFS concludes that the Fund's Private Equity investment staff (and private equity composite) has generated much less risk than the benchmark over the past five years, however, much of this low risk is associated with consistently negative returns over almost three fourths of the period which was evaluated.



- We acknowledge that private equity performance has been severely impacted by the second worst bear market in the modern equity capital markets since 1926, and this market has been even more punishing to many types of venture capital and other private equity market strategies during this time. Over the five year period, the Fund’s Alternatives program has produced an average three year rolling risk of 8.6%. This is nearly 60% less than the Custom Alternatives Benchmark average three year rolling risk of 21.4%. A summary of the Fund’s Alternatives program risk on a rolling three year basis (ending quarterly) versus that of the Fund’s Custom Alternatives benchmark is displayed below.



| <u>Three Year Rolling Average Risk</u> | |
|--|-------------------------------------|
| <u>Total Alternatives</u> | <u>Total Alternatives Benchmark</u> |
| 8.6 | 21.4 |

3) Benchmark Assessment

OBSERVATIONS REGARDING ALTERNATIVES PORTFOLIO BENCHMARK APPROPRIATENESS:

- The Wilshire 5000 plus 500 basis points, the Fund’s current private equity benchmark, is an appropriate policy benchmark for this program as of June 30, 2005, given the expected risks that are assumed with investing in this sort of asset class.



- Additional more “strategic” public equity benchmarks that the Fund might consider to benchmark volatility of start up, emerging and early stage companies (similar to those found in the private equity program) would be the Russell 2000 Index plus 500 basis points, or the S&P MicroCap Index plus 500 basis points. These underlying benchmarks contain a concentration of small cap and micro-capitalization equity securities (securities generally under \$250 million in market capitalization) which may be more representative of the underlying private equity portfolio.
- The Fund may also want to consider using the Cambridge Associates Private Equity and Cambridge Associates Venture Capital benchmarks as strategic benchmarks. Both of these benchmarks replicate the performance of actual private equity and venture capital managers within Cambridge’s database of private equity and venture capital managers. As noted previously, we understand that Fund staff also review the Venture Economics Index as a benchmark for vintage year IRR returns, which are generally considered to be a better measure of private equity investments than traditional time weighted returns due to the cashflow aspect of the investment.

Recommendations A19 – A20

Given the poor longer-term performance of the Alternatives portfolio, we recommend that the Fund undertake a thorough review of this asset class, including its investment policy, structure, processes and available resources. An Alternatives/Private Equity consultant or advisor could assist Fund staff in possibly redefining and enhancing its Alternatives/Private Equity investment approach.

To supplement the long-term policy benchmark for Alternatives, we recommend that the Fund consider adopting additional strategic benchmark(s) for this asset class, such as an additional public market benchmark or the Cambridge Associates Private Equity and Venture Capital benchmarks.



h. Investment Performance Measurement & Reporting Process

BACKGROUND

The following section will address issues concerning the investment performance measurement process, including: (1) data collection, verification and addressing of conflicts; (2) performance reporting methodology and compliance with industry standards; and (3) timeliness, frequency and detail of performance reporting measurement process.

FUNDAMENTAL PRINCIPLES REGARDING PERFORMANCE MEASUREMENT:

- *Performance should be calculated in accordance with CFA Institute (formerly AIMR) Global Investment Performance Standards (GIPS) and received in a timely manner.*
- *The value of performance reporting is only as good as the quality of the data used to calculate performance, therefore the processes of data collection and reconciliation should be closely monitored.*

1) Data Collection, Verification & Addressing of Conflicts

OBSERVATIONS REGARDING PERFORMANCE DATA COLLECTION:

- Based on IFS' interviews with Fund staff and service providers, Wilshire Associates (the Fund's general investment consultant) collects electronically (and by other means) all relevant financial information on a monthly basis from the Fund's custodian via various electronic downloads (and related procedures) and performs the performance calculation and measurement process on a monthly basis for all applicable individual and composite accounts. Wilshire then calculates quarterly performance returns for those accounts and the Fund's composites on a quarterly basis based on the underlying monthly performance and other underlying financial data. On a quarterly basis, Wilshire generates its quarterly investment performance analysis and risk evaluation report (Wilshire's large spiral bound



quarterly “Investment Performance Analysis” report) on the Total Fund, its asset classes and individual accounts.

- It is IFS’ understanding that Fund staff and Wilshire collect investment manager reported returns on at least a quarterly basis to compare against Wilshire’s performance reporting results. If there are issues or discrepancies in performance reporting between Wilshire and the investment manager, IFS understands that Fund staff assists Wilshire, if necessary, in working out and resolving discrepancies which may exist between Fund custodian and investment manager reported data. Overall, Fund staff indicated that when issues do arise, performance discrepancies or other issues are more common to Wilshire’s fixed income manager performance reporting, especially for high yield managers.
- In addition to Wilshire’s performance reporting work, Fund staff also performs additional performance reporting and evaluation work on the Total Fund, the Fund’s asset classes and individual account strategies with and without investment management fees. Based on interviews with Fund staff, net of fee investment performance reporting is a focus with the Board in its periodic reports to the Board.

2) Performance Reporting Methodology & Compliance With Industry Standards

BACKGROUND

As a matter of background information, IFS uses the Wilshire Co-op system (a separate and independent entity from the Wilshire Consulting Group, although a subsidiary of Wilshire Associates) for performance evaluation, analysis and reporting. IFS’ performance measurement and evaluation system, like what Wilshire Consulting Group uses for the Fund, calculates performance using the Modified Dietz methodology, a time-weighted dollar weighted monthly rate of return methodology which is the industry standard for calculating portfolio performance. Monthly returns are then linked together to calculate quarterly rates of return. This method



allows the evaluation of investment management skill between any two time periods without regard to the total amount invested at any time during that period. It is unaffected by any cash flows to the portfolio, therefore, it measures the actual rate of return earned by the portfolio manager. This method is in compliance with the CFA Institute (formerly known as AIMR or the Association for Investment Management and Research) standards for investment performance measurement.

OBSERVATIONS REGARDING PERFORMANCE METHODOLOGY:

- In order to ensure the Fund's performance is calculated and reported accurately and consistent with CFA Institute standards, IFS conducted a performance review on a spot check basis. IFS received second quarter 2005 investment transactions for Columbia Management Group (equity) and JPMorgan Asset Management (fixed income) from Wilshire and calculated performance using these transactions. The results from IFS were identical to what Wilshire has reported. Columbia Management Group returned 2.16% for the second quarter of 2005 and JPMorgan Asset Management returned 3.13%.
- Based on IFS' evaluation of the Fund's investment performance measurement and reporting process, IFS believes the investment performance measurement process is sufficiently independent, objective and reliable and the overall process is sufficient to support performance based incentive compensation decisions by members of Fund staff or the Board.

3) Timeliness, Frequency and Detail of Performance Reporting Measurement Process

OBSERVATIONS REGARDING TIMELINESS AND DETAIL OF PERFORMANCE REPORTING:

- In general, based on IFS interviews and research conducted with Fund staff and others, it appears that performance reporting and the delivery of reports is executed and



implemented in a timely fashion. IFS also believes that Wilshire's quarterly reports are sufficiently detailed (perhaps too detailed in some areas), in conjunction with quarterly reporting from the Fund's specialist real estate consultant (The Townsend Group) and Fund staff on Alternatives investing, subject to IFS' recommendations which are found in other sections of this report. (See additional discussion on performance reports in Management Issues Section 4(B).)

4. Investment Structure and Costs

BACKGROUND

Investment structure relates to the following:

- The allocation of System assets to various investment managers and styles within an asset class - it is separate and distinct from asset allocation;
- The use of active and passive strategies;
- The use of internal versus external management; and
- The number of managers used.

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT STRUCTURE:

- *Generally, the proper allocation to various investment managers is guided by the asset class "Policy Benchmark." (See discussion above under Performance & Portfolio Risk on each asset class.)*
- *There is no one correct amount of assets that should be actively or passively managed. However, as discussed below, most large public pension funds use passive management*



for a significant portion of at least their domestic equity assets. A lesser amount of passive management is typically used for international equity and fixed income portfolios.

- *The number of managers used depends on the size of the total fund, its asset allocation, the types of strategies in which the Board chooses to invest (with advice from staff and consultant) and the Board and staff's ability to monitor those managers effectively. (See discussion below.)*
- *The decision whether or not to use internal or external management is driven in large part by the size of the fund and whether or not internal management can be cost effective and equally successful to that of external management.*
 - *Investment structure from a style perspective is discussed in Investment Issues Section 3(A) above. We discuss the System's use of active and passive management and the number of managers used below, followed by a discussion of internal versus external management and investment management costs.*

Active Versus Passive Management

BACKGROUND

The use of active versus passive investment management is a major issue for institutional investors. Active investment managers, through fundamental research, quantitative analysis or a combination of both, seek to build portfolios that provide a rate of return (after fees) in excess of an appropriate market benchmark. Active investing is any investment strategy in which securities are selected in an attempt to achieve a higher investment return. Thus changes are made in the portfolio when the investment manager believes they will generate more attractive returns. The concept of passive investing was created as a result of the development of indexes – sets of securities assembled for the purpose of generating a standard measure of market performance. Passive investing is the practice of creating and maintaining a portfolio that duplicates or replicates the index. Changes in mix and relative weights of securities in the portfolio are made only when the same changes are made in the index.



Empirical research suggests that for developed “efficient” markets passive investing makes sense. Efficiency is the concept that market information disseminates so quickly that, in the absence of illegal insider information, no investor can achieve a greater than market return consistently over time. This leads to the premise that investing in such markets is a “zero-sum” game wherein for every winner, who beats the market, there must also be a loser. Research suggests that, over the long term, after investment-related fees and transaction costs are paid, the majority of investment managers are unlikely to provide added value over a passive portfolio. Nevertheless, many institutional investors still believe they can identify investment managers, or develop a team internally, with the active management skills necessary to provide above-benchmark performance.

The debate among investment academics and practitioners whether active or passive portfolio investing is more effective has raged unsettled since the concept first arose. It is unlikely that a provable conclusion will ever be reached, but the question, when juxtaposed against particular portfolio objectives and risk preferences, is a valid one. The debate centers on whether active management can achieve a more attractive long term net return after costs than passive management. Passive management is clearly capable of achieving a return very close to the return of an index, with a degree of deviation (tracking error) from the index that is very small, as long as the index is investable. In addition, because stock selection in an index is provided to the manager at essentially no cost, and because management of the portfolio can be largely automated, fees on index investing are lower than fees on active investing in the same market.

In summary, the case for passive management includes the following arguments:

- Markets are inherently efficient. In an efficient market, prices adjust to their fair value almost immediately, so it is nearly impossible to invest in mispriced securities.



- While active managers outperform the market at some times, no active manager consistently outperforms the market forever. Active management requires vigilance to attempt to replace managers before they turn bad and lose whatever gains they have achieved, which is an impossible task.
- Even where managers can achieve a rate of return higher than the market, the higher fees and trading costs of active management can consume the out performance.

In summary, the case for active management includes the following arguments:

- Markets are irrational, not efficient. Astute research can identify securities that are mispriced due to investors in the market who act emotionally.
- Discipline in identifying, buying and selling securities unemotionally can lead to higher returns than can be achieved by merely duplicating the index.
- Passive management can not reduce the volatility of returns, since it by definition matches the volatility of the market. Active management offers the opportunity to reduce risk as well as increase it in pursuit of higher return.
- Passive management cannot achieve the index return, since trading costs and friction in the portfolio (that are not in the index) diminish the results. Additional activity such as securities lending or derivative use, which increase costs, is needed to make up for the shortfall.
- Indexes are restructured either periodically (e.g. Russell) or continually (S&P) to reflect changes in security characteristics or existence. The process for recomposing indexes creates trading costs. More critically, the coordinated demand to buy securities being put into an index and to sell securities being taken



out of an index affects prices adversely, while disguising the effect within the index return.

As discussed above, additional investment management risk is inherent with active management strategies over passive strategies. Using all passive management, however, would not allow an investor ever to achieve above market returns.

To varying degrees, most institutional investors utilize passive management for at least a portion of their investment portfolios. The percentages of international and domestic equity assets of public plans over \$5 billion invested passively and actively reported in the 2004 Greenwich Associates survey of pension funds are set forth in Table A13 below.

| Table A13 : Active v. Passive Public Fund Greenwich Associates 2004 Survey Averages | | |
|--|-------------------------------|------------------------------------|
| | % of Domestic Equities | % of International Equities |
| Passively Invested | 56.25% | 27.95% |
| Actively Invested | 43.75% | 72.05% |

The percentages above suggest that many public funds believe domestic equity markets are fairly efficient, as represented by the fact that over 50% of the domestic equity portfolios are passively managed on average. Conversely, the data also suggest that public funds tend to believe greater value added can be achieved by actively managing portfolios of international equities, traded in less efficient markets, although on average they manage a significant portion passively.

OBSERVATIONS REGARDING ACTIVE VS. PASSIVE MANAGEMENT:

- Table A14 below compares OP&F's use of passive and active management versus its custom peer group.



| TABLE A14: Active Passive Split as of 6/30/2005 | | | | |
|--|-----------------------------------|--|--|---------------------------------------|
| | % of Domestic Equities | % of International Equities | % of Emerging Market Equity | % of Domestic Fixed Income |
| <i>Peer Group Average</i> | | | | |
| Passively Invested | 34.1% | 10.0% | 0% | 11.0% |
| Actively Invested | 65.9% | 90.0% | 100% | 89.0% |
| <i>Ohio P&F</i> | | | | |
| Passively Invested | 45.3% | 35.5% | 0% | 0% |
| Actively Invested | 54.7% | 64.5% | 100% | 100% |

- As shown above, OP&F’s custom peer group invests about one third of their domestic equity allocation passively; this compares to 45% at OP&F. Passive exposure can be achieved at very low cost (in many cases, less than five basis points). Incorporating the use of some passive equity investment funds helps reduce overall fees and the total costs of the Fund’s investment program.
- After our initial field work, the OP&F Board adopted a change to its domestic equity structure to include the incorporation of a portable alpha strategy using hedge fund-of-funds as the source of alpha to overlay on exposure to the S&P 500 achieved through a futures program. This portable alpha strategy will make up approximately 20% of the domestic equity allocation, so that going forward the large cap portfolio will be split among 50% traditional passive, 27.8% portable alpha and 22.2% active. The small and mid cap portion will continue to be 100% active, so that only approximately 42% of the total domestic equity portfolio will be managed according to traditional active strategies.
- The peers also use a small amount of passive management (approximately 10%) for international developed market equities, this compares to approximately 35% at OP&F. While we generally agree that active management is more likely to add value in international equity than in some areas of domestic equity, passive management is a cost effective method of managing a core portion of the portfolio. The peer group and OP&F use only active management for their emerging markets equity allocation, which is as we would expect.



- OP&F does not use any passive management for its fixed income allocation. The peer group manages an average of 11% that asset class passively. As with other asset classes, core passive exposure can be achieved at very low-cost, and provides broad fixed income market exposure; however many investors believe that it is easier to add value in the fixed income market place and more beneficial, or cost effective, to use active management for fixed income portfolios. IFS believes that passive fixed income can play a role in a well-diversified fixed income portfolio; however, we agree that at least the majority of a fixed income portfolio should be actively managed and this should be part of the ongoing investment structure reviews conducted by the consultant.

FUNDAMENTAL PRINCIPLES REGARDING NUMBER OF MANAGERS:

- *“Best practices” suggest that a fund should use enough investment managers to achieve proper diversification in each asset class in which it has chosen to invest. Having too few managers can cause a fund to bear unnecessary risks, such as lack of diversification and organizational risk (i.e., if a fund has a large amount of assets invested with one organization and that manager has problems). On the other hand, too many managers can result in higher overall investment management fees; multiple managers with similar styles can actually cause a fund to lose the benefits of active management by becoming too index like overall; and a large number of managers increases the complexity of due diligence and monitoring.*
- *Generally, a fund should seek a mix of equity, fixed income and other managers, (separate accounts and/or commingled funds) with complementary styles (as opposed to duplicative styles).*
 - *Complementary styles increase overall diversification.*
 - *Duplicative styles can create administrative burdens and increase investment management costs.*
 - *The number of managers required is somewhat dependent upon the asset allocation.*
 - *Generally, a fund should have the number and variety of investment managers necessary to achieve the fund’s stated investment objective and to control risk while incurring reasonable costs.*
- *The decision whether or not to use internal or external management is driven in large part by the size of the fund and whether or not internal management can be cost effective and equally successful to that of external management.*



OBSERVATIONS REGARDING NUMBER OF MANAGERS:

The average number of managers used by the custom peer group IFS surveyed and public fund sponsors with over \$5 billion in assets, as reported in the 2005 Greenwich Associates survey (data as of 2004), is shown in Table A15 below. We discuss each asset class separately in the narrative below.

| Asset Class | OP&F | Custom Peer Group External Managers | 2005 Greenwich Associates Survey |
|----------------------|-----------------|--|---|
| U.S. Stocks | 7 | 14.0 | 6.8 |
| International Stocks | 5 | 7.75 | 5.4 |
| Fixed Income | 8 | 8.75 | 5.1 |

- As of June 30, 2005 the System’s assets were allocated among approximately 57 investment portfolios – seven domestic equity managers, five international equity managers (including one emerging markets), eight fixed income managers (one manager manages two mortgage accounts) as well as approximately 15 real estate¹⁷ and 21 private equity partnerships and a cash vehicle¹⁸. We understand that, in recent years, the System has reduced the number of managers in several asset classes, including domestic and international equity and fixed income.
- Overall, the number of managers used by OP&F appears appropriate for their strategies and in line with their peers.

¹⁷ Since the time of our due diligence, the System changed its real estate implementation strategy from a mixture of separate accounts and commingled funds to solely commingled funds.

¹⁸ Information provided is from the response to the custom peer group survey.



FUNDAMENTAL PRINCIPLES REGARDING INTERNAL VS. EXTERNAL MANAGEMENT:

General Considerations

In determining whether and to what extent a public fund's assets are better managed internally (hiring employees to operate an investment operation) or externally (hiring professional investment management companies), several general considerations are essential. These include legal, cost, continuity and investment performance. We discuss each of these below as well as other advantages and disadvantages of internal management.

Legal – *does applicable law prohibit hiring external managers, prohibit managing assets in house, or prohibit certain essential structures such as incentive compensation?*

Cost – *what is the relative cost for the particular asset class and overall, given the size of the portfolios? For example, passive management is less expensive to manage both internally and externally, the costs should be weighed.*

Continuity – *is the System able to retain experienced investment managers in-house? High turnover creates substantial investment risk for an internally managed portfolio.*

Value achieved – *what is the relative return? Have the internal portfolio managers beaten their benchmarks? How does their performance compare to their peers?*

Advantages of Internal Management

There are several advantages to managing assets internally. These include:

- *Internal management can be less costly. External managers must compensate well to attract and retain highly qualified professionals, cover overhead for facilities that serve as well as portfolio management, and earn a profit, thus management fees are relatively high.*
- *There can be greater control over the investment process and compliance with guidelines. Monitoring compliance with external manager guidelines may be complex, and often can be done only after the fact, sometimes weeks after. Understanding the investment process may also be difficult.*
- *There can be greater control over trading and brokerage usage.*
- *At least for certain types of assets and strategies, the performance of external managers (net of all fees and expenses) is often disappointing relative to index returns. Internal management can reasonably be expected to do as well for these strategies, at least if properly structured and administered.*



In addition, cost considerations may differ for a very large fund versus a smaller fund. As the value of fund assets increases, the possibilities of enjoying substantial economies of scale from internal management also increase. These economies may include:

- *greater clout in negotiating and controlling transactions costs;*
- *lower unit costs for acquiring and maintaining investment hardware and software; and*
- *staffing costs and related matters.*

Advantages of External Management

On the other hand, external management has its advantages. Given the limited resources often faced by many public pension funds, their ability to attract and retain qualified professional investment staff with the skills necessary to manage assets is typically frustrated.

- *Lower compensation at public funds may lead to higher turnover, especially among the most qualified professionals. Proven investment managers can command large compensation packages in the private sector and be lured away from public funds.*
- *The pension fund must still pay the many costs of investment management firms that are fixed or largely fixed, requiring a sizable asset base to maintain cost competitiveness. These include salaries and support systems: internal asset management requires sufficient securities processing, order management/routing systems, trade entry systems and overall investment accounting systems.*
- *Staff needs are significant, particularly for asset classes requiring considerable hands on management such as directly owned real estate.*
- *Greater direct control by the Board over the investment process may expose the Board to greater fiduciary risk as well as create the potential for political interference. Effectively controlling an internal asset management department requires significant internal discipline and organization, including proper separation of functions and internal controls, e.g., portfolio management versus measurement and evaluation, and portfolio management (front office) versus accounting and settlement (back office). Tighter ethical controls may also be needed for concerns such as personal trading policies.*
- *All asset classes, sub classes, types of securities, and geographic locations can be covered by external management.*



- *Replacement of a poorly performing external manager, or one whose firm structure, focus or staffing has changed, is relatively easy, and bears little risk of wrongful discharge suits, whereas it can be difficult to terminate an internal investment manager.*
- *Most investment managers are subject to regulation and oversight by the SEC and various security exchanges.*
- *An external manager relationship can be clearly and precisely crafted through a commercial contract with the manager.*

The vast majority of assets managed internally by public pension funds appear to be publicly traded domestic stocks and bonds – relatively traditional and straightforward assets, traded in relatively efficient markets. By contrast, strategies or assets that require more esoteric expertise or research, with substantial prospects of materially outperforming (or underperforming) the relevant benchmarks often are better managed externally. One example would be a portfolio of equities of companies in emerging international markets, which may require unusual research, including foreign travel. Another example would be a portfolio of equities of fast-growing, newly formed companies with low capitalization, where very prompt, specialized information and delicate trading strategies may be essential to success. In that instance, purchased research may be insufficiently timely, detailed or insightful, while the cost of a capable, in-house staff may be prohibitive.

Another possible hazard of internal management is homogenization, i.e., the dominance of a single investment discipline running across all parts of the fund. By contrast, outside management by distinct firms may help diversify a fund's overall investment program through a true diversity of investment disciplines.

OBSERVATIONS REGARDING INTERNAL VS EXTERNAL MANAGEMENT:

- The System uses 100% external management, except for internal management of cash and equivalents, which given its current asset base, staffing and resources is appropriate. We note, however, that OP&F used to manage its fixed income assets internally up until July 31, 2003. When the portfolio manager left, the Board decided to outsource management of this asset class. As discussed below, the fees paid by OP&F for external fixed income management appear reasonable.



FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT MANAGEMENT COSTS:

- *The costs of an investment program should be reasonable when compared to organizations of similar size and complexity. Consideration must be made regarding:*
 - *Total assets under management;*
 - *The proportion of internally and externally managed assets;*
 - *The investment strategies employed, particularly active versus passive; and*
 - *The multiple assignments given to the organization (retirement plans, trust funds, short term investment funds, and other asset pools).*
- *External manager fees are determined as a part of the process to hire managers. Most investment managers maintain set fee schedules, typically with break points applying lower fee rates to assets above particular levels. This results in lower average fees for larger accounts. While the explicit fee tables may be negotiable, often they are not if only because other clients may have negotiated fee provisions providing for parity with similar clients. In addition, fees can vary significantly by the capitalization size (e.g., small cap accounts are more expensive than large cap accounts) or the style of the account.*
- *Large investors such as OP&F have opportunities to achieve additional fee savings in a couple of other ways. Many manager fee schedules cover only up to an asset level that captures the majority of the manager's clients. Accounts above that level have "negotiable" fees. These may result in discounts if assets exceed a given amount, very low incremental fee rates above a given amount, and similar structures.*
- *Competitiveness of fee schedules is a complex matter. Data is predominately available only from surveys or inquiries of other managers either obtained directly or through an investment consultant who maintains such data. This research can generate a range in which similar managers set their fees, but cannot identify the one "right" fee. At best it can identify outliers and give comfort that the fee is competitive. Ultimately, though, the goal is to achieve a net return, so a lower fee savings can be more than offset by poor returns.*
- *Partnership fees for private equity limited partnerships are generally not negotiable for a fund. Certain strategies are more labor intensive than others and private equity is typically considered to be very labor intensive. It is not unusual for the fee schedule to be reduced in the later years of the partnership. Most partnerships also have some form of carried interest where the General Partner will receive 20% of profits after any preferred return is earned by the Limited Partners.*
- *It is also difficult to compare real estate fees since they include many different types of fees such as asset management fees, property acquisition fees, incentive fees and property management fees. Here too, fees will vary by fund strategy type.*



- *A system that does not monitor its asset management fees risks paying higher than necessary investment management program costs.*

OBSERVATIONS REGARDING INVESTMENT MANAGEMENT COSTS:

- The CEM Cost Effectiveness Analysis Study for the five years ending December 31, 2004 calculated OP&F's total investment management costs to be 40.4 basis points and oversight, custodial and other asset related costs to be 5.3 basis points, for a total of 45.6 basis points, which compares to a "Benchmark Cost" of 42 basis points, calculated by using median costs.
- As discussed earlier, Greenwich Associates produces an annual Investment Management survey of corporate, public and union pension funds and endowments. The 2005 Greenwich survey shows an average fee of 34.9 basis points paid to outside investment managers by all public funds (241 funds), 29.8 basis points by state funds (87 funds) and 25.2 basis points for public funds over \$5 billion. The average across all funds surveyed (1,113 funds) was 44.1 basis points. This survey does not take into account what their asset allocation is (i.e., OP&F's use of private equity and real estate limited partnerships increases the overall fee rate paid). OP&F's external management costs of 40.4 basis points appear slightly high for a larger public fund, but reasonable when compared to the larger group.
- In the table below, we compare the manager fee data provided to us by the System to a few third party surveys and their custom peer group (four peers provided fee data). When compared to the range of survey data, the fees paid by OP&F for investment management are reasonably competitive overall, although they are slightly higher than some of its peers in active fixed income and active emerging markets equity. Total investment management fees as reported by the survey are lower than that of their peers.



| Table A16: Investment Manager Fees | | | | | |
|---|-------------------------------------|----------------------------------|--|---|--|
| Manager | OP&F Manager Fee | Custom Peer Group | ICC Median Fee¹⁹ | Casey, Quirk & Acito Median Manager Fee²⁰ | Greenwich Mean Manager Fee²¹ |
| Domestic Equity | | | | | |
| Active Large Cap | 38.5 | 39.0 | 46 | 42 | 29.4 |
| Active Small Cap | 35.4 | 76.6 | 87 | 63 | - |
| Passive U.S. | 0.40 | 1.5 | - | 6 | 3.1 |
| International Equity | | | | | |
| Active Developed Markets | 37.0 | 38.9 | 48 | 70 | 39.7 |
| Active Emerging | 69.3 | 60.2 | - | 100 | 57.3 |
| Passive International | 2.3 | 6.9 | - | 15 | - |
| Domestic Fixed Income | | | | | |
| Active Core | 16.3 | 15.7 | 31 | 21 | 14.9 |
| Passive Fixed | - | 2.25 | - | 7 | - |
| High Yield | 44.0 | - | - | - | - |
| Total Investment Mgmt Fees | 22.7 | 28.4 | - | - | - |

- The third party surveys used for the fixed income and equity fee analysis did not include data on private equity and real estate funds. However, the fees reported by OP&F for private equity (92 basis points) and real estate (114.3 basis points) appear to be in line, and possibly on the low end for private equity, with what we typically see in the industry.

5. Use of External Consultants

FUNDAMENTAL PRINCIPLES REGARDING THE USE OF EXTERNAL CONSULTANTS:

- *The majority of statewide pension funds and public investment entities utilize an investment consultant.*

¹⁹ Median fee in basis points paid by public pension funds clients of consulting firms that belong to the Independent Consultants Cooperative (ICC).

²⁰ Median Published Management Fees in basis points for active and index accounts over \$500 million as of December 31, 2003. Source: Casey, Quirk & Acito.

²¹ Mean fee paid to outside managers for public funds with over \$5 billion in assets, from Greenwich Associates 2003 Market Characteristics Report.



- *Although the investment consultant's role varies from fund to fund, the role typically includes advising on investment policy and guidelines, assistance with asset allocation, evaluating additional investment strategies and types of assets, selection and monitoring of investment managers, and measuring and evaluating risk and return for the overall portfolio, each asset class and each investment account.*
- *The level of reliance on the investment consultant also varies from fund to fund. The consultant's role, responsibilities and reporting lines of authority should be defined contractually.*
- *Consultants provide a variety of information that helps directors, trustees and staff make better investment decisions. If there are gaps in that information, the fund's leaders may be unable to make effective and successful decisions.*

a. Summary of Contractually Required Consulting Services vs. the Service Provided by the General Investment Consultant

Table A17, in the first column, lists the general consulting services typically provided by investment consultants. The second column identifies which typical general consulting services are required in the 1996 contract between OP&F and its retainer consultant (Wilshire Associates)²². The third column reflects services the consultant provides in practice which are not specifically called for in the provisions of the 1996 contract between OP&F and its retainer consultant (Wilshire). The fourth column identifies, where applicable, the entity that provides the service if the retainer consultant is not providing the service.

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²² During our fieldwork, IFS reviewed what was then the most current contract; the 1996 contract between OP&F and Wilshire was amended in 2000 and 2003 and was scheduled to expire in March 2005. We understand that the current contract has a minimum term of one year, with automatic renewals each year until terminated by one of the parties on 30 days prior written notice.



| Table A17: Comparison of Typical Retainer Consulting Services | | | |
|--|--|---|-----------------------------|
| TYPICAL GENERAL CONSULTING SERVICES | SERVICE REQUIRED BY THE CONTRACT WITH OP&F²³ | SERVICE PROVIDED IN PRACTICE BY CONSULTANT | SERVICE PROVIDED BY: |
| FIDUCIARY STATUS | | | |
| <ul style="list-style-type: none"> • Consultant acknowledges fiduciary status | <i>No acknowledgement of fiduciary status in contract</i> | | |
| ESSENTIAL SERVICES | | | |
| <i>Asset Allocation and Asset/Liability Studies</i> | | | |
| <ul style="list-style-type: none"> • Produce capital markets assumptions | | ✓ | |
| <ul style="list-style-type: none"> • Produce asset allocation study and recommendations | ✓ | ✓ | |
| <ul style="list-style-type: none"> • Produce asset/liability report | ✓ | ✓ | |
| <i>Investment Policy and Structure</i> | | | |
| <ul style="list-style-type: none"> • Prepare or review fund's Investment Policy Statement | ✓ | ✓ | |
| <ul style="list-style-type: none"> • Review and recommend fund's investment structure | ✓ | ✓ | |
| <ul style="list-style-type: none"> • Recommend performance benchmarks for asset classes and investment managers | ✓ | ✓ | |
| <i>Periodic investment performance reports</i> | | | |
| <ul style="list-style-type: none"> • Produce investment performance reports | ✓ | ✓ | |
| <ul style="list-style-type: none"> • Calculate investment rates of return for total fund and asset classes | | ✓ | |
| <ul style="list-style-type: none"> • Calculate investment rates of return for external investment managers | | ✓ | |
| <ul style="list-style-type: none"> • Rank fund and managers against appropriate peer universes | | ✓ | |

²³ Date of original contract is December 2, 1996.



| Table A17: Comparison of Typical Retainer Consulting Services | | | |
|---|--|---|---|
| TYPICAL GENERAL CONSULTING SERVICES | SERVICE REQUIRED BY THE CONTRACT WITH OP&F²³ | SERVICE PROVIDED IN PRACTICE BY CONSULTANT | SERVICE PROVIDED BY: |
| <ul style="list-style-type: none"> Produce portfolio characteristics or risk analytics for each asset class | | ✓ | |
| <ul style="list-style-type: none"> Produce portfolio characteristics or risk analytics for each investment portfolio | | ✓ | |
| <ul style="list-style-type: none"> Reconcile return calculations with external managers | ✓ | ✓ | |
| <ul style="list-style-type: none"> Monitor personnel, process and business issues at external managers | ✓ | ✓ | |
| Selection of external investment managers | | | |
| <ul style="list-style-type: none"> Recommend external investment managers | ✓ | ✓ | |
| <ul style="list-style-type: none"> Prepare profiles or analysis of recommended external managers | ✓ | ✓ | |
| <ul style="list-style-type: none"> Prepare guidelines for managers hired by Fund | ✓ | ✓ | |
| COLLATERAL SERVICES (to be provided if requested by Fund) | | | |
| Real estate analysis or manager selection | N/A. | N/A. | <i>Performed by Townsend Group²⁴</i> |
| Hedge fund analysis or selection | | | |
| Private equity analysis or selection | N/A | N/A | Staff |
| Check compliance of external managers with Fund guidelines | | | Staff |
| Education and Research | | | |
| <ul style="list-style-type: none"> Conduct educational programs for Board and staff | ✓ | ✓ | |
| <ul style="list-style-type: none"> Provide research papers on investment topics | | ✓ | |

²⁴ Contract dated December, 1996.



| Table A17: Comparison of Typical Retainer Consulting Services | | | |
|--|--|---|---|
| TYPICAL GENERAL CONSULTING SERVICES | SERVICE REQUIRED BY THE CONTRACT WITH OP&F²³ | SERVICE PROVIDED IN PRACTICE BY CONSULTANT | SERVICE PROVIDED BY: |
| SECONDARY SERVICES | | | |
| Custodial evaluation or monitoring | | | <i>Under the jurisdiction of the Treasurer of State</i> |
| Securities lending analysis | | | <i>Under the jurisdiction of the Treasurer of State</i> |
| Brokerage analysis | | | Plexus²⁵ |
| Commission recapture or brokerage discount analysis | | | Plexus |
| Proxy voting or analysis of other party's voting record | | | ISS²⁶ |

OBSERVATIONS REGARDING USE OF CONSULTANT:

Wilshire Associates provides and/or assists OP&F in providing the types of services typically provided by a full-service retainer consultant. Based on Table A17 above, the functional services provided by Wilshire Associates exceed the contractually required services.

b. General Investment Consultant's Scope Of Work

OBSERVATIONS REGARDING CONSULTANT'S SCOPE OF WORK:

- The consulting services provided by OP&F's current investment consultant are generally consistent with the needs of OP&F.

²⁵ Contract dated December, 1997.

²⁶ Contract dated April 2004. Payment through soft dollars, Boston Institutional Services.



- o The current retainer investment consultant, Wilshire Associates, has provided consulting services to OP&F since 1996. The retainer investment consultant advises OP&F on asset allocation, investment policy, selection of external investment managers and investment performance.
- o Based on IFS' experience, in general Wilshire's consulting services are of appropriate quality to meet the needs of OP&F and are consistent with industry practices. Notwithstanding, OP&F could benefit from expanding the current scope of services provided by its general retainer consultant. For example:
 - ✓ OP&F would benefit from having Wilshire provide advice on several collateral issues related to compliance monitoring, the adequacy of the custody, brokerage (to create positive constructive tension with Plexus), transition management and proxy operations (to enhance the objectivity of the services provided by ISS – again to create constructive tension). These issues are not central to the core structure of the Fund's investment program (asset allocation, investment structure, manager selection, etc.), but Wilshire has substantial experience regarding how methods other pension funds utilize may be more effective and efficient. Thus, Wilshire may be able to help the Fund achieve greater efficiencies in its investment operations.

Recommendation A21

OP&F's investment consultant's contractual scope of services should be expanded to include advice on the compliance procedures employed by the Fund and any recommendations that the consultant believes might strengthen these procedures.



c. General Investment Consultant's Fiduciary Status

FUNDAMENTAL PRINCIPLES REGARDING CONSULTANT'S FIDUCIARY STATUS:

- *Investment consultants give strategic advice to fund directors, trustees and staff. If the consultant has earned the trust of the client, the client will use that advice to make some of the most important decisions affecting the financial success of the fund.*
- *Consultants should be willing to back their advice with the full strength of their experience and conviction. They can do so by agreeing to serve the fund in a fiduciary capacity, a step that represents best practices in the consulting industry. In the absence of this commitment, a fund risks that the quality of advice it receives from its consultant may not be the highest.*

OBSERVATIONS REGARDING CONSULTANT'S FIDUCIARY STATUS:

- Wilshire has declined to acknowledge fiduciary status because it has no authority to make investment decisions for the Fund.
- This rejection of fiduciary responsibility creates a potential risk for the Fund. In this respect, OP&F's contract with Wilshire does not conform to best practices in the consulting industry.
- O.R.C. Sec. 742.01(J) defines the term "fiduciary" with respect to OP&F to include a person who "[r]enders investment advice for a fee, direct or indirect, with respect to money or property of the system. . . ." This definition is arguably broad enough to cover the services which Wilshire provides. Ambiguity on this issue should be resolved legislatively or by rulemaking to establish the fiduciary status of the OP&F investment consultant.

Recommendation A22

The statutory definition of "fiduciary" should be amended by the Legislature or interpreted by official rulemaking to clarify that OP&F's investment consultant is a "fiduciary."



d. General Investment Consultant's Knowledge and Experience

FUNDAMENTAL PRINCIPLES REGARDING CONSULTANT'S KNOWLEDGE AND EXPERIENCE:

- *Good investment consulting advice requires consultants with broad and deep experience in the areas of capital markets behavior; asset allocation theory and practice; investment strategies, processes and techniques; brokerage practices; custody services; investment performance measurement; pension fund governance; and presentation skills.*

OBSERVATIONS REGARDING CONSULTANT'S KNOWLEDGE AND EXPERIENCE:

- In order to assess the consultant's knowledge and experience, IFS utilized the interview process to obtain the opinions of OP&F and reviewed the current retainer investment consultant's work product, including asset allocation documentation and recommendations, the investment policy statement and structure analysis,²⁷ regular quarterly investment performance reports and investment manager oversight documentation.
- The current retainer consultant demonstrates appropriate knowledge and experience.
- We found the work product produced by the investment consultant to be in conformance with industry best practices.
- As a whole, our review of the current retainer consultant clearly indicated and confirmed that the consultant has substantial knowledge and experience regarding investment management, pension plan management, and the consulting services it provides to the Fund.

²⁷ As of April 2004.



e. General Investment Consultant’s Fee

FUNDAMENTAL PRINCIPLES REGARDING CONSULTANT’S FEES:

- *Investment consultants’ fees are often difficult to evaluate against industry standards. This is because each consultant relationship is unique in its combination of scope, responsibility, complexity of the portfolio, amount of assets and particular demands of the client. Thus, comparability of services tends to be an issue.*

OBSERVATIONS REGARDING CONSULTANT’S FEES:

- Despite the above mentioned limitations, several points of reference allow us to compare consultant fees. First, a recent nationally recognized survey of 37 state public employee pension funds that voluntarily pooled their cost data showed that consultant fees averaged \$559,000 per year, with a median fee of \$320,000.
- Funds that rely primarily on external managers paid higher fees, while those funds with internal asset management tended to pay dramatically lower consulting fees. The average fund whose assets are managed primarily by external investment firms paid an average of \$619,000, with the median fund paying \$339,000.²⁸
- As reflected in Table A18 below, the same survey found that the average consultant fee paid by 26 funds with assets less than \$25 billion (using both internal and external investment managers) was \$336,000, with a median fee of \$266,000.

| Table A18: National Survey of Public Funds Consultant Fees | | | | |
|---|-------------------------------------|-------------------------------------|--|--|
| | Internally Managed Funds | Externally Managed Funds | Funds with Less Than \$25 Billion | Funds with More Than \$25 Billion |
| Top Decile (10%) | \$289,000 | \$1,409,000 | \$546,000 | \$1,493,000 |
| Top Quartile (25%) | \$186,000 | \$544,000 | \$387,000 | \$1,367,000 |
| Median | \$169,000 | \$338,000 | \$266,000 | \$535,000 |
| Bottom Quartile (75%) | \$135,000 | \$238,000 | \$180,000 | \$325,000 |
| Bottom Decile (90%) | \$78,000 | \$164,000 | \$63,000 | \$186,000 |

²⁸ The average internally managed fund paid an average of \$177,000, while the median fund paid \$169,000.



- Another comparison is possible based on an estimation of expected consultant fees paid by funds relying primarily on external management derived from the public employee fund survey cited in Table A18 above.

Table A19: National Survey of Public Funds Consultant Fees by Fund Size

| | Internally Managed Expected Fee in Dollars | Internally Managed Expected Fee in Basis Points | Externally Managed Expected Fee in Dollars | Externally Managed Expected Fee in Basis Points |
|--------------|---|--|---|--|
| \$1 Billion | \$13,000 | 0.13 | \$ 96,432 | 0.96 |
| \$2 Billion | \$19,000 | 0.10 | \$142,684 | 0.71 |
| \$5 Billion | \$32,000 | 0.06 | \$239,502 | 0.48 |
| \$10 Billion | \$48,000 | 0.05 | \$354,376 | 0.35 |
| \$20 Billion | \$71,000 | 0.04 | \$524,348 | 0.26 |
| \$50 Billion | \$118,000 | 0.02 | \$880,142 | 0.18 |

- According to the 2005 Greenwich Associates survey of pension plan sponsors (2004 data), the mean investment consulting fee for public funds with over \$5 billion is \$379,000.
- IFS’ survey of peer funds found that the consulting fees paid by the peers ranged from \$189,000 to \$509,000, with an average of \$332,000.
- Based on these survey results, which are consistent with our experience, we found that Wilshire’s consulting annual fee of \$375,000 paid by OP&F is reasonable and consistent with industry standards.



f. General Investment Consultant's Potential Conflicts Of Interest

FUNDAMENTAL PRINCIPLES REGARDING CONSULTATN POTENTIAL CONFLICTS OF INTEREST:

- *In May, 2005, the Office of Compliance Inspections and Examinations of the Securities and Exchange Commission released a staff report concerning the SEC's examination of a number of investment consultants.²⁹ The SEC described its analysis as follows:*

Under the Investment Advisers Act of 1940 (Advisers Act), an investment adviser providing consulting services has a fiduciary duty to provide disinterested advice and disclose any material conflicts of interest to their clients. In this context, SEC staff examined the practices of advisers that provide pension consulting services to plan sponsors and trustees. These consulting services included assisting in determining the plan's investment objectives and restrictions, allocating plan assets, selecting money managers, choosing mutual fund options, tracking investment performance, and selecting other service providers. Many of the consultants also offered, directly or through an affiliate or subsidiary, products and services to money managers. Additionally, many of the consultants also offered, directly or through an affiliate or subsidiary, brokerage and money management services, often marketed to plans as a package of "bundled" services. The SEC examination staff concluded in its report that the business alliances among pension consultants and money managers can give rise to serious potential conflicts of interest under the Advisers Act that need to be monitored and disclosed to plan fiduciaries.³⁰

- *The SEC examined in detail the practices of 24 major pension consulting firms that are registered investment advisers. The SEC found that:*
 - *More than half of the firms provided services to both pension funds and investment managers.*
 - *A significant number hold conferences that involve the participation of both pension fund clients and investment managers.*
 - *Many sell the consulting firm's performance evaluation software to investment managers.*

²⁹ A copy of the May 2005 SEC report on investment consultants can be found at www.sec.gov/news/studies/pensionexamstudy.pdf. Additional advice from the SEC on the selection of consultants can be found at www.sec.gov/investor/pubs/sponsortips.htm.

³⁰ "Selecting and Monitoring Pension Consultants: Tips for Plan Fiduciaries", first published by the SEC on June 1, 2005 at www.sec.gov/investor/pubs/sponsortips.htm.



- *Most are affiliated with broker-dealers and they often receive payment for their consulting services based on the amount of client brokerage directed through the affiliated broker-dealer.*
- *Many consultants do not consider themselves to serve their pension fund clients in the capacity of a fiduciary.*
- *Many do not maintain policies and procedures designed to prevent conflicts of interest and to disclose the nature of their other business relationships.*
- *The SEC report reminded consultants that, under Rule 206(4)-7 of the Investment Advisers Act, consultants have an obligation to adopt policies and procedures to identify conflicts and compliance risks. The report suggested that consultants act to insulate their advisory activities from other business activities, to disclose all business relationships to their consulting clients, and to prevent conflicts associated with brokerage activities or gifts and entertainment given to clients.*
- *In December, 2005 it was reported that the SEC had concluded its two-year investigation of investment consultants and “determined that the firms found with the most conflicts of interest on advice to pension funds were doing much better in identifying, disclosing and managing the problems.”³¹*
- *Conflicts of interest are pervasive in the financial services business. The potential for conflicts, particularly at full-service financial services firms, is numerous. Therefore, investors that rely on such firms should install processes to (a) effectively **identify** such conflicts and (b) properly **manage** them. By the same token, the service providers should install processes to identify and disclose conflicts to its clients as well as managing them (including eliminating them when possible).*
- *It is very important to distinguish between **actual** and **potential** conflicts. An **actual conflict** of interest is a situation where the quality or objectivity of a service provider’s services is actually, in practice, compromised, because of conflicting duties, either between its self-interest and its duty to a client or among its various duties to different clients. A **potential conflict** of interest is a situation where the quality or objectivity of services could conceivably be compromised because of such conflicts, although in fact, it may never manifest itself – it may never become “actual.” In both cases, processes to identify and manage such conflicts are key. Sufficiently identifying and managing potential conflicts may prevent them from ever becoming actual conflicts.*

³¹ Pensions & Investments article by Vineeta Anand, December 12, 2005,



OBSERVATIONS REGARDING CONSULTANT POTENTIAL CONFLICTS OF INTEREST:

- Wilshire Associates and its affiliates offer a variety of services to investment managers.
 - Wilshire discloses to OP&F a list of investment managers it serves and provides information on the revenue received from each manager. Wilshire reported that 57 investment managers, banks or insurance companies buy services from it.
 - It appears that every domestic and international equity manager employed by OP&F is also a Wilshire client, and three out of eight fixed income and mortgage managers employed by OP&F are Wilshire clients.
- We are not aware of any apparent indications that the business relationships resulting from the services Wilshire and its affiliates offer to investment managers that also provide services to OP&F have created an actual conflict of interest for Wilshire with respect to the advice and services it provides to OP&F. That said, the extent of the interrelationships among the investment managers, OP&F and Wilshire raises an appearance of conflict issues, as well as creating the potential for conflicts to exist.
 - Wilshire should have extensive policies and procedures in place which are designed to contain potential conflicts of interest adequately, including the appearance of conflict, and prevent them from becoming actual conflicts. Wilshire should be able to provide copies of these policies and procedures for OP&F's review.
 - OP&F's contract with Wilshire does not have a provision requiring Wilshire to make annual disclosures or disclosures in association with the manager selection process to OP&F of any business relationship Wilshire has with investment managers, banks, or vendors that also serve OP&F.



- We were informed that the OP&F investment staff takes an active role in the investment manager due diligence process. The involvement of the OP&F staff in the selection and monitoring of investment managers helps to mitigate the likelihood that the investment consultant's advice/recommendations could be biased.
- A systematic disclosure process would allow OP&F to judge the independence and objectivity of the advice/recommendations it receives from the investment consultant, when the investment consultant receives significant revenues from the same investment managers the investment consultant recommends to OP&F as part of the manager search and selection and/or evaluates as part of the performance review.

Recommendations A23 – A25

OP&F should seek contractual provisions requiring extensive, prompt, written disclosure from its investment consultant and each manager regarding the amounts of all revenues the investment consultant, and any investment consultant affiliates, receives from any incumbent or proposed manager for OP&F.

OP&F should seek contractual provisions requiring its investment consultant to actually provide (rather than offer) annual disclosure of its business relationships with all investment managers or other providers of investment services. This contractually-required disclosure should include information from the investment consultant regarding the specific amounts paid to the investment consultant, or affiliates of the investment consultant, by investment managers employed by OP&F as well as the specific services provided to those managers.

OP&F should seek contractual provisions requiring each of its managers to annually file a disclosure of its business relationships with OP&F's investment consultant(s). This contractually-required disclosure should include information from the investment manager regarding the specific amounts paid to OP&F's investment consultant, or affiliates of the investment consultant, and state the specific services received by the managers.



g. Role Of The Real Estate Consultant

FUNDAMENTAL PRINCIPLES REGARDING USE OF A REAL ESTATE CONSULTANT:

- *Real estate is a complex asset class that involves unique risks and opportunities. The skills required to advise the fund typically go beyond those offered by most general investment consultants or in-house fund staff. Boards need specialist advice to set policy, select investments and monitor results. For a real estate program of any size or complexity, the absence of a real estate consultant increases the likelihood that the fund will fail to achieve the investment returns it seeks from this asset class.*
- *Many large institutional investors employ a specialist consultant to advise the Board on investment strategies and opportunities in real estate. These assignments can take a variety of forms, some with discretion to make investments on behalf of the client, while others may only provide advice to decision makers (Board or staff) at the fund. The traditional distinction between investment consultant and investment manager seen in the worlds of publicly traded investments (like stocks and bonds) is often less clear in real estate because the consultant sometimes performs duties that more closely resemble those of a discretionary asset manager.*
- *The distinction is further blurred depending on the extent to which the fund itself employs staff with significant skills in real estate acquisition and management. Some consultants work closely with fund staff to implement a real estate plan. Others focus on advising the Board on the selection of discretionary real estate managers and calculation of investment rates of return.*
- *Generally, the real estate consultant will advise the Board on:*
 - *Market conditions;*
 - *Strategy and investment policy;*
 - *Investment structure and roles for managers;*
 - *Manager or real estate fund selection;*
 - *Manager guidelines;*
 - *Preparation of an investment performance report;*
 - *Portfolio risks; and*
 - *On-going manager monitoring and compliance.*
- *To the extent that the consultant also has the discretion to selection specific properties for purchase by the fund, the consultant will take responsibility for:*
 - *Sourcing potential investments;*



- *Evaluating the extent to which a specific investment meets the fund’s requirements or guidelines;*
 - *Due diligence on the property under consideration, including review of financial data, evaluation of tenancy and leasing, and visits to the property;*
 - *Negotiation with the seller;*
 - *Closing the transaction;*
 - *Selection of property manager, leasing agent, maintenance firms and other service providers;*
 - *Preparation of regular reports on the property;*
 - *Capital budgeting and improvements; and*
 - *Disposition of properties when market circumstances or fund needs so warrant.*
- *To the extent that the real estate consultant recommends specific investments or vehicles for the fund, it should serve as an investment fiduciary. If the consultant does not serve in the capacity of a fiduciary, a fund risks that its investment portfolio may not be managed to the highest standard of duty and care.*
 - *For pension funds with over \$500 million in real estate assets and a sophisticated program that combines direct holdings with pooled fund vehicles, use of a real estate consultant is considered a best practice.*

ANALYSIS OF REAL ESTATE CONSULTANT SERVICES:

The Townsend Group (“Townsend”) reports that it first began working for OP&F in 1986, and that the System was Townsend’s first institutional client. At the time of our fieldwork and the writing of this report, Townsend and the Fund’s staff work closely to plan and implement the real estate program. Although there is some overlap in the work that Townsend and staff do, there appears to be an appropriate collaborative effort that serves the Fund well.³²

³² As noted elsewhere in this report, since the time of our on-site work and due diligence, the relationship with Townsend has been expanded so that Townsend has a more active role and the OP&F staff devoted solely to real estate investment are no longer at OP&F.



Table A20 below lists the services required in the 1996 contract between OP&F and the Townsend Group and compares those services to those actually provided in practice to OP&F by Townsend at the time of our review.³³

| TABLE A20: REAL ESTATE CONSULTANT SERVICES | | | |
|--|---|--------------------------------------|---|
| CAPABILITIES | Standard Services Provided by RE Consultants | Required in Townsend Contract | Provided by Townsend in Practice |
| Serve as an investment manager | Depends on role assigned by client | N.A. | N.A. |
| Serve as a fiduciary | ✓ | | |
| Develop Overall Real Estate Strategy | | | |
| <ul style="list-style-type: none"> • Develop Strategic Plan, including <ul style="list-style-type: none"> ○ Benchmarks ○ Core investments ○ Non-core investments ○ Investment types ○ Investment vehicles ○ Liquidity required ○ Legal constraints ○ Investment approval process | ✓ | ✓ | ✓ |
| <ul style="list-style-type: none"> • Develop Investment Plan (to implement the Strategic Plan) | ✓ | ✓ | ✓ |
| Separate Account Manager Guidelines | Where Appropriate | | |
| <ul style="list-style-type: none"> • Prepare guidelines | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Determine benchmarks | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Modify guidelines | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Handle exceptions | ✓ | | |
| Separate Account and Pooled Fund Manager Selection | Where Appropriate | | |
| <ul style="list-style-type: none"> • Recommend changes to real estate manager mix | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Design search criteria | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Conduct due diligence | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Recommend finalists | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Assist in preparation of legal documentation | ✓ | | ✓ |
| <ul style="list-style-type: none"> • Oversee Funding or capital calls | ✓ | | |
| Monitor Investment Managers | | | |
| <ul style="list-style-type: none"> • Review Budget and Management Plan for each manager | ✓ | ✓ | ✓ |
| <ul style="list-style-type: none"> • Conduct annual meeting with each manager | ✓ | ✓ | ✓ |
| <ul style="list-style-type: none"> • Prepare annual written evaluation of each manager | ✓ | ✓ | ✓ |

³³ We understand that Townsend has a new five-year contract that began January 1, 2006, with automatic one year renewals thereafter until terminated by OP&F with 30 days prior written notice or by Townsend with 180 calendar days notice. This contract was not available when we conducted our fieldwork and due diligence.



| TABLE A20: REAL ESTATE CONSULTANT SERVICES | | | |
|---|---|--------------------------------------|---|
| CAPABILITIES | Standard Services Provided by RE Consultants | Required in Townsend Contract | Provided by Townsend in Practice |
| • Evaluate manager’s adherence to Fund’s investment guidelines | ✓ | | |
| • Evaluate managers’ compliance with managers’ own investment philosophy and process | ✓ | | |
| • Review managers’ performance measurement and reporting | ✓ | | ✓ |
| • Monitor each manager’s stability of personnel and organization | ✓ | | ✓ |
| • Review regular manager reports | ✓ | | ✓ |
| Monitor Fund’s Real Estate Strategy and Program | | | |
| • Conduct annual review of real estate portfolio | ✓ | | ✓ |
| • Report on general economic conditions affecting real estate market | ✓ | | ✓ |
| • Monitor and analyze performance | ✓ | | ✓ |
| Acquisition of Direct Property Investments | Where Appropriate | | |
| • Evaluate whether proposed acquisition meets Fund’s requirements | ✓ | ✓ | ✓ |
| • Source investment opportunities | ✓ | | |
| • Conduct due diligence, including <ul style="list-style-type: none"> ○ Market analysis ○ Physical/property analysis ○ Regulatory/compliance analysis ○ Tenant analysis ○ Financial analysis ○ Risk analysis ○ Transaction analysis ○ UBTI analysis | ✓ | | ✓ |
| • Conduct on-site inspection | ✓ | | ✓ |
| • Close transaction | ✓ | | |
| Management of Direct Holdings | Where Appropriate | N.A. | N.A. |
| • Oversee portfolio and asset management responsibilities | ✓ | | |
| • Develop portfolio management strategies | ✓ | | |
| • Select and oversee service providers (property manager, building services, etc.) | ✓ | | |
| • Oversee budgets, leasing, financing, maintenance, and renovation | ✓ | | |
| • Manage appraisals for core properties | ✓ | | |
| • Select appraisers | ✓ | | |
| • Recommend disposition | ✓ | | |
| • Manage sales process | ✓ | | |
| Performance Measurement | | | |
| ○ Collects and consolidates returns and market values from managers | ✓ | | ✓ |
| ○ Reconciles market values with custodian | ✓ | | |



| TABLE A20: REAL ESTATE CONSULTANT SERVICES | | | |
|---|---|--------------------------------------|---|
| CAPABILITIES | Standard Services Provided by RE Consultants | Required in Townsend Contract | Provided by Townsend in Practice |
| ○ Produces quarterly investment performance reports for Board | ✓ | ✓ | ✓ |
| Other Functions | | | |
| ● Prepare Board meeting materials | ✓ | | ✓ |
| ● Present material to Board | ✓ | | |
| ● Conduct seminars or educational efforts for Board/staff | ✓ | | |
| ● Conduct miscellaneous research studies | ✓ | | |

OBSERVATIONS REGARDING SERVICES PROVIDED BY REAL ESTATE CONSULTANT:

- Townsend is widely recognized as one of the most capable real estate consulting firms in the U.S. serving institutional investors. It is employed by a range of major pension Funds, many with billions in real estate holdings.
- Townsend’s staff is highly experienced, its organization is stable, its database of real estate investments is substantial, and its reports to clients are comprehensive.
- Townsend’s work for the Fund and the procedures it employs are well-documented. This work product creates a sound foundation on which the Board can make investment decisions.
- Our review of Townsend’s consulting advice to OP&F indicates that the services it provides are thorough and complete. As Table A20 above reflects, Townsend appears to provide more services than are specifically required in its contract with the Fund, but these services are consistent with a “full-service” specialist consultant (operating in this asset class).
- The scope of services stated in the 1996 contract between Townsend and OP&F is limited and does not fully reflect the range of work done by Townsend on behalf of the Fund.



Table A20 above reflects the services that are typically provided by a full-service specialist consultant (operating in this asset class) that are not provided, contractually or in practice by the real estate consultant. (These services are highlighted in green.)

| Recommendations A26 – A28 |
|---|
| <i>The Board should continue to employ a real estate specialist to provide a comprehensive range of real estate advisory services.</i> |
| <i>If it has not already been done, the contract between the Fund and Townsend should be updated to include a complete list of the services provided by Townsend.</i> |
| <i>The contract should include a provision stating that the real estate consultant serves the Fund in a fiduciary capacity.</i> |

6. Asset Allocation

a. Asset Allocation in General

FUNDAMENTAL PRINCIPLES REGARDING ASSET ALLOCATION:

- *Asset allocation is the process of diversifying an investment portfolio among asset classes (stocks, bonds, real estate, etc.) in order to have a high probability of achieving a particular investment objective, such as consistently attaining a certain level of total return while controlling risk (e.g., volatility or standard deviation). Empirical research³⁴ has shown that asset allocation generally has a far greater effect on investment performance than does the selection of investment managers or individual securities.*
- *Asset allocation is generally considered to be the single most important determinant in minimizing risk and maximizing return over time. However, determining which asset classes to include and the appropriate balance of those asset classes is not an exact science. The use of computer modeling techniques (e.g., mean variance optimization or “MVO”) and appropriate assumptions about the expected risk and return of various asset classes can increase the probability of achieving long-term investment objectives.*

³⁴ See for example, Gary P. Brinson, L. Randolph Hood, and Gilbert L. Beebower, “Determinants of Portfolio Performance,” *Financial Analysts Journal* (July/August 1986):39-44. “[T]otal return to a plan is dominated by investment policy decisions. Active management, while important, describes far less of a plan’s returns than investment policy.”



- *Establishing an appropriate asset allocation requires an examination of several key factors, including, but not limited to:*
 - *The nature of the fund, e.g., a pension fund is typically considered to have a long-term investment horizon;*
 - *The collective risk tolerance of the Board as expressed in the IPS. This includes expressed tolerance for various types of risk by asset class, and the degree to which the Board is willing to engage in more or less aggressive (risky) strategies within an asset class.*
 - *Willingness to invest in “alternative” asset classes, e.g., private equity, hedge funds, etc.;*
 - *The actuarial condition (such as its funded status and the demographic characteristics of its participant population), cash flow projections and liquidity needs; and*
 - *The current and expected future economic and market climate.*
- *A retirement system is responsible for both investing pension fund assets as well as making benefit payments to participants. Therefore, an asset allocation study should take into account the liability structure of the pension funds—or even better—a full-blown asset liability study should be completed.*
- *Some retirement systems are also responsible for retiree health care benefits. Prefunding these liabilities, which involves very different assumptions than funding pension benefits, entails managing a separate trust fund of assets. Based on our observations, most retirement systems do not use a separate asset allocation policy for their healthcare trust fund.*
 - *Ohio PERS recently developed, and is in the process of implementing, an asset allocation for its healthcare trust fund that is significantly different from, and more conservative than, the asset allocation for its pension assets.³⁵ The analysis and subsequent decision by the Ohio PERS Board was sparked by the reduction in the solvency period (i.e., the number of years for which the fund has enough assets to pay estimated benefits) of the healthcare trust fund from 50 years to approximately 17-18*

³⁵ The Ohio PERS Board of Trustees adopted the revised healthcare asset allocation policy in 2004 and is implementing the changes over two years, 2005-2006. Previously, OPERS did not have a separate allocation for the health care trust fund.



years. Although there is a separate asset allocation policy for the health care assets, it is more cost effective to commingle and unitize them for investment purposes.³⁶

b. Asset Allocation Process Overview

FUNDAMENTAL PRINCIPLES REGARDING ASSET ALLOCATION PROCESS:

- Mean variance optimization continues to be the most common approach used by institutional investors. The MVO model calculates a series of efficient portfolios that form the efficient frontier.
- A portfolio is considered “efficient” when, compared to all other possible combinations of permissible assets, it produces the highest expected return for a given level of expected risk (or, conversely, the lowest level of risk given a desired level of expected return).
- The optimal portfolio is the efficient portfolio that best matches the pension fund’s requirements regarding return, cash flow, risk and other essential criteria.
- Asset allocation modeling is only as sound as the quality and objectivity of the inputs employed in the process. The assumed levels of risk, return and correlation for each asset class are critical to the process. Small adjustments to any of the assumptions can profoundly alter the conclusions as to which portfolios are efficient. Asset allocation inputs should be forward looking, i.e., they in effect project how each asset class may be expected to perform in the future. Thus, uncertainty exists and simple mechanistic extrapolations of past data may ignore changed environments and may fail to consider where various markets currently are within their cycles.
- Compared to an “asset only” approach, an asset liability model (ALM) allows a board to consider, among other items, a probability analysis of the expected impact of the investment portfolio on future contribution levels and funding ratios, the impact of benefit policy changes, changing demographics and COLAs on funding levels and cash flow, as well as the amount of downside protection across various time periods. Moreover, an ALM analyzes the effect of these elements based not only on the expected average long-term investment returns, standard deviation and correlations for the asset classes which comprise the whole portfolio, but can also analyze many different economic scenarios which incorporate the behavior of inflation and long bond yields over time. This would be in addition to a simple analysis of the probability of achieving negative returns or of meeting the actuarially assumed rate of return.

³⁶ See also *The Next Retirement Time Bomb*, by Milt Freudenheim and Mary William Walsh, The New York Times, December 11, 2005.



- *Given its fundamental importance to the success of an investment program, best practices dictate that asset allocation decisions be made at the Board level, where they can be coordinated with funding policies, actuarial condition and investment objectives. In our view, the ultimate fiduciary decision-maker – the Board – should seek to understand the process used to develop the assumptions and to assure that the process is reasonable and fundamentally sound.*
- *Overall, we believe a full ALM is superior to the “plain vanilla” asset allocation used by many institutional investors and/or investment consultants, although it is not necessary to perform such a study as frequently as a more basic asset allocation study.*
- *A pension plan should have a unique asset allocation study (or preferably at least a limited asset liability study) prepared due to its individual demographics, funding level and cash flow requirements.*
- *Asset allocation is distinguishable from portfolio structure, the former of which can be modeled using MVO, while the latter includes various policy judgments and some quantitative work (such as possible use of risk budgeting). (We review the investment structure of the Fund in Section 4(A) Investment Management Structure.)*

c. Analysis of OP&F Asset Allocation Process

We reviewed the process the OP&F Board used to set its asset allocation policy. Specifically, IFS considered the following:

- Who is involved in setting the asset allocation;
- The current asset classes used and how their targets and ranges compare to peers and whether they are suitable for the System;
- What methodology was used, e.g., a quantitative model was used;
- What capital market assumptions were employed;
- The risk level and risk tolerance of the Board; and



- The rebalancing policy.

In addition, for illustrative purposes, IFS performed an MVO analysis using our 2004 assumptions and produced a sample efficient frontier to determine how efficient OP&F's current asset allocation is. We compared the current asset allocation targets for the OP&F portfolio to our model efficient frontier and calculated the probability of these portfolios meeting their actuarial rate of return over various time periods and discuss our Observations below.

OBSERVATIONS REGARDING OP&F ASSET ALLOCATION PROCESS:

- OP&F used an appropriate process to set the Fund's asset allocation policy. The process provides:
 - As stated in the OP&F IPS, it is the Board's responsibility to establish the asset allocation and "periodically review policy in light of any changes in actuarial variables and market conditions."
 - The Board is supposed to determine the allocation "in a manner consistent with commonly recognized financial principles" so that the end result is a portfolio with the highest expected return for the Board's risk tolerance.
 - The investment consultant is required to "assist in the development of strategic asset allocation targets."
 - The Board is also required to take into account certain liability considerations, e.g., current and expected future values of benefits, contribution levels and cash flows.
 - They must comply with O.R.C Section 11 of Chapter 742.



d. Review of Wilshire’s Asset/Liability Study for OP&F

OBSERVATIONS REGARDING CONSULTANT’S ASSET/LIABILITY STUDY:

- The 2004 OP&F Asset Liability Study was sufficient but could be enhanced by the inclusion of additional elements.
 - Wilshire completed an Asset/Liability and Investment Structure Analysis for OP&F and presented it to the Board on October 26, 2004.
 - The 2004 OP&F Asset/Liability Study covered a ten-year planning horizon and estimated a future funded ratio for the Plan of 71%, a decline from the initial estimated 81% funded ratio at January 1, 2004, based on the market value of assets and the estimated actuarial liability.
 - The 2004 OP&F Asset/Liability Study covers more than a “plain vanilla” asset only study, but not as much as a full-blown asset liability study (usually performed with the assistance of an actuarial firm – we understand that Wilshire has some actuaries on staff that perform the analysis with data provided by the System’s actuary). This type of limited asset/liability study is generally sufficient unless there are other types of changes that need to be modeled affecting the liability side, e.g., benefit increases/decreases, significant demographic changes and/or various economic scenarios.
 - The prior Wilshire Asset/Liability Study conducted in 2000 contained some additional analyses for specific portfolios that were not presented in October 2004 Study, such as the range of expected funded ratios over 20 and 30 years, the probability of falling below the 30 year maximum amortization period required by Senate Bill 82, effective December, 6, 1996, and effect on contribution rates using



- different expected returns. The 2000 Asset/Liability Study also compared OP&F to the other Ohio funds.
- We understand that the Board must adopt and submit a plan to reach full funding within the 30 year maximum by December 31, 2006. The scenarios in Wilshire's October 2004 Asset/Liability analysis all show a decline in future funded ratios.
 - Wilshire performed an efficient frontier analysis using MVO and demonstrated that the addition of portable alpha³⁷ as an available asset class for investment and formalized exposure to TIPS would permit the System to have a policy portfolio with a higher expected return (7.95% vs. 7.66%) at only a slightly higher level of risk (13.08% vs. 12.92%).
 - Wilshire calculated and presented graphically the expected distribution of returns and market values for the various possible portfolios over one and 10 years as well as the ratio of expected market value of assets to accrued liability (i.e., funded ratio) over 10 years.

This information is important for the Board to understand how likely it is for OP&F to meet its actuarial rate of return and/or become fully funded.

- The October 2004 Asset/Liability Study showed that the prior and new target portfolios were not expected to meet the actuarial rate of 8.25%, but no solution was offered.

³⁷ "Portable Alpha" is generally used to refer to the inclusion of a non-correlated strategy (i.e., one whose returns are independent of market performance) within an existing portfolio in order to improve risk-adjusted returns. The word "portable" is used because the strategy can be applied without affecting the style under which a particular portfolio is being managed.



- Wilshire acknowledges in their study that the median return for the old and new policy asset allocations do not meet the 8.25% actuarial rate.
- They also note that “higher allocations would need to be implemented in the public markets,” but “higher allocations to public equities do not provide an efficient risk/return trade off relative to current and alternative asset allocation policies.”
- As we note later in this section, the System might want to consider additional private equity investments once it has reached its 3% target.
- OP&F should talk with Wilshire and its actuary and revisit the 8.25% assumption.

We acknowledge that the actuarial investment return assumption is a very long-term rate and the expected rate of return generated in an MVO analysis does not include any “alpha”³⁸ generated by the active investment managers.

Recommendations A29 – A30

In its next Asset/Liability study, OP&F should request that the investment consultant address how the Plan will meet the statutorily required amortization period of 30 years.

OP&F should discuss the 8.25% actuarial rate with Wilshire and OP&F’s actuary to see if it continues to be appropriate for the System.

e. Asset Classes Used By OP&F

FUNDAMENTAL PRINCIPLES OF ASSET CLASS MODELING:

- *Major institutional investors, including public pension funds, tend to diversify their investments across many asset classes, in an effort to maximize expected return at the lowest feasible levels of risk, and in light of their respective investment policies.*

³⁸ “Alpha” is a financial term describing that part of an investor’s return that is due to the skill of the investment manager, as distinct from the return of the market as a whole – i.e., the ability to outperform the market.



- *The appropriate asset allocation for any given fund depends on numerous factors, including, e.g., its investment policy, liability structure, cash flow needs, investment horizon, risk controls, organizational structure (including staffing and resources appropriate for managing certain types of assets and risks) and other matters. Even though the appropriate asset classes and asset allocation for a given investor depend on its individual circumstances, comparisons to peers may provide useful reference points.*
- *Many non-traditional asset classes have proven to increase returns and lower the volatility of an investment program at the total fund level. It is advisable to consider all available asset classes to determine which ones fit the risk parameters of the total fund and may enhance returns and diversification. By not investing in all available (and advisable) asset classes, the Board risks not being appropriately diversified. We recognize that it can take time to invest fully in non-traditional asset classes and they require significant specialized staff and resources.*

OBSERVATIONS REGARDING ASSET CLASSES MODELED BY OP&F:

- OP&F adopted a new asset allocation after the October 2004 Asset/Liability and Investment Structure Analysis presentation by its investment consultant.

TableA21: Third Party Asset Allocation Surveys

| Asset Class | OP&F Target Portfolio | OP&F Actual 6/30/2004 | Public Funds Survey ³⁹ | CEM 2004 Survey ⁴⁰ | P&I Top 200 Public Plans ⁴¹ |
|-------------------------------------|-----------------------|-----------------------|-----------------------------------|-------------------------------|--|
| U.S. Stocks | 46% | 48% | 45.1% | 42.4% | 46.0% |
| Non-U.S. Stocks | 17% | 18% | 16.1% | 16.4% | 15.3% |
| Emerging Market Stocks | 3% | 3% | - | 1.9% | - |
| <i>Total Publicly-Traded Stocks</i> | <i>66%</i> | <i>69%</i> | <i>61.2%</i> | <i>60.7%</i> | <i>61.3%</i> |
| Core Fixed Income | 12% | 18% | 27.2% | 22.9% | 27.1% |
| High Yield | 5% | 6% | - | 2.5% | - |
| Inflation Indexed Bonds | 6% | - | - | 3.6% | - |
| International Fixed Income | - | - | - | 0.1% | 1.1% |
| <i>Total Fixed Income</i> | <i>23%</i> | <i>24%</i> | <i>27.2%</i> | <i>29.1%</i> | <i>28.2%</i> |
| Equity Real Estate | 8% | 4% | 5.6% | 3.7% | 4.2% |
| Alternatives/Private Equity | 3% | 1% | 4.3% | 2.6% | 4.0% |
| Hedge Funds – portable alpha | [10% ⁴²] | - | 0.7% | 1.8% | - |
| <i>Total Equity Oriented</i> | <i>77%</i> | <i>74%</i> | <i>71.8%</i> | <i>68.8%</i> | <i>69.5%</i> |
| Short-Term/Cash | - | 1% | - | 1.9% | 1.4% |
| Other | - | - | 1.1% | 0.2% | 0.9% |

³⁹ 2005 Greenwich Associates Survey – results include responses from 94 state pension funds in 2004.

⁴⁰ OP&F's CEM Peer Group's Actual Holdings as of 12/31/2004.

⁴¹ P&I Data is from 12/31/2003

⁴² 10% allocation to portable alpha is counted in the domestic equity allocation.



- We show two tables, the first, Table A21 above, compares OP&F to various third party surveys and the second compares it to the peers surveyed specifically for this report.
- As can be seen in Table A21 above, OP&F's new target policy portfolio has a lower allocation to traditional publicly traded domestic stocks than do the third party averages, but including the 10% allocation to portable alpha puts OP&F's total equity exposure at a level slightly higher than its peers. (*Defined earlier in a footnote and discussed in more detail in Section 4(A) – Investment Structure and Costs.*)
- Both the OP&F actual and new target portfolios have slightly lower allocations to total fixed income, but slightly higher allocations to international stocks than do the third party averages. The total equity-oriented exposure, on a target and actual basis, is higher than the third party survey data. The actual amount invested in real estate is on par with the surveys, while the actual amount invested in private equity lags.
- The new 10% allocation to portable alpha was not funded as of the writing of this report. However, it is our understanding that the allocation is designed to maintain "beta"⁴³ or systematic market exposure through S&P 500 futures and generate alpha through additional strategies, so when this is factored in, the allocation to domestic equity is in line with its peers. We discuss this further in Section 4(A) Investment Management Structure.
- Table A22 below compares OP&F's actual asset allocation as of June 30, 2005 with its custom peer group. It is interesting to note that OP&F's total equity exposure is nearly identical to the peer group average. The one peer with less publicly traded equity has a much higher allocation to equity real estate than do the other peer funds. Again OP&F

⁴³ "Beta" is a financial term which means the measure of a fund's or a stock's risk in relation to the market or to an alternative benchmark. A beta of 1.5 means that a stock's excess return is expected to move 1.5 times the market excess returns. Beta is referred to as an index of the systematic risk due to general market conditions that cannot be diversified away.



has a slightly lower total allocation to fixed income than does its peers, but it has more real estate and private equity than the average of this small custom peer group, which have very little committed to these asset classes for the most part.

Table A22: Surveyed Peer Asset Allocation as of 6/30/2005

| Asset Class | OP&F Actual Portfolio | Oklahoma Teachers | Indiana PERS | Indiana Teachers | Ohio SERS | Custom Peer Average |
|-------------------------------------|-----------------------|-------------------|--------------|------------------|--------------|---------------------|
| U.S. Stocks | 49.4% | 54.4% | 54.0% | 57.0% | 45.0% | 52.6% |
| Non-U.S. Stocks | 18.6% | 16.7% | 17.2% | 19.6% | 15.8% | 17.3% |
| Emerging Market Stocks | 2.4% | 0.0% | 0.0% | 0.0% | 2.2% | 0.6% |
| <i>Total Publicly-Traded Stocks</i> | <i>70.4%</i> | <i>71.1%</i> | <i>71.2%</i> | <i>76.6%</i> | <i>63.0%</i> | <i>70.5%</i> |
| Core Fixed Income | 21.9% | 27.8% | 28.1% | 20.8% | 22.5% | 24.8% |
| Equity Real Estate | 4.5% | 0.0% | 0.0% | 0.1% | 9.0% | 2.3% |
| Alternatives/Private Equity | 2.1% | 0.0% | 0.3% | 1.8% | 2.2% | 1.1% |
| Short-Term/Cash | 1.1% | 1.2% | 0.4% | 0.7% | 1.1% | 0.8% |
| Other | - | - | - | - | 2.2% | 0.6% |

f. Capital Market Assumptions Used by OP&F

FUNDAMENTAL PRINCIPLES REGARDING CAPITAL MARKET ASSUMPTIONS:

- *Asset classes may be defined very broadly in formulating assumptions for risk, return and correlation, or more narrowly with the segregation of major asset classes into sub-asset classes. When asset classes are defined more broadly, allocations to asset subsets are considered “policy” decisions, rather than being quantitatively modeled. When asset classes are defined narrowly for purposes of modeling, it can be difficult to develop reliable risk, return and correlation statistics for some classes due to various factors, including:*
 - *Lack of historical data,*
 - *Lack or insufficiency of an index or benchmark,*
 - *Lack of public market valuations, e.g., some real estate data is appraisal based and is therefore subject to smoothing, which may artificially decrease its correlation with other asset classes, if judged in isolation.*

- *Boards should consider the asset allocation process an art, not a science. We believe there is a range of acceptable inputs, rather than a single, precise set of “correct” inputs for each asset class. Modeling techniques can use ranges as well as specific points to generate expected future results.*



- *The following inputs need to be developed to perform the MVO analysis:*
 - *Average expected return for each asset class*
 - *Expected asset class risk (e.g., standard deviation)*
 - *Correlation between asset class returns*
- *The combination of these three elements produces optimized portfolios. Expected returns should be developed using both historical analysis and forward-looking observations, given various historical and current market valuation measures. The inputs into the model should generally be forward looking, rather than purely historical averages and should reflect expectations for the time horizon being considered.*

ANALYSIS:

In Table A23 below, we compare return assumptions used by OP&F’s investment consultant (Wilshire) in the October 2004 Asset/Liability Study with IFS’ internal assumptions as well as some used by other third party organizations.

| Table A23: Comparison of Return Assumptions | | | | | |
|--|--|---------------------|---|---|---------------------------------------|
| Asset Class | OP&F/ Wilshire 2004 | IFS 2004 | Other Firm 2004⁴⁴ | Ennis Knupp 2004 Survey⁴⁵ | JP Morgan Fleming 2005 |
| Domestic Equity | 7.75% | 8.5% | 8.3% | 8.0% | 7.25% |
| International Equities | 7.75% | 8.5% | 8.3% | 8.3% | 7.75% |
| Emerging Markets | 7.75% | - | - | 9.5% | 8.25% |
| Private Equity | 10.75% | 11.7% | 9.5% | 11.9% | 8.50% |
| Hedge Funds | - | 8.0% | - | - | 5.25-6.50% |
| HF – portable alpha | 5.75% | | | | |
| HF – absolute return | 6.50% | | | | |
| Real Estate Equity | 6.50% | 7.0% | 7.4% | 7.4% | 7.00% |
| REITs | 7.50% | | | | |
| Domestic Fixed Income | 4.50% | 4.5% | 4.5% | 5.0% | 5.00% |
| TIPS | 4.25% | 4.5% | - | - | - |
| High Yield Bonds | 6.50% | - | | | |
| Cash (STIF) | 2.75% | 3.4% | 3.2% | - | 3.50% |

⁴⁴ National consulting firm, which we can not disclose.

⁴⁵ Ennis Knupp Capital Markets Modeling Survey Results 2004 – median of 18 investment managers and four investment consultants surveyed.



OBSERVATIONS REGARDING CAPITAL MARKET ASSUMPTIONS:

- Overall, we found the capital market assumptions used for OP&F to be reasonable.
- IFS' assumptions are fairly similar to those used by Wilshire as is the methodology we use to develop them. Wilshire, IFS and the other consulting firm all project the same return for domestic and international stocks (risk and correlation statistics vary between domestic and international stocks), although Wilshire's return assumption for these asset classes are on the lower end (Wilshire's 2005 assumptions are 8.0% for equities).
- Using either overly pessimistic or optimistic return assumptions for some of the asset classes can put a portfolio at risk. A system could either take on too much risk in an attempt to generate a high enough expected return or, conversely, not take on enough risk. Then the system might not achieve the needed return and thus, risk eventual underfunding, the need for unexpectedly high government contributions, and/or decreased benefits.

g. IFS MVO Analysis of OP&F's Asset Allocation

ANALYSIS:

IFS conducted a sample mean variance optimization using our assumptions for 2004 and we discuss the results below. We imposed a few constraints on our analysis (limiting the maximum amount allowed in a few asset classes), which we show below along with our risk and return assumptions in the Table A24 below:



| Table A24: IFS Asset Allocation Assumptions for 2004 | | | | |
|---|------------------------|----------------------|---------------------|---------------------|
| Asset Class | Expected Return | Expected Risk | Asset Min. % | Asset Max. % |
| U.S. Stocks | 8.5% | 17.0% | 0% | 100% |
| Int'l Stocks | 8.5% | 17.0% | 0% | 25% |
| Fixed Income | 4.5% | 5.0% | 0% | 100% |
| TIPS | 4.5% | 5.0% | 0% | 10% |
| Real Estate | 7.0% | 10.0% | 0% | 10% |
| Private Equity | 11.7% | 30.0% | 0% | 5% |
| Hedge Funds | 8.0% | 9.0% | 0% | 10% |
| Cash | 3.4% | 1.5% | 0% | 3% |

OBSERVATIONS REGARDING IFS MVO ANALYSIS:

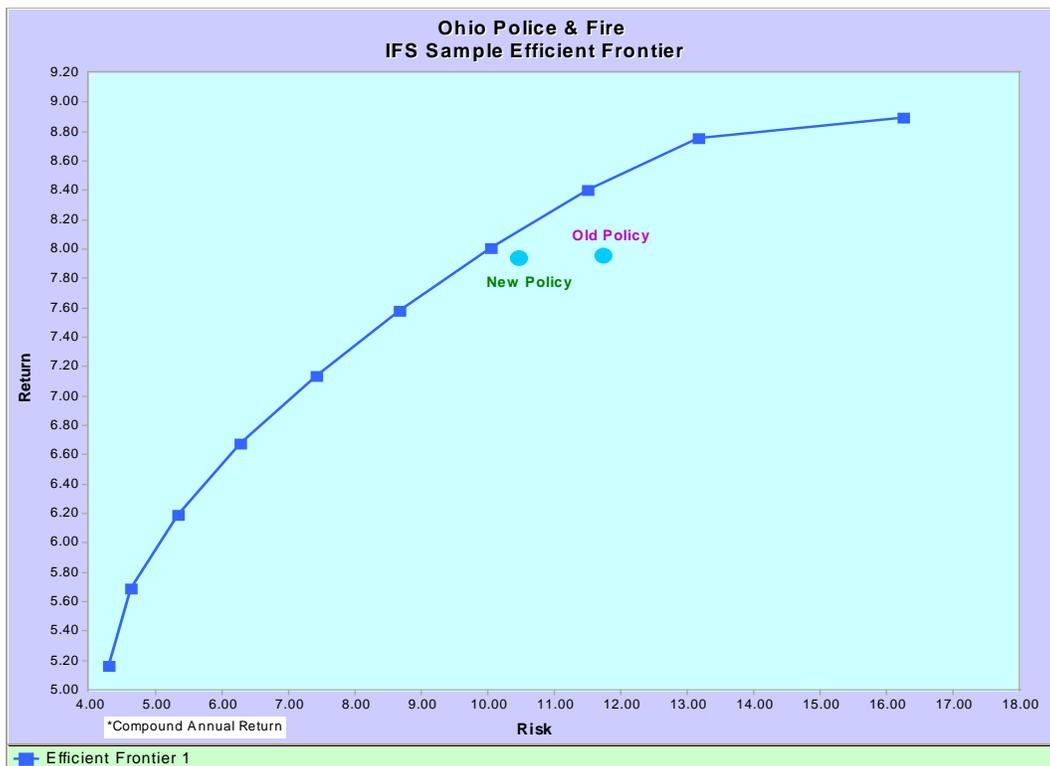
- OP&F’s new policy target allocation appears relatively close to the constrained efficient frontier and is more efficient than their previous policy, although, given our imposed constraints, it is not the most efficient, as can be seen in both the graph as well as Table A25 below.
- The main reason that the new policy portfolio does lie on the efficient frontier produced by our model is the fact that in our analysis we allowed the amount invested in **private equity** to go up to 5% (versus 3%), the amount invested in **real estate** to go up to 10% (versus 8%) and the amount invested in **TIPS** to go up to 10% (versus 6%). All three of these asset classes provide significant diversification benefits and therefore push the efficient frontier farther out.
- We recognize that it can take time to invest fully in some private market assets (such as real estate and private equity) and note that private market assets are typically labor intensive, requiring significant specialized staff and resources.⁴⁶ However, we do believe

⁴⁶ Wilshire acknowledged in their October 2004 Asset/Liability and Investment Structure Analysis presentation that the current allocations to real estate and private equity lag their policy allocations “due to challenging funding environments.”



that for private equity to have a meaningful impact on the portfolio, an allocation greater than 1-3% would be advisable, even if it is a long-term goal.

- The OP&F may want to consider increasing its allocations to private equity asset over time, once it has reached the current 3% target.



ANALYSIS:

The chart above shows the return, risk (standard deviation) and the return/risk ratio for OP&F's new and previous policy portfolios as well as ten sample portfolios that lie on the efficient frontier. For example, Portfolio 7 would provide an expected rate of return similar to



that of the new policy at a slightly lower risk level (10.04% versus 10.45%).⁴⁷ Our analysis calculates an expected return for the new policy portfolio that is very similar to that projected by Wilshire (7.94% versus 7.95%), but our risk projections are lower at 10.45% versus 13.08%. These differences are primarily due to our lower risk projections for international stocks and TIPS.

| Table A25: Efficient Frontier Portfolio Return/Risk Data | | | | | | | | | | | | |
|--|-----------------|-----------------|------|------|------|------|------|------|-------|-------|-------|-------|
| Asset Class | OP&F Old Policy | OP&F New Policy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Return | 7.96 | 7.94 | 5.17 | 5.69 | 6.19 | 6.68 | 7.14 | 7.58 | 8.01 | 8.4 | 8.75 | 8.89 |
| Risk | 11.74 | 10.45 | 4.29 | 4.62 | 5.33 | 6.27 | 7.41 | 8.67 | 10.04 | 11.49 | 13.18 | 16.25 |
| Return/Risk | 0.68 | 0.76 | 1.2 | 1.23 | 1.16 | 1.06 | 0.96 | 0.87 | 0.8 | 0.73 | 0.66 | 0.55 |

We believe that one useful way to look at the overall “risk” of OP&F’s current asset allocation is to examine the probability of total fund returns achieving (or not achieving) certain rates of expected return over short and longer-term periods.

The probabilities are set forth immediately below in Table A26:

| Table A26: OP&F New Policy Portfolio | | |
|--------------------------------------|------------------------------|-------------------------------|
| Consecutive Time Periods | Probability of Return > 0.0% | Probability of Return > 8.25% |
| 1 Year | 77.9 | 48.0 |
| 10 Years | 98.8 | 48.1 |

OBSERVATIONS REGARDING OP&F’S NEW TARGET ASSET ALLOCATION :

- As Table A27 shows, IFS’ analysis indicates that OP&F’s new target asset allocation has a 77.9% probability of avoiding a negative return in any one year (or, conversely, a 22.1% probability of producing a negative return in any one year).

⁴⁷ Portfolio 7 consists of 10% TIPS, 26% U.S. Equity, 25% International Equity, 10% Real Estate, 14% U.S. Fixed Income, 5% Private Equity and 10% Hedge Funds.



- The probability of earning a rate of return greater than zero increases over longer consecutive year periods. Based on OP&F's new target allocation, the OP&F Fund has a 98.8% probability of avoiding a negative return over a ten-year time frame.
- Similarly, as seen in Table A26 above, this analysis also indicates that OP&F's target asset allocation has a 48% probability of earning at least 8.25% (the assumed actuarial rate of return) over one and ten years (or, conversely, a 52% probability of not earning the actuarial rate).

h. Rebalancing Ranges and the Rebalancing Process

FUNDAMENTAL PRINCIPLES REGARDING REBALANCING:

- *Rebalancing is the process of re-adjusting the proportion of a portfolio invested in each of the major asset classes to within the permissible range around long-term targets. Over time, disciplined rebalancing can enhance performance and manage overall risk. A rebalancing program should be implemented and followed on a disciplined basis.*
- *Rebalancing ranges around long-term targets should be designed to ensure that asset allocation "drift" is controlled in a cost-effective way.*
- *The IPS should describe the process and timing for rebalancing. The fund may choose to rebalance only when an asset class exceeds its range or it could choose to have a more systemized approach and rebalance every quarter, semi-annually or annually, for example. Rebalancing more frequently can reduce tracking error to the fund's policy benchmark, but it will also create additional transaction costs.*
- *The IPS should also prescribe whether or not the asset class should be rebalanced to target, half-way to target, merely to within the range or whether the CIO has discretion.*
- *Rebalancing to the target, rather than half-way to the target, will also reduce tracking error but again the fund will likely incur slightly higher transaction costs.*
- *Recent studies on rebalancing have shown that the most important factor is having a rebalancing policy. Secondary to that decision is the policy itself. A more risk averse board that wants to have minimal tracking error and is willing to incur slightly higher transaction costs might choose to rebalance at every month end. Alternatively, the Board*



might decide that it prefers to let an outperforming asset class run up to the outer bounds of its range and rebalance only when outside the range and then perhaps half-way to target.

- *The lack of an adequate documented rebalancing policy leads to an improperly managed asset allocation and unrewarded risk. It could cause rebalancing to occur too frequently (incurring unnecessary transition costs, especially in a very volatile market) or not frequently enough, which could lead to significant policy benchmark risk. Overly frequent rebalancing may also occur if a policy range is too narrow or a target is set too close to the outer limit of a range. Therefore, a Board needs to consider its risk tolerance as well as the practical realities of implementing the rebalancing policy.*
- *Many retirement systems use cash flows to assist in their rebalancing to help minimize transaction costs.*

OBSERVATIONS REGARDING OP&F's REBALANCING POLICY:

- The stated target ranges within the policy are generally reasonable.
 - Section 1A of the OP&F IPS, provides that the “Board will cause the staff and investment manager(s) to rebalance” if an asset class falls outside the range. The stated ranges are +/-2% for all asset classes except +/-5% for domestic equity and +/-0.5% for cash equivalents.
 - Although the targets have now changed for some of the asset classes, overall these ranges seem reasonable, if perhaps a little restrictive for international equity and domestic fixed income.
- The OP&P rebalancing policy is overly general – lacking sufficient guidance.
 - The rebalancing policy does not specify whether or not staff is required to rebalance to target, half-way to target or merely to within the range.



- It also does not dictate whether staff should rebalance based on mid-month numbers or only on month or quarter-end data. We understand that in practice staff will initiate rebalancing based on mid-month numbers if an asset class is outside its range. While we believe that it is preferable to wait to use month end or quarter end numbers in order to avoid incurring potentially unnecessary transaction costs, the frequency of rebalancing is somewhat discretionary and dictated in part by the risk tolerance of the Board and staff.

Recommendations A31 – A32

Expand the rebalancing policy to prescribe more clearly the required actions when an asset class falls outside the range. Rebalancing should be required on a periodic basis, e.g., based on monthly or quarterly statements, but only if an asset class falls outside the policy range. Rebalancing should bring the allocation back within the approved range (e.g., half-way to the target), unless the Board votes not to follow its policy under extreme or unusual circumstances.

Update the rebalancing policy ranges so that they are aligned with the new asset class targets.

i. OP&F Board Member Awareness of Asset Allocation Process and Risks

FUNDAMENTAL PRINCIPLES REGARDING AWARENESS OF PROCESS AND RISKS:

- *A board of trustees may hire experts to advise them and delegate authority for investing fund assets. However, delegation is not abdication. The Board is ultimately responsible for the assets under its control and may be liable for failure to follow a prudent process to understand how and with whom fund assets are being invested. It is responsible not only for the establishment of policy but also for the monitoring the effectiveness and efficiency of such policies.*
- *It is essential that the Board members understand the process used to develop the asset allocation recommendations and that the process is reasonable and fundamentally sound.*
- *The Board members should also be made aware of the risks involved with various asset classes and asset allocations and be comfortable with the capital market assumptions used.*



ANALYSIS:

In order to develop our Observations regarding this subject matter, we discussed the asset allocation process with Board members and staff and reviewed relevant documents. The asset allocation report does show the expected overall risk of the portfolio and the projected risk of various asset classes.

OBSERVATIONS REGARDING AWARENESS OF PROCESS AND RISKS:

- OP&F Board members appear comfortable with the asset allocation process and risks, but expressed a need and desire for continued investment education to facilitate their ability to understand the asset allocation process and comprehend the risks associated with the various asset classes and investment vehicles.
- The IPS states that the OP&F will attempt to achieve its stated returns goals “without unnecessary risk to principal.” Based on the interviews we conducted as part of our review, it appears that in general the Board members are comfortable with the education they have received on asset allocation from their investment consultant and that the consultant has presented a fair discussion on the risks involved with the asset allocation in general and the specific asset classes.
- Since the Board has historically been composed of lay members, most members do not have an investment background or sufficient practical knowledge of public or private markets investing. For that reason, most also expressed a desire for continuing education on investment topics.

(See the discussion and recommendations in Investment Issues Section 9(A) regarding Board member education in the context of S.B. 133 requirements.)



7. Brokerage Practices

a. Measuring Transactions Costs

FUNDAMENTAL PRINCIPLES REGARDING MEASURING TRANSACTIONS COSTS:

- *Transaction costs are the costs incurred when buying or selling assets. There are explicit transaction costs – such as commissions – as well as implicit transaction costs, such as the bid-ask spread, and timing risk costs. Implicit costs are much more difficult to measure. These concepts are discussed below.*
- *Institutional investors spend considerable effort in tracking and mitigating their transaction costs.*
- *Brokerage – defined broadly as the process, paying a fee or commission, for transacting purchases and sales of securities – is a material factor in a fund’s investment rate of return.*
- *The most visible and easily measurable part of trading cost is the broker’s commission, but this tends to be the smallest part of total trading costs.*
- *More significant is the price paid or received for the security relative to the “market” (ideally, a low price on a purchase, a high price on a sale). (As discussed below, the effectiveness of brokerage to obtain this relative price is called “quality of execution”). Part – but only part – of this execution cost is the bid-asked spread in the security.*
- *Timing of the transaction within the ebb and flow of intra-day and day to day prices may affect the economics of the transaction to a greater extent. These factors beyond commissions are difficult to measure because they depend on a hazy baseline and because the effect is included in the transaction price rather than being separately stated.*
- *Control over the price obtained for a security’s purchase or sale (so-called “quality of execution”) rests largely with the investment manager initiating the trade, whether an in-house portfolio manager or an external investment management firm, and partly with the broker effectuating the trade. Aspects of this control include (a) selecting as qualified brokers capable brokerage firms that employ capable “sell-side” traders, (b) placing each trade with the broker most likely to be able to make the trade at the best possible combination of pricing factors, and (c) staffing with capable “buy-side” traders to monitor and work the trade with the brokers.*



- *The process of effecting trades that on average achieve favorable price results under the relevant circumstances is called “best execution.” This subsumes the interplay of commission, market impact, timing, ability to execute, additional services provided, etc. within the context of the urgency of the trade and the activity of the market. Thus, best execution, is more of a subjective goal than a measurable quantity and is more often recognizable in its absence than its presence.*
- *Various firms offer systems to measure cost and quality of execution. They vary in using different models to establish the baseline against which the actual transaction price is measured. These vary from simple average prices for the day (e.g., average of open, high, low, close) to more complex averages (e.g., volume weighted average price) to highly complex algorithms that track price movements minute by minute and even for several days after the trade. Whether the complex methods yield more relevant results remains an open debate. In all cases, though, the system provides meaningful results only as averages over many transactions; there are too many variables in the market to measure quality of execution definitively on individual trades except in extraordinary circumstances.*

OBSERVATIONS REGARDING OP&F’S MEASUREMENT OF TRANSACTIONS COSTS:

- OP&F measures and evaluates its transaction costs using a third party service.
 - Using a third party service is an increasingly common practice among substantial public pension funds and, we believe, can be a useful tool in identifying and controlling transactions costs. Like OP&F, all members of the peer group that responded to our survey utilize a third party firm to measure and evaluate its transactions costs.
 - OP&F uses a well-recognized firm third party service – Plexus – to measure and evaluate the transactions costs of its external investment managers (the System does not internally manage any assets).
 - We understand the System’s staff routinely reviews the Plexus reports and shares them with the respective investment managers, as a way of collaboratively evaluating



and managing their use of commissions. This is a common and sound way of applying such reports, in our experience.

- We were informed during the interview process that OP&F staff also routinely considers – as one factor among many – the brokerage and trading practices of candidates for new investment management assignments at the OP&F. Again, this is a common and sound factor to consider in the manager search process.

b. Evaluating and Controlling Transaction Costs

FUNDAMENTAL PRINCIPLES REGARDING EVALUATING AND CONTROLLING TRANSACTION COSTS:

- *A pension fund may pay a third party for services or goods provided to the fund either through a conventional, direct “hard dollar” payment or through an indirect “soft dollar” payment. The latter is handled through directing an investment manager to complete a securities trade through a designated broker, called a converter. The external investment manager pays that converter a commission (out of the pension fund’s assets) to perform the brokerage transaction, and the converter, in turn, relays a portion of the commission to a third party that has provided services to the system. Converter trades are a form of soft dollar trading; the soft dollars are remitted to the third party, on behalf of the system, rather than rebated to the system (so-called “commission recapture”).*

OBSERVATIONS REGARDING EVALUATING AND CONTROLLING TRANSACTION COSTS:

- OP&F manages its transactions costs in several ways.
 - Like STRS, OP&F historically utilized converter trades to defray some costs it would otherwise directly pay in hard dollars. However, in early 2006, OP&F advised us that it has discontinued such trades. Until recently, OP&F had not otherwise used directed brokerage (e.g., no commission recapture). However, also in early 2006, OP&F advised us that through two active, external managers that it recently retained, it does



- utilize commission recapture. OP&F is not unusual in utilizing commission recapture: among the respondents to our survey, 60% utilize some form of directed brokerage and of those, all utilize commission recapture.
- Unlike STRS, OP&F has not adopted any written policy or procedures documents to govern measurement and evaluation of transactions costs and externally manages all of its assets.
 - Nevertheless, OP&F appears in most respects to have a reasonable set of practices in place to evaluate and control its transactions costs. The outside transactions cost analysis firm, Plexus, measures and evaluates all trading by the System's external managers, including analysis by broker and distinguishing between trades done through converters from those done without such soft dollar payments.
 - While the Fund still engaged in them, converter trades were reportedly limited to the types of securities and trades suitable to soft dollar transactions, namely, large capitalization, liquid securities, managed by investment managers who do not rely on price momentum as an essential part of their investment disciplines.
- ✓ The effective cost of OP&F's converter trades appeared to fall within the range of reasonableness, although not particularly low.⁴⁸
 - ✓ The ratio OP&F has negotiated with its converters is 1.5. By contrast, STRS pays 1.4. We have seen ratios as low as 1.3 elsewhere, although lower ratios are typically at the very largest institutional investors, with the greatest negotiating leverage. Nevertheless, at this point, since the Fund has discontinued its converter trades, the prospect of negotiating lower rates is now moot.

⁴⁸ In converter trades, the amount the converter remits to the third party is calculated in light of an agreed-upon converter ratio. For example, if for every \$1.50 in commissions, the converter remits \$1 to the third party, the ratio is 1.5; if only \$1.40 in commissions is necessary for remitting \$1, the ratio is 1.4.



- ✓ The one aspect of its current brokerage and trading practices that does require some action is the commission recapture program. As long as the Fund engages in commission recapture, it should adopt written policies and procedures in that regard, e.g., regarding what percentage of trades may be handled through that program, acceptable recapture rates, criteria for selecting suitable recapture agents, etc⁴⁹.

Recommendation A33

If OP&F continues to participate in commission recapture programs, we recommend that they develop a written policy and procedure to govern and help monitor the use of commission recapture.

- Prior to the passage of S.B. 133, effective September 15, 2004, OP&F followed a semi-annual process to evaluate brokers for inclusion on an approved list pursuant to its general “Broker Policy” (voluntarily adopted by the Board, before and apart from the more narrow Ohio-qualified requirements for selecting brokers).
 - The goal of the policy was to “maintain a list of brokerage firms capable of providing competitive, quality trade executions, valuable research and other brokerage and investment services ... to benefit the Fund.”
 - The evaluation was conducted by staff, rating brokers on trading, research, underwriting capabilities and financial strength.

⁴⁹ We understand that since the time of our due diligence the Fund has discontinued directing brokerage out of large cap domestic equity.



- The Ohio legislature has established goals for its public retirement funds to increase their utilization of Ohio-qualified brokers/dealers⁵⁰ (and Ohio-qualified investment managers).
- In response to the legislation, on September 29, 2004, OP&F established a policy to increase its utilization of Ohio-qualified brokers for the execution of domestic equity and domestic fixed income trades when an Ohio-qualified agent offers quality, services, and safety comparable to other agents available to the board (and a policy for use of Ohio qualified investment firms). By contrast, among the peer group that responded to our survey, only 25% had adopted written brokerage policies that address use of in-state and minority-owned brokerage firms. The OP&F Broker Policy sets forth the factors identified in SB 133 that are required to be addressed:
 - commissions charged by the agent, both in the aggregate and on a per share basis;
 - the execution speed and trade settlement capabilities of the agent;
 - the responsiveness, reliability and integrity of the agent;
 - the nature and value of research provided by the agent; and
 - any special capabilities of the agent.
- However, while the criteria identified in SB 133 that are required to be addressed appear in the OP&F policy, the “Ohio- Qualified Certification” form only referenced the fact

⁵⁰ Senate Bill 133, effective September 15, 2004, requires each of the state’s five public retirement systems to adopt policies with the goal of increasing use of Ohio-qualified agents to execute domestic equity and fixed income trades on their behalf, when such agent offers quality, services and safety comparable to other agents otherwise available. Specifically it requires the boards to adopt and implement a written policy establishing criteria and procedures used to select agents to execute securities transactions on behalf of the retirement system. It requires that the policy shall address each of the following: commissions charged by the agent, both in the aggregate and on a per share basis; the execution speed and trade settlement capabilities of the agent; the responsiveness, reliability and integrity of the agent; the nature and value of research provided by the agent; and any special capabilities of the agent.



that each system must have a policy and that the policy may be viewed on the website. The policy is listed on the website.⁵¹

- The five Ohio retirement systems under the jurisdiction of ORSC, working collectively, developed the certification process and maintain a common list of the Ohio qualified brokers (and investment managers).⁵² The statutory criteria listed on the Certification form are:
 - is subject to taxation under R.C. Chapter 5725 (financial institutions and insurance), 5733 (corporation franchise tax), or 5747 (income tax);
 - is authorized to conduct business in Ohio;
 - maintains a principal place of business in Ohio and employees at least five Ohio residents; and,
 - is a licensed dealer under Ohio securities laws or comparable laws of another state or the U.S.
- OP&F would benefit from a more comprehensive brokerage policy.
- Best practices among comparable pension funds entail the staff’s developing – and the board’s considering and adopting – a written policy and procedures document regarding brokerage. Among the peer group that responded to our survey, 80% had adopted some form of written policy and procedure document regarding brokerage (although the survey did not capture the quality, extent or detail of such documents).

⁵¹ The OP&F website contains a link to the necessary information entitled “Ohio Qualified Broker and Manager Information”

⁵² OPERS is responsible for processing the certification forms and publishing the list of Ohio-qualified agents (brokers). SERS is responsible for processing the certification forms and publishing the list of Ohio qualified investment managers



- OP&F should develop and adopt a more comprehensive brokerage policy, requiring the OP&F Board and staff to focus on and decide its views regarding for example:
 - appropriate usage of and controls over converter trades (although such trades are not current utilized, the Board should adopt a policy to govern whether and how to recommence such trades in the future)
 - commission recapture (see discussion above)
 - use by external managers of minority-owned and women-owned brokerage firms (*see next Observation for additional aspects/variations of this subject*).
- Each of the five criteria for selecting Ohio-qualified brokers are fairly broad and because they are so broad, may not be sufficient.⁵³ Additionally, several of these criteria (capital strength, research capabilities, access to new issues) are reflected in the more general Broker Policy (voluntarily adopted by the Board, before the more narrowly-tailored Ohio-qualified requirements were imposed). However, the general Broker Policy document has not been consolidated or reconciled with the Ohio-qualified brokerage policy.
- Having more detailed criteria mitigates the risk that firms that OP&F's investment managers utilize (that are Ohio-qualified brokers and Ohio-qualified women and minority owned brokers) will not provide best execution.

⁵³ In other states where the public retirement systems encourage (and may be statutorily required to encourage) use of in-state, women, and minority brokers, (e.g., the Teacher Retirement Systems of Texas and Illinois Teachers, California PERS and California STRS) usage is typically conditioned on meeting detailed, objective criteria regarding each candidate's ability to provide best execution.



- In light of best practices we have observed, in addition to the criteria in its current Ohio-Qualified Broker Policy, a well-articulated policy should also include the following criteria, among possible others:
 - whether and why to utilize firms that are only introducing brokers and not executing brokers⁵⁴
 - whether and why to permit step-out trades⁵⁵
 - capital strength
 - institutional trading experience
 - track record of quality trade execution
 - research capabilities (which is slightly different from the current criterion of “nature and value of research provided”)
 - access to underwritings/new issues
 - back office capabilities, including trade accounting, post-trade analysis and ability to handle straight through processing of trades.

⁵⁴ An introducing broker is a firm that “introduces” the client investor to—or helps generate trading business for—the separate broker dealer that actually performs the trade (i.e., executes and clears it).

⁵⁵ A step-out is an arrangement whereby a portion of the commission on a trade completed by an execution or full service broker, is allocated to another broker, even though the latter did not participate in executing or clearing the trade. Hypothetically, for instance, some pension funds may permit step-outs in order to benefit an approved in-state or minority-owned broker that serves as an introducing broker.



Recommendation A34

We recommend that the OP&F Board consider and adopt a more comprehensive, detailed Broker Policy, including policies regarding, for example, directed brokerage, commission recapture and use of minority and women-owned brokers. The Broker Policy should be consistent – or ideally, consolidated – with the more narrowly focused Ohio-Qualified policy adopted September 29, 2004. All brokers should be subject to these criteria, regardless of whether they are “Ohio-qualified.” The OP&F Board should work with all of the state retirement systems to adopt uniform criteria for selecting brokers so as to assure that compliance with the “Buy Ohio” criteria is fairly measured across all of the systems.

8. Due Diligence Procedures/Selection of Investment Service Providers

FUNDAMENTAL PRINCIPLES REGARDING MANAGER SELECTION PROCESS:

- *Hiring managers entails two fundamental steps: 1) defining the market segment in which the manager is to work consistent with the overall plan for the whole portfolio, and 2) selecting managers with a better than average probability of outperforming a passive strategy after costs. If a fund’s policies and procedures cover these steps, and if the policies and procedures are followed diligently and competently, the likelihood of achieving investment goals is maximized.*
- *Achieving return objectives is dependent on two decision processes: setting asset allocation and creating individual portfolios, both internally constructed and through selection of investment managers. While it has been demonstrated that the variability of returns – that is the degree one fund’s returns differ from another’s – is primarily driven by asset allocation, absolute performance within an asset allocation is driven by manager selection.*
- *Not having clear, relevant procedures for selecting investment professionals, or having procedures and not properly following and documenting them creates a number of risks to the fund and its core goal of generating returns sufficient to meet benefit obligations. Given the existence of an asset allocation targeted to meet investment objectives, failing to select managers through an organized process greatly increases the probability that the investment results will not be consistent with the expected results generated by the asset allocation process. Even within the asset allocation paradigm, failing to select managers whose organization, structure, approach, process and controls are understandable, manageable, and historically successful decreases the likelihood of*



achieving investment goals. While following rational procedures cannot assure future good performance, failing to do so renders the likelihood of good performance small.

- *Following adequate and effective procedures and documenting the process protects the fund and its fiduciaries. The traditional caveat that past performance does not guarantee future results is inherently true. Fiduciaries are judged, therefore, not on the results of the managers they select, but on the prudence of the process. Having a policy, following it diligently, and documenting the process in detail are the required steps in procedural prudence and is consistent with best practice.*
- *Another benefit of having and following a documented process is that it guards against actual or implied undue influence. Pension funds like OP&F generate large investment management fees even where rates are negotiated to low levels. Temptation exists to influence the process by means other than pure investment criteria. Having a formal, open, well-documented process reduces the possibility that either managers or fund representatives can succumb to such temptations.*
- *The process of manager selection should assure that the final selections are consistent with the overall investment program needs and likely to lead to attractive investment results.*
- *Failing to have and follow appropriate procedures imposes financial and fiduciary risk on the fund and the Board.*

OBSERVATIONS REGARDING GENERAL MANAGER SELECTION PROCESS:

- OP&F invests its entire portfolio via outside investment managers.
- OP&F has created a clear, succinct, readable and usable policy defining the investment manager search and selection process in substance. We commend OP&F on this, but clarification of how the various parts interact is needed.
 - OP&F adopted an Investment Manager Search Policy in 1997, which was amended in 1999 and again in 2003 with the adoption of a separate policy governing searches for commingled real estate funds.



- The basic policy document (contained in approximately four pages) establishes the fundamental requirements and procedures governing the search and selection process for all other investment managers, including separately managed real estate. Key elements include:
 - ✓ Requiring that the search be considered within the strategic asset allocation plan,
 - ✓ Placing the authority for recommending managers to the Investment Committee and the final selection to the Board, supported by input from staff and consultant,
 - ✓ Identifying the requirements for the initial candidate search, including specifying when an open (i.e., publicized) search is not necessary, and
 - ✓ Thoroughly stating the various manager characteristics on which selection will be made: (a) investment product, (b) investment professionals, (c) client relationships, (d) investment process, (e) performance and risk control, and (f) fees.

OBSERVATIONS REGARDING REAL ESTATE SELECTION PROCESS:

- The Real Estate Commingled Fund Search Policy states that it replaces the Investment manager search policy with regard to this narrow manager type only.
 - While the real estate policy has certain aspects of manager identification, evaluation, and selection, it is more akin to a general asset class guideline than a manager search and selection policy.



- The “Implementation” section of the policy sets forth several steps and criteria unique to real estate funds. However, it does not cover the thorough range of steps and responsibilities that the more general policy does.
- The Real Estate Commingled Fund Search Policy should be amended.

Recommendation A35

While this may seem like a mere detail, we believe that specifying that the real estate policy supplements the broad policy as regards this sub-class would be a more appropriate approach.

OBSERVATIONS REGARDING PRIVATE EQUITY SELECTION PROCESS:

- OP&F has also created an investment policy document applying to the Private Equity. This document is more clearly intended to be a broad guideline to the asset class than a blueprint for manager selection. It does, however, contain a section titled Implementation that sets out details of fund identification, due diligence, and selection in this asset class.
- Although not named a “Search” policy as is the Real Estate Policy, it closely parallels that in form and function.
- The real estate and private equity documents supplement the manager search policy by adding selection criteria unique to those asset classes, and in part they lay out general investment guidelines for the asset class portfolios. The documentation would be clearer if the real estate and private equity documents selection criteria were separated. The implementation sections fit better as appendices to the general search policy. The balance of each document fits better within the context of asset class guidelines as a part of the investment policy statement and manager guideline documentation.



Recommendation A36

We recommend the private equity and commingled real estate policy documents be split into two parts each, and incorporated into the general search policy and the asset class guidelines respectively.

OBSERVATIONS REGARDING IMPLEMENTATION OF THE MANAGER SELECTION PROCESS:

- Procedures for identifying and selecting investment managers are documented as having been diligently followed. RFPs for managers are sent to identified candidates and posted publicly, including on the OP&F web site.
- The applicable consultant is involved in the process. In tandem the staff performs due diligence independent of the investment consultant. This bi-lateral due diligence process creates a positive constructive tense between the staff and the investment consultant. This tense mitigates the risk that the consultant's other relationships with investment managers ("pay-to-play") will conflict with their delivery of objective advice regarding the selection of investment managers.
- Recommendations are made to the Investment Committee, and that Committee's final recommendation is made to and acted upon by the full board in open session.
- The process appears to be followed strictly, even in situations where the investment program might benefit from relaxing the rules. For example, in one instance involving a real estate manager search, few responses were received, mostly due to lack of capacity in the real estate funds. One manager, who had previously been a finalist, delivered the electronic version on time, but the paper version was delayed by the courier service and arrived after the deadline. The proposal was rejected, even though the number of qualified responses was determined to be too few to make a reasonable selection and the search was called off. We consider this to have been the correct decision.



9. Statutory Provisions and Administrative Rules

FUNDAMENTAL PRINCIPLES REGARDING STATUTORY PROVISIONS AND ADMINISTRATIVE RULES:

- *Unlike private retirement systems that are governed principally by the federal Employee Retirement Income Security Act of 1974, as amended (ERISA), the investment and operation of statewide public pension funds are governed by their respective state laws.*
- *Many of these state laws have not kept pace with and do not reflect modern investment practices. As a result, although the pension fund fiduciaries are required to oversee and prudently invest the fund's assets, they may be unable to (a) optimize returns at an appropriate level of risk and (b) effectively and efficiently operate their investment programs because of outdated constitutional and/or statutory requirements.*
- *In recognition of the changing environment faced by public retirement systems, the National Conference of Commissioners on Uniform Laws (NCCUL) has developed two uniform laws. The Uniform Prudent Investor Act (UPIA) was approved and recommended to all states August 5, 1994⁵⁶, and the Uniform Management of Public Employees Retirement Systems Act (UMPERSA) was approved and recommended to all states August 1, 1997. (UPIA and UMPERSA are collectively referred to as the "Acts.") The Acts effectively incorporate the major principles of portfolio management developed over the past 50 years of financial research and recognize the need for trustee autonomy in the management and control of trust assets. Thus, the concepts set forth in the Acts are often used as models by pension funds and investment boards to modernize their governance and investment standards.*
- *A number of model practices related to governance are identified in UMPERSA and UPIA.⁵⁷ These standards are regarded as "best practices" in the administration of a public pension entity. They include (but are not limited to):*
 - *Use of whole portfolio theory as a criterion for investment decision-making;*
 - *No categorical restrictions on investments;*
 - *Standard of care based on a "prudent expert" rule, duty of loyalty and duty to act for exclusive purpose of providing benefits and paying reasonable administrative costs;*

⁵⁶ UPIA has been adopted by approximately 40 states.

⁵⁷ See, National Association of State Retirement Administrators, *Outline of Governance Practices.* www.nasra.org



- *Consideration of asset diversification and risk/return correlation when making investment decisions; and*
- *Authority to –*
 - ✓ *Delegate functions when executing fiduciary duties, and*
 - ✓ *Make budget, personnel and procurement decisions (including salary levels for personnel and obtaining professional services and resources) solely in the interest of pension fund participants and beneficiaries, rather than in response to a more wide-ranging set of interests.*
- *Statutes should codify standards and principles which promote prudent investment management in the interest of the participants and beneficiaries*

a. Whether Ohio Laws Constrain the OP&F Investment Program

OBSERVATIONS RELATED TO POSITIVE FEATURES OF THE OHIO LAW GOVERNING THE OP&F INVESTMENT PROGRAM:

- Ohio Revised Code Chapter 742 sets forth standards and procedures which generally are consistent with modern principles of fiduciary decision-making.
- The state law governing the OP&F is set forth primarily in Ohio Revised Code Chapter 742 (“Chapter 742”). Chapter 742 articulates standards and procedures consistent with many of the principles and “best practices” identified in ERISA, UMPERSA, UPIA and other sources.⁵⁸ For example, Chapter 742:
 - Imposes a rigorous “prudent investor” standard on the Board and other fiduciaries, which instructs that the trustees act “with care skill and prudence, and diligence under the circumstances then prevailing that a prudent person *acting in a like capacity and*

⁵⁸ See, S. Halpern and A. Irving, “Identifying and Adopting Best Practices for Institutional Investors,” in *Core-Satellite Portfolio Management* (Singleton 2004) at 298-303.



familiar with these matters would use in the conduct of an enterprise of a like character and with like aims;”⁵⁹

- Directs the Board to carry out its duties “solely in the interest of the participants and beneficiaries; for the exclusive benefit of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administration;”⁶⁰
- Requires that the Board diversify “the investments of the . . . pension fund so as to minimize the risk of large loss, unless under the circumstances it is clearly prudent not to do so;”⁶¹ and
- Prohibits transactions between the Fund and “parties in interest” that are not comparable to arms-length transactions between unrelated parties and are not otherwise consistent with the Board’s fiduciary duties.⁶²
- Another positive feature of Chapter 742, consistent with the best practices at other highly developed public pension funds, is the avoidance of a “legal list” approach whereby the statute would impose percentage limits and, in some cases, outright bans on particular categories of investments, without reference to their fitness under the fiduciary standards. Permitting the Board to make investment decisions based upon their prudent consideration of the merits of a particular proposal is consistent with both ERISA and UMPERSA. Indeed, the latter explicitly authorizes public pension fund trustees to “invest in any kind of property or type of investment consistent with” fiduciary standards.⁶³ By permitting the Board to invest subject to the standard of prudence, the statutory scheme gives the Board the flexibility to evaluate and implement new

⁵⁹ O.R.C. Sec. 742.11(A). Case law under ERISA interpreting this standard has described it as the most exacting fiduciary standard developed under American law.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² O.R.C. Sec. 742.112.

⁶³ UMPERSA Sec. 8(a)(4).



investment opportunities and techniques on their merits, without having to wait for the legislative process to catch up to developments in the marketplace.

- O.R.C. Chapter 742 contains other features which, while they impose obligations on the Board and staff, promote the exercise of prudent investment judgment and transparency of process. O.R.C. Chapter 742 requires formal, public adoption by the Board of investment “policies, objectives or criteria . . . that include asset allocation targets and ranges, risk factors, asset class benchmarks, time horizons, total return objectives, and performance evaluation guidelines.” O.R.C. Chapter 742 also directs the Board to comply with the standards of the Association for Investment Management and Research (AIMR) when it reports on investment performance.⁶⁴

OBSERVATIONS RELATED TO FEATURES OF THE OHIO LAW THAT CONSTRAIN THE OP&F INVESTMENT PROGRAM:

- The law⁶⁵ does not provide the OP&F board of trustees’ a role in selecting and monitoring the custodian of the fund’s assets and thus constrain OP&F ability to ensure it is operating in an effective and cost efficient manner. (*See also discussion in Section 10A addressing the Ohio custody and providing a flow chart of the entities involved in the custody process.*)
- The Ohio statutory custody model impairs the efficiency and effectiveness of OP&F’s investment program because it requires that the Treasurer of State, as official custodian of OP&F’s assets, rather than the Board, hire the “authorized agent” of the State to perform the custodial functions associated with the safekeeping of OP&F assets and the recording of OP&F holdings and transactions.⁶⁶

⁶⁴ O.R.C. Sec. 742.11(B)

⁶⁵ O.R.C. Sections 113.051, 135.03, and 3307.12.

⁶⁶ O.R.C. Sec. 742.11(C). This rule applies to all the Ohio funds.



- The Ohio custody model was suitable when it was originally created. However, the changing nature of the securities markets and evolution of the basic processes of custody (particularly the custodial requirements essential for multi-billion dollar funds with sophisticated investments) has rendered the current statutory custody model obsolete. Where the model once provided a necessary safeguard, it now is a blueprint for cost inefficiency and added risk.
 - At the time Ohio’s statutes affecting custody of pension assets were developed, custody of securities was largely a process of holding negotiable paper securities in safekeeping and of maintaining paper and ink records of holdings and transactions. This reality is confirmed by the language of § 135.18(I) ORC which provides that in order for a bank to qualify as a depository the superintendent of financial institutions must ascertain whether the bank “has safe and adequate vaults and efficient supervision thereof for the storage and safekeeping within this state of securities.”
 - Today and for the past several years nearly all domestic securities, as well as commodity contracts, futures contracts, and other financial instruments have been maintained in electronic format only. Ownership and transfer are effected on the books of master custodians in accounts in the name of local custody banks or other financial institutions holding direct participation in the master custodian arrangement. Primary of these are Depository Trust Company for listed equity securities and the Federal Reserve Bank of New York for bonds, both administratively located in New York City, but with computer back up facilities in other locations.
- Table A28, entitled Comparison of Custody “Then and “Now” contrasts for the reader the characteristics of custody when the model was created and custody today.



| Table A27– Comparison of Custody “Then” and “Now” | |
|--|--|
| Custody when model was created | Custody today |
| Custody was the holding and protection of physical securities. | Securities are held in electronic form in central depositories. |
| Investments were largely limited to bonds and stocks. | Investments involve many types of instruments. |
| Recordkeeping was manual, relatively inexpensive, and slow with a high probability of human error identified through tedious verification processes. | Recordkeeping is computer based, highly automated, complex, costly, and able to be verified through duplicate processes and automated comparison systems. |
| Hundreds of banks provided reasonably equal custody services based on low costs of entry and maintenance. | A small handful of banks that have survived a mass industry consolidation have elected to maintain the enormous financial cost of maintaining complete, efficient custody systems. |
| Custody and recordkeeping were uncomplicated systems without interconnected ancillary services. | Computerized integration of common data has led to the development of many value adding and risk reducing ancillary services feeding directly off basic consolidated portfolio data. |

- Under the current custody model, OP&F has no rights regarding custodial decisions, including the decision of whether or not to change custody banks, input into the selection criteria, the type of services that must be provided, or the management of the custodian once selected - despite having continuing daily operational activities with the custody bank and bearing a fiduciary responsibility over the operational and investment results the Fund achieves. Any involvement of OP&F regarding the custody banks is at the discretion of the Treasurer of State as the legal custodian of the funds. Thus, the OP&F Board has no recourse to ensure that it is receiving the highest quality custodial services.
- Possibly the most significant constraint of the current statutory custody model is the requirement that the “authorized agent” selected by the Treasurer of State must be an Ohio institution.⁶⁷ This requirement limits the universe of candidates eligible to act as OP&F’s

⁶⁷ O.R.C. Sec. 135.18.



custodian and renders “one-stop” direct state-of-the-art services from top-tier global custody banks simply unavailable to the Fund. (See additional discussion of the custody model used by the Ohio State Treasurer in Section XI – Custodian.)

Recommendations A37 – A38

See recommendations in Section 11A to amend the current law to remove the in-state bank requirement and to authorize the retirement systems to select their custody banks.

If the law cannot be changed as we recommend, the Board should formally request a memorandum of understanding with the State Treasurer which would provide that for the input of the retirement systems into the search, selection, and ongoing monitoring of the custody bank, including by not limited to (a) all negotiations and discussions with the custody bank, (b) participation in the preparation of requests for proposals for custodial services, (c) analysis of the responses to such RFPs, (d) the process for selecting the custodian and monitoring the services provided, and (e) the development of guidelines for the periodic evaluation of the custodian’s services.

- Another constraining effect of Ohio law resulting from the current statutory custodial model governing OP&F assets is the unnecessarily detailed overlap in reporting and recordkeeping regarding transactions.
 - The Treasurer of State’s office follows a procedure for reconciling documentation that duplicates a process that the Fund itself undertakes with the custodial bank and the investment managers.
 - Given the nature of bank custody services today, absent a statutory requirement, the Ohio Treasurer of State could add value by setting standards for recordkeeping and internal audit by the custodial bank and by undertaking periodic review of records and recordkeeping procedures, rather than by actually performing recordkeeping and reconciliation functions itself.



- Ultimately, regardless of the letter of the law, there is no harm and arguably significant value if the Treasurer of State works cooperatively with the systems responsible for investment results is selecting, evaluating and retaining custody banks.

Recommendation A39

While the existing statutory model is in effect, the ORSC should recommend that the Treasurer's staff meet with the Fund's staff to establish procedures to eliminate duplication of effort in reconciling and auditing the custody bank's work and to establish an allocation of responsibilities for setting standards for the bank's recordkeeping and reporting and then monitoring the bank's performance against those standards.

OBSERVATIONS REGARDING LAWS ENCOURAGING INVESTMENT IN IN-STATE AND MINORITY AND WOMEN-OWNED ENTERPRISES:

- Ohio law also contains language that can be read to encourage the Board to make what are commonly called “economically targeted investments,” which the U.S. Department of Labor has defined as “investments selected for the economic benefits they confer on others apart from their investment return to the employee benefit plan.”⁶⁸
- Chapter 742 contains language which encourages, but does not require, the Board to make what are commonly called “economically targeted investments,” in the form of investments that will benefit Ohio and investments in businesses owned by minorities and women.⁶⁹ The U.S. Department of Labor has defined “economically targeted investments” as “investments selected for the economic benefits they confer on others apart from their investment return to the employee benefit plan.”⁷⁰

⁶⁸ ERISA Interpretive Bulletin 94-1, “Interpretive Bulletin relating to the fiduciary standard under ERISA in considering economically targeted investments,” 59 Fed. Reg. 32606 (June 23, 1994), codified at 29 C.F.R. Sec. 2509.94-1.

⁶⁹ This requirement is separate and distinct from the “Buy Ohio” provisions of S.B. 133 relating to the use of Ohio-based investment managers and brokers. Those provisions are discussed below.

⁷⁰ ERISA Interpretive Bulletin 94-1, “Interpretive Bulletin relating to the fiduciary standard under ERISA in considering economically targeted investments,” 59 Fed. Reg. 32606 (June 23, 1994), codified at 29 C.F.R. Sec. 2509.94-1.



- Chapter 742 doesn't mandate such investments. Instead, the statute states, "[I]t shall be the intent of the [B]oard to give consideration to investments that enhance the general welfare of the state and its citizens where the investments offer quality, return and safety comparable to other investments currently available to the [B]oard." The statute also requires consideration of "investments otherwise qualifying under this section that involve minority owned and controlled firms and firms owned and controlled by women..."⁷¹
- Of the four non-Ohio peer funds who responded to IFS' survey, two, or 50%, reported that their governing statutes directed or encouraged the investment of fund assets in companies doing business in-state.
- The OP&F's Investment Policy and Guidelines makes no specific reference to consideration of investments which will benefit the State, or investments in woman-owned or minority-owned businesses (as distinct from consideration of Ohio-based, woman-owned or minority-owned investment managers or brokers, which is addressed there and in the Ohio Qualified Broker and Investment Manager Policies); the only reference to those requirements is the inclusion of O.R.C Section 742.11 in the enumeration of statutes with which the implementation of the Board's investment objectives must be consistent. It does not appear that either the Board or the staff keeps a record of consideration of such investments (*distinct from the records it maintains regarding Ohio-qualified investment manager, Ohio-qualified brokers, and women and minority owned firms*). We are also not aware of any procedure or guidelines that the Board uses to determine whether particular investments that meet the criteria also satisfy fiduciary standards. We add that we have not seen any listing of investments of OP&F assets which identifies the Ohio-based investments or investments in women- or minority-owned and controlled businesses (*distinct from the reports provided regarding*

⁷¹ O.R.C. Sec. 742.11(B).



the utilization of Ohio-qualified investment manager, Ohio-qualified brokers and women and minority owned firms), so we cannot determine the impact of such investments on the overall investment profile of the OP&F assets.

Recommendation A40

The Board should review and amend its Investment Policy and Guidelines to address specifically the legislative provisions related to investments in Ohio business and businesses owned and controlled by women or minorities and to articulate procedures for evaluating such investments to assure that they “offer quality, return and safety comparable to other investments currently available to the [B]oard” as required by law. The Board should also develop and implement a system for monitoring and evaluating compliance with these statutory requirements. In developing that system, the Board should take special care to assure that the monitoring and evaluation processes themselves do not encourage imprudent investment decision-making.

b. Impact of S.B. 133

OBSERVATIONS REGARDING S.B. 133:

Implementation of S.B. 133 will improve many aspects of fund governance but may have unintended consequences that must be anticipated and managed.

- In apparent response to public concerns about the governance of some of the state’s public retirement systems, the Ohio Legislature passed Substitute Senate Bill 133, which became effective September 15, 2004.⁷² The new law affects numerous aspects of OP&F governance, as well as the governance of the other four statewide retirement systems. As IFS conducted its study, OP&F and the other retirement systems were in the process of implementing the new law and identifying areas of ambiguity and other issues which might require corrections to the legislation to the extent satisfactory interpretations were not forthcoming or available.

⁷² S.B. 133 was passed on May 26, 2004 and signed by the Governor on June 16, 2004. Most of its provisions became effective September 15, 2004, others had delayed effective dates.



- Many provisions of S.B. 133 will have a salutary effect.
 - The law mandates that the System’s Board work with the other retirement system boards to develop an orientation program for new members of the boards, and continuing education programs for all members of the boards.⁷³ New board members must attend the orientation session, and members who have served for at least a year must attend at least two continuing education programs per year.⁷⁴ High quality trustee education promotes adherence to the high standards of fiduciary responsibility the law imposes. The first such program (an orientation for all of Ohio’s state-wide retirement systems⁷⁵) was conducted on December 6-7, 2004 and appeared to be informative on key subjects, with distinguished experts making the presentations. See discussion below in Section 1B(c)(1).
 - S.B. 133 requires that the two mandatory annual Trustee education programs be conducted in Ohio. We understand that the intent behind the requirement was to control the costs associated with trustee education, a valid goal, particularly in light of the abuses which have been associated with Trustee travel expenses. We note, however, that it is our experience that high-quality trustee education programs are also available on an industry-wide basis but that such programs often take place out of state. These industry-wide programs provide Trustees and staff an opportunity to exchange ideas with their counterparts from other jurisdictions, and can be a source of new insights and approaches to the challenges faced by OP&F. Trustees and staff should not be foreclosed from receiving the benefits of such programs simply because they take place out of state and, as is sometimes the case, at attractive resort facilities. Abuse of such education opportunities by members of the Board can be controlled by enforcement of the Travel Policy as amended in February, 2005. That policy

⁷³ O.R.C. Sec. 171.50

⁷⁴ O.R.C. Sec. 742.031

⁷⁵ In addition to OP&F, the other participating Ohio funds included the Ohio Public Employees Deferred Compensation Plan, the Ohio Public Employees Retirement System, the School Employees Retirement System, the State Teachers Retirement System, and the State Highway Patrol Retirement System



articulates a reasonable standard for balancing the need for well-informed trustees with the duty to avoid wasteful expenditures of OP&F assets.

- The Travel Policy (discussed in more detail below in Section 10) requires advance approval by the Board of all out-of-state travel by Board members. Trustees are limited to three out-of-state educational conferences per year, with a \$6,000 annual cap on “actual and necessary travel costs” for each trustee. Board member compliance with the policy, which includes detailed rules identifying categories of travel and education-related expenses eligible and ineligible for reimbursement, is subject to audit. With the new requirement that Board members attend at least two in-state education programs each year, we question whether any trustee would also need to attend three out-of-state programs in a year. We are advised that only one trustee attended that many programs in 2005, and that the total number of out-of-state educational trips taken by Board members was five in 2004 and eight in 2005.

Recommendation A41

The Board should develop objective criteria, consistent with its fiduciary duty to use OP&F assets prudently, for review and approval of out of state travel. With respect to out-of-state travel for trustee education, the criteria should take into account the fact that trustees will attend two in-state education programs annually, and should also recognize the benefits OP&F can derive through participation in programs sponsored by national organizations which may take place outside Ohio. The Board should also consider amending the portions of its Travel Policy which authorizes up to three trips out-of-state each year for education programs in view of the mandatory in-state education requirement.

ADDITIONAL OBSERVATIONS REGARDING S.B. 133:

- Another salutary provision of S.B. 133 requires that the Board form a committee to select and employ an internal auditor, and to report annually to ORSC on its activities.⁷⁶

⁷⁶ O.R.C. Sec. 742.105



- Other provisions of S.B. 133 could potentially have the unintended effect of impairing the Board and the System’s staff in doing their jobs. Since the law was only enacted last year, it is too soon to conclude with any certainty that this will happen.
- Immediately below we offer observations so as to draw OP&F attention to areas where the S.B. 133 could constrain or otherwise adversely affect the ability of the Board and staff to carry out their duties.

1) The Ohio-Qualified Agent and Manager Rules

S.B. 133 requires that the Board establish a policy to increase the use of “Ohio-qualified” agents to execute securities transactions and Ohio-qualified investment managers.⁷⁷ Of the four non-Ohio peer funds who responded to IFS’ survey, two, or 50%, reported that their state statues directed or encouraged hiring investment services providers with offices in their states.

OBSERVATIONS REGARDING THE OHIO-QUALIFIED AGENT AND MANAGER RULES:

- The statute is ambiguous in defining what renders an agent or manager “Ohio-qualified,” thereby rendering it difficult for the Board and staff to administer the rules. For example, it is unclear from a reading of the statute whether it is sufficient for an investment manager to have a principal place of business in Ohio or whether it must also employ 20 Ohio residents. The law does not explain whether affiliates of the investment manager may be considered in determining whether the manager is Ohio-qualified.
- While the text of the law qualifies the duty to increase utilization of Ohio-qualified firms only when their “quality, services and safety are comparable to other [firms],” many are concerned that pressure to direct the Board’s business to in-state firms can lead to political favoritism as well as a loss of advantages that out-of-state firms in the financial

⁷⁷ O.R.C. Secs. 3307.114, 116.



services industry can offer. In this regard, we note that S.B. 133's "Buy Ohio" provisions did not change the fiduciary obligations of the Board. That S.B. 133 did not modify the requirement that the Board adhere to fiduciary standards should provide protection against the possibility that OP&F's interest in obtaining high-quality, cost-effective service will be subordinated to a desire to direct the Fund's investment management and brokerage business to Ohio-based funds.

- The five state-wide retirement systems covered by the "Buy Ohio" requirements, including OP&F, have developed a procedure for agents and investment managers to certify whether they are "Ohio-qualified." (The procedure also allows them to certify if they qualify as a "minority business enterprise," in order to comply with S.B. 133's requirement that each of the Systems annually report to the ORSC the percentage of equity and fixed-income trades executed by agents that are minority business enterprises.⁷⁸) Certification forms are to be filed with the Ohio School Employees Retirement System. A notice of the certification procedure has been posted on the OP&F website.

(The following Observations should be read in conjunction with the discussion of the brokerage policies in Section 7(A))

ADDITIONAL OBSERVATIONS REGARDING THE OHIO-QUALIFIED AGENT AND MANAGER RULES:

- The "Buy-Ohio" provisions of S.B. 133 create a risk that OP&F's decisions regarding the selection of agents and investment managers may not result in the engagement of the best qualified, available firms. The Legislature has emphasized one criterion for evaluating candidates to provide these critical services, the state where the candidate does business, which is irrelevant to the services at issue. That emphasis creates at least subliminal

⁷⁸ For the Fund, the requirement to report trades executed by minority business enterprises appears at O.R.C. Sec. 742.114(E).



pressure to create a selection process that will produce an array of selected firms that includes Ohio-based firms, even if that process is skewed away from the most relevant criteria for analyzing the candidates. Nonetheless, the Board has reasonably interpreted the “Buy Ohio” provisions of S.B. 133 to mitigate the risk that the Fund may not receive the highest quality of brokerage and investment management services

- In response to S.B. 133, the Board adopted on September 29, 2004 an “Ohio-Qualified Broker Policy” and an “Ohio-Qualified Investment Manager Policy,” both of which are posted on the Fund’s website. Each Policy restates the statutory requirement that the Ohio-qualified agent or managers offer “quality, services and safety comparable to other [agents or managers] available to the board.” The Policy regarding Ohio-Qualified brokers goes on to make the important statement that:

Nothing in this policy shall require OP&F or its investment managers to utilize Ohio-qualified agents for the execution of . . . trades if the use of such agent is not consistent with the fiduciary duties outlined in ORC Sections 742.11 and 742.114, including cases in which an agent does not otherwise meet OP&F’s criteria.

- The Policy regarding Ohio-qualified investment managers contains parallel language rendering the use of such investment managers subject to the Board’s fiduciary duties and general criteria. The Board also adopted a rule⁷⁹ defining the term “Ohio-Qualified Investment Manager” to permit a firm to qualify if “the investment manager and/or any parent, affiliates or subsidiaries” meet the requirements in O.R.C. Sec. 742.116 for Ohio qualification. The statute had not stated whether affiliated entities could be included in determining whether the statutory test had been met; enacting the rule serves to broaden the field of managers that can meet the test for designation as Ohio-qualified.
 - The Ohio-Qualified broker policy also calls for OP&F to “encourage its investment managers to increase their use of Ohio-qualified agents *subject to best execution*”

⁷⁹ Rule 742-10-02.



(emphasis supplied), which the policy defines as “the trading process managers apply that seeks to maximize the value of a client’s portfolio within the client’s stated investment objectives and constraints.” The discussion in Section 7(A) covers the criteria which should be used in selecting brokers eligible for executing trades for OP&F. Those criteria include the five specific criteria which S.B. 133 enacted with reference to the usage of Ohio-qualified brokers.

- IFS did not observe any documentation regarding any process that OP&F uses to monitor the managers’ application of these criteria to their selections of brokers.

Recommendation A42

The Board should adopt a procedure, such as an appropriately detailed annual certification requirement for managers or, if cost-effective, outside resources, to monitor managers’ selection of brokers to execute fixed-income and equity trades to assure that the Board’s well-formulated policy is being carried out.

- Section XI of the Fund’s Investment Policy and Guidelines, which discusses the investment manager search policy, does not state any process or criteria for evaluating how a particular candidate’s status as Ohio-qualified should be taken into account in selecting a manager.

Recommendation A43

The provisions of the Investment Policy and Guidelines that address the investment manager search process should be amended to reflect consideration of the statutory factors and the steps that will be taken to assure that investment managers will be selected consistent with the Board’s fiduciary responsibility.

- We acknowledge that the five retirement systems under the oversight of ORSC maintain “Ohio-qualified Broker” and “Ohio-qualified Manager” lists. Notwithstanding, we note in the RFP’s we reviewed for investment manager searches posted on the Fund’s website did not include a place for respondents to state whether they are Ohio-qualified. They



also do not include Ohio qualification among the criteria to be considered by the Board in selecting a successful candidate.

2) The Role of the Attorney General

OBSERVATIONS REGARDING THE ROLE OF THE ATTORNEY GENERAL:

- The attorney general's multiple roles create a risk to board members' exercise of their independent judgment.
- While the Ohio Attorney General (AG) has always had general law enforcement powers, and has always been "legal counsel of the [B]oard",⁸⁰ S.B. 133 now explicitly authorizes the AG to sue any Board member for both money damages and injunctive relief in the event of a breach of fiduciary duty.⁸¹
- While the AG is no longer a member of the Board and does not designate any Board members, some are concerned that since the AG provides legal advice to the Board, the Board members are in the position of being subject to suit by their legal advisor if they decline to follow his or her advice. Many decisions within the realm of fiduciary responsibility implicate both questions of law and questions of fact and judgment as to which reasonable people can differ.
- Granting the Board's own legal counsel the explicit authority to sue his or her "clients" could inhibit Board members from exercising independent judgment and cause them to defer inappropriately to the AG as legal advisor. While this problem may be mitigated by the presence of in-house counsel appointed by the Board, we are not aware of any guidelines setting forth the parameters of the respective duties of the AG versus in-house

⁸⁰ O.R.C. Sec. 742.09

⁸¹ O.R.C. Sec. 109.98



counsel, or a process for handling potential conflicts (including the need to retain outside counsel) between the AG and the Board.

- We note that contracting for outside counsel is subject to the purview of the AG’s Office.
- Conflicts could arise by virtue of the AG’s duties as advisor to other branches of government with duties and interests related to the pension fund that are different (and possibly diametrically opposed) from the Board’s. We note in this regarding that it is the A.G.’s Office that contracts directly with outside counsel that works for OP&F. In addition, we understand that the AG has used his authority as the Board’s legal counsel to prevent the Funds from supporting private equity managers’ efforts to protect their proprietary information from public disclosure.

Recommendations A44 – A45

We recommend that the statute be amended to authorize the Board to retain independent out-side legal counsel without the prior approval of the State Attorney General.

In the alternative, if the statute is not amended, or until the statute is amended, we recommend, working with the AG and the Fund’s in-house counsel, the Board delineate the respective roles and responsibilities of the AG and OP&F’s in-house counsel, and develop a memorandum of understanding which establishes a procedure for the Board to obtain independent out-side counsel if and when a conflict arises with the AG.

3) Lobbyist Registration

OBSERVATIONS REGARDING LOBBYIST REGISTRATION:

- S.B. 133 added a requirement that “retirement system lobbyists” file a registration statement and other documentation with the Joint Legislative Ethics Commission.⁸² The term “retirement system lobbyist” includes anyone engaged to attempt to influence retirement system investment decisions, so the law would appear to require marketing

⁸² O.R.C. Sec. 101.90



representatives of investment firms who present investment proposals to the Board and staff to register as lobbyists.

- While disclosure of information regarding the people and firms who attempt to influence OP&F business can have the beneficial effect of deterring inappropriate influence-peddling, many investment managers and other firms utilize third party marketing firms to assist in their outreach to potential institutional investors such as OP&F, and those firms would be required to register as retirement system lobbyists.
- Another change enacted as part of S.B. 133 was a ban on contingent fee arrangements for firms engaged in “retirement system lobbying.”⁸³ It is a common industry practice for third party marketing firms to receive compensation which would run afoul of the new law.
- Some are concerned that the registration requirement, combined with the bar on contingency fees, could deter third party marketing firms from bringing their investment manager clients to the Fund.
- It is unclear at this time whether these concerns are well-founded. OP&F in particular, and Ohio’s retirement plans generally, are substantial and well-regarded institutional investors. In particular, the lobbying registration requirement, which is now referenced in OP&F’s requests for proposals, does not appear to be so onerous as to deter third party marketers from working with OP&F. The contingency fee bar, however, may create a more difficult obstacle.

⁸³ O.R.C. Sec. 101.97(A).



Recommendation A46

OP&F staff should monitor and report to the Board changes in the flow of responses to requests for proposals to provide investment management services to the Fund. In addition, requests for proposals for investment management services should require all respondents to acknowledge, when they submit their proposals, that they are familiar with the lobbyist registration requirements and certify that they will comply with them to the extent applicable. The staff should also review all respondents' registration filings under the new law.

4) Licensing Retirement System Investment Officers

OBSERVATIONS REGARDING LICENSING REQUIREMENTS:

- S.B. 133 requires that every “state retirement system investment officer” be licensed by the Ohio Division of Securities.⁸⁴ The term is defined to include each system’s chief investment officer, assistant investment officer and “person in charge of a class of assets.”⁸⁵
- Concerns were expressed that this new license requirement would impose onerous bureaucratic requirements on key staff, and impair recruitment of investment professionals. However, a review of the Division of Securities’ regulations and its new Form SRSIO, used to apply for a license, indicates that the licensing requirements resemble a reasonable set of qualifications for appointment to a position covered by the statute. The form itself resembles an employment application. The credentials required of new employees⁸⁶ consist of either (i) having passed an NASD Series 63, 65 or 66 examination or one CFA Institute examination, or (ii) having a Chartered Financial Analyst designation or equivalent credential.

⁸⁴ O.R.C. Sec. 1707.162

⁸⁵ O.R.C. Sec. 1707.01(JJ)

⁸⁶ A “state retirement system officer” already employed as such on September 14, 2004 is required only to have either a bachelor’s degree and five years experience or a masters or doctorate degree.



- These requirements do not appear unreasonable in light of the duties of the positions covered by the license requirement.
- The Form also requires submission of a fingerprint card. We note that the NASD requires that licensed representatives be fingerprinted, and that fingerprinting is common in the investment management industry. Accordingly, and particularly in view of the extent of internal management at the System, the new licensing requirement does not appear likely to impair the System's ability to recruit qualified people to fill positions subject to the requirement.
- In view of the fact that the Fund's assets are externally managed, one can question the relevance of the credential requirements imposed by the Division of Securities to the actual work done by many members of the Fund's investment staff (although at least one of the current Senior Investment Officers is a CFA Charterholder). That work consists of supervising and monitoring external asset managers, rather than assembling portfolios of specific securities. The skills associated with those supervisory and monitoring functions are quite different from the skill set required for asset management itself (though familiarity with asset management is obviously necessary for someone monitoring investment managers).
- When we conducted our review, the job descriptions for OP&F's Chief Investment Officer and Senior Investment Officers did not require the credentials the Division of Securities has prescribed, saying only that a CFA designation is "preferred." We are advised that relevant job descriptions have since been revised to reflect the requirement that candidates for those positions must be qualified for licensing by the Division of Securities or must obtain such a license promptly after being hired.
- OP&F, and the other retirement systems covered by the statute, will need clarification of several points in order to identify with precision the individuals who will be considered



“state retirement system officers.” For example, S.B. 133 does not define what constitutes a “class of assets” or the level of responsibility required to render an individual a “person in charge” of a “class of assets.”

c. Status of Compliance with SB. 133

| A28: Status of Compliance with the Requirements of SB. 133 | | Compliance Status |
|---|--|--------------------------|
| Relevant Requirements of SB 133 | Comment | OP&F |
| Adoption, implementation, and enforcement, by each system’s chief investment officer, of written policies and procedures reasonably designed to prevent employees from misusing material, nonpublic information in violation of the Commodity Exchange Act (Chapter 1707 of the Revised Code), the Securities Act of 1933, and the Securities Exchange Act of 1934. | Fund-wide Business Ethics and Conduct Policy and Insider Trading Policy. | ✓ |
| Establishment and maintenance by the CIO of a policy to monitor and evaluate the effectiveness of securities transactions executed on behalf of the retirement system, including adopting a policy that outlines the criteria used to select agents that execute securities transactions and reviewing, at least annually, the performance of such agents. | Ongoing use of the Plexus Group transaction monitoring service. Broker selection delegated to external managers. Intention is to update Broker Policy as recommended by IFS to include expanded version of selection criteria already adopted within the Ohio Broker Policy. | ✓ |
| Establishment of a requirement, effective 90 days after the effective date of S.B. 133, that any person acting as a state retirement system investment officer must be licensed by the Division of Securities in the Department of Commerce. | Completed position description changed. Requirements for new hires incorporate language. | ✓ |
| Establishment of a requirement that a state retirement system investment officer may not act as a dealer, salesperson, investment advisor, or investment advisor representative. | Fund-wide Conflicts of Interest Policy and outside Employment Policy. | ✓ |
| Establishment of a requirement that a state retirement system investment officer may not (1) employ any device, scheme, or artifice to defraud any state retirement system, (2) engage in any act, practice, or course of business that operates or would operate as a fraud or deceit on any state | Fund-wide Business Ethics and Conduct Policy. | ✓ |



| A28: Status of Compliance with the Requirements of SB. 133 | | Compliance Status |
|--|---|--------------------------|
| Relevant Requirements of SB 133 | Comment | OP&F |
| retirement system, (3) engage in any act, practice, or course of business that is fraudulent, deceptive, or manipulative. | | |
| Establishment of a requirement, that the person who functions as the chief investment officer may not knowingly fail to comply with any policy adopted regarding the duty of reasonable supervision or the duty to execute favorable transactions. | Incorporated in CIO position description. Securities trading has been delegated to external managers and that we use Plexus to monitor execution quality. | ✓ |
| Adoption and implementation of a written policy establishing criteria and procedures used to select agents to execute securities transactions on behalf of the retirement system. At a minimum, the policy shall address each of the following: <ul style="list-style-type: none"> • Commissions charged by the agent, both in the aggregate and on a per share basis; • the execution speed and trade settlement capabilities of the agent; • the responsiveness, reliability and integrity of the agent; • the nature and value of research provided by the agent; and • any special capabilities of the agent. | The five state Ohio retirement systems developed common procedures to satisfy and report their efforts to use Ohio qualified-agents and Ohio qualified investment managers. | ✓ |
| Establishment of a policy <ul style="list-style-type: none"> • with the goal of increasing utilization of Ohio-qualified agents for the execution of domestic equity and fixed income trades; and review the performance of agents, and • with the goal of increasing utilization of Ohio qualified investment managers, and Submission of an annual report to the ORSC containing certain specific information identified in the statute as well as other information requested by ORSC. | See comment immediately above. The information is being reported to the ORSC. The annual report for 2005 was submitted September 14, 2005 by OP&F and STRS. | ✓ |
| Joint development of a retirement board member education program, including an orientation component and a continuing training component. | The first educational session was held in December 6-7, 2004. | ✓ |
| <ul style="list-style-type: none"> • Imposition of a requirement on newly elected and appointed state retirement board members to attend the orientation | Requirement in the Board Governance Policy. New Board Members have internal | ✓ |



| A28: Status of Compliance with the Requirements of SB. 133 | | Compliance Status |
|--|--|--------------------------|
| Relevant Requirements of SB 133 | Comment | OP&F |
| <p>component of the education.</p> <ul style="list-style-type: none"> Imposition of a requirement that current trustees (with at least one year of experience) attend not less than twice a year one or more programs of the continuing training component. | <p>orientation at OP&F.</p> <p>Educational component at Board Retreat 2005.</p> <p>Health care summit August 2005.</p> | ✓ |
| <p>In consultation with the Ohio Ethics Commission, develop an ethics policy governing board members and employees in the performance of their official duties, including a procedure to ensure that each board member and employee is informed of the procedure for filing a complaint with the Ohio Ethics Commission or the appropriate prosecuting attorney.</p> | <p>Completed Board Ethics Policy May 2005.</p> | ✓ |
| <p>Annual financial disclosure statements are filed with the Ohio Ethics Commission by: (1) each retirement board, (2) each employee of the retirement system who is a licensed state retirement system investment officer.</p> | <p>Completed April 2005.</p> | ✓ |
| <p>Appointment of a committee to oversee the selection of an internal auditor and employ as an internal auditor the person or persons the committee selects.</p> | <p>Completed September 2004.</p> | ✓ |
| <p>Preparation and submission of an annual report of the Audit Committees' actions during the preceding year to the ORSC.</p> | <p>Completed February 16, 2005. Was due 90 days after fiscal year 12/31/05.</p> | ✓ |
| <p>In consultation with the Ohio Ethics Commission, adopt/amend rules regarding travel and payment of travel expenses for board members and staff.</p> | <p>OP&F policy amended 2/23/05.</p> | ✓ |
| <p>Adoption of rules establishing a policy regarding employee bonuses.</p> | <p>OP&F adopted Rule 742-10-01 – Policy on Employee Bonuses.</p> | ✓ |
| <p>Provide ethics training to board members and employees.</p> | <p>Have had several training session for both Board and Staff.</p> | ✓ |
| <p>Design a plan describing how the board will improve upon the dissemination of public information pertaining to the board.</p> | <p>OP&F has a communication officer and a plan in the form of a written communication policy which addresses dissemination of information to the public.</p> | ✓ |
| <p>Establishment of a uniform format for any report that the boards are required to submit</p> | <p>Completed</p> | ✓ |



| A28: Status of Compliance with the Requirements of SB. 133 | | Compliance Status |
|--|--|-------------------|
| Relevant Requirements of SB 133 | Comment | OP&F |
| to the ORSC. | | |
| Change in Board Composition ⁸⁷ | New Board members have been appointed at each system. | ✓ |
| Implementation of procedures to comply with the requirement that each system lobbyist and the lobbyist's employer register with the Joint Legislative Ethics Commission and regular disclosure statements (to the Commission) in of the amount of the lobbyist expended in retirement system lobbying. | The Lobbyist Registration Statement were promulgated by the Joint Legislative Ethics Committee requiring disclosure by lobbyists of the "retirement system decisions" as to which the lobbyist was engaged during the most recent four-month reporting period, and the identity of the entity who employed the lobbyist for that matter. | ✓ |

10. Conflicts of Interest

a. Background

Chapter 742 contains provisions addressing conflicts of interest which predate S.B. 133. The law bars the Fund from doing business with any person who is or, during the most recent three years was, an employee, officer or Board member of the Fund, or with any firm controlled by such a person.⁸⁸ In addition, no Board member or employee may have any interest in the

⁸⁷ OP&F Board: A Treasurer of State's investment designee (new member), who is to be appointed by the State Treasurer and must meet certain statutorily specified qualifications; four employee members; two retiree members; and two investment expert members (new members) who must meet certain statutorily specified qualifications, one to be appointed by the Governor and one to be appointed jointly by the Speaker of the House and the President of the Senate. (The Attorney General, State Auditor, and the municipal fiscal officer member were removed.) STRS Board: A Treasurer of State's investment designee (new member), who is to be appointed by the State Treasurer and must meet certain statutorily specified qualifications; the Superintendent of Public Instruction or an investment - expert designee (new alternative to the Superintendent) appointed by the Superintendent who must *meet* certain statutorily specified qualifications; five "contributing" members (formerly "teacher" members); two retired teacher members (an addition of one retired teacher member); and two investment expert members (new members) who must meet certain statutorily specified qualifications, one to be appointed by the Governor and one to be appointed jointly *by the* Speaker of the House and the President of the Senate. (The Attorney General and State Auditor were removed.)

⁸⁸ O.R.C. Sec. 742.111



gains or profits of any investment made by the Board.⁸⁹ The statute's prohibited transaction provision⁹⁰ identifies a broad category of transactions not to be undertaken by the System with any "party in interest." The enumeration of such transactions is modeled on ERISA's prohibited transaction provisions.⁹¹

FUNDAMENTAL PRINCIPLES REGARDING CONFLICTS OF INTEREST:

- *The nature of retirement systems such as OP&F demands a high degree of confidence from the beneficiaries of the funds and the public in general. Every board member and employee is expected to exhibit the highest level of integrity, professionalism, and ethical behavior.*
- *Public retirement systems typically operate pursuant to ethics codes, disclosure requirements, conflict of interest prohibitions, and other policies designed to ensure the proper administration, effective operation, and prudent investment of assets. A "conflict of interest" is any action that is or reasonably appears to be influenced by consideration of personal gain or benefit to any third party or entity rather than motivated by the best interest of the beneficiaries for whose benefit the assets under control of the board are invested. Such conflicts of interest involve gifts and disclosure of confidential information. A Code of Ethics may also cover specific issues, such as personal securities trading, political contributions, and travel and entertainment.*
- *Adherence to ethics policies, such as those that relate to managing conflicts of interest, are critical for the Board and staff to carry out their fiduciary responsibilities.*

See also our review of investment professionals ethics policies in Management Section 2(B)(c).

OBSERVATIONS REGARDING CONFLICTS OF INTEREST:

- Unlike ERISA, Ohio law does not define the term "parties in interest."

⁸⁹ O.R.C. Sec. 742.113.

⁹⁰ O.R.C. Sec. 742.112.

⁹¹ ERISA Sec. 406(a).



- In addition, and also unlike ERISA, Chapter 742 contains a broad exception allowing transactions with parties in interest if they otherwise satisfy the standards of prudence and if the terms of the transaction “are comparable to the terms and conditions which might reasonably be expected in a similar transaction between [unrelated] parties. . . .”⁹²
- We are not aware of any procedure OP&F has for identifying transactions that fall within the prohibited transaction provisions or for comparing the terms of a particular transaction with general commercial standards to determine compliance with the exception.

Recommendations A47 – A48

OP&F should adopt a prohibited transaction policy to define the term “parties in interest.” The policy should be modeled on the definition of “parties in interest” contained in ERISA.

OP&F should also develop a process for analyzing transactions with “parties in interest” to assure that their terms and conditions satisfy the legal standard of comparability to the terms of similar transactions between unrelated parties.

- OP&F also had in place, before S.B. 133 became law, a Policy Statement for Board members and a Code of Ethics for staff.
 - Procedures in place included regular reporting by investment and senior staff of their securities holdings, and requirement for advance permission to engage in personal securities transactions.
 - S.B. 133 imposed several new requirements.

⁹² O.R.C. Sec. 742.112(B).



- ✓ All Board members, and all employees designated as “state retirement system investment officers” must file financial disclosure statements with the Ethics Commission.⁹³
- ✓ These reports will be public documents.
- ✓ Ethics training must be provided to the Board and staff.⁹⁴
- ✓ Board members, “state retirement investment officers,” and other staff of the System “whose position involves substantial and material exercise of discretion in the investment of retirement system funds” are flatly barred from accepting travel expenses from any person.
- ✓ Other public officials and employees covered by the State’s ethics laws are permitted to accept such payments if incurred in connection with participation in a panel, seminar or speaking engagement or attendance at a meeting of a national organization the state agency belongs to. This exception does not apply to the Fund or the other retirement systems.⁹⁵
- Additional protection against conflicts of interest is derived from the provisions added by S.B. 133 requiring candidates for election to the Board to file with the Secretary of State financial disclosure reports detailing the contributions, in-kind contributions and expenditures associated with the campaign.

⁹³ O.R.C. Sec. 102.02(A).

⁹⁴ O.R.C. Sec. 742.103.

⁹⁵ O.R.C. Sec. 102.03(H)(2).



- Individuals and entities who make independent expenditures in connection with a candidate's efforts to be elected to the Board must also file a disclosure statement with the Secretary of State.⁹⁶
- These public documents will disclose the extent, if any, to which persons elected to the Board did so with the support of people or business who may be affected by the Board's decisions.
- S.B. 133 requires that the Board develop and submit to the Ohio Ethics Commission an ethics policy, and adopt such revisions to the policy that the OEC may require.
 - OP&F submitted to the OEC its existing Governance Policy, which incorporates the ethics policy, along with suggestions for minor changes.
 - The Board's ethics policy does not require that either Board members or investment staff obtain advance permission to engage in personal securities transactions. We acknowledge that the Fund's assets are externally managed, so neither the Board nor staff would automatically have access to the kind of advance information about the Fund's transactions that would render them privy to inside information it would be improper for them to trade upon for personal advantage. However, the investment staff may have opportunities to gather such information in the process of monitoring the external managers, and could learn of transactions by the Fund's managers before they become public. Such knowledge could give them an advantage over other market participants.

⁹⁶ O.R.C. Sec. 742.042



- Board members and senior staff are required to file annually with the Ohio Ethics Commission a detailed disclosure form which lists their investments in excess of \$1,000 in corporations incorporated or authorized to do business in Ohio, and other entities transacting business in Ohio.
- OP&F requires approximately 18-20 staff members, including several not covered by the OEC filing requirement, to submit financial disclosure forms to the Fund in order to identify potential conflicts of interest⁹⁷, but those forms do not require disclosure of investment holdings.
- OP&F’s Employee Handbook contains a section which bars insider trading as follows, “OP&F employees are prohibited from trading, either personally or on behalf of others, on material, nonpublic information or communicating material, nonpublic information to others in violation of the law. This conduct is frequently referred to as ‘insider trading.’ This policy applies to every employee and extends to activities within and outside their duties at OP&F.” The Handbook includes appropriate definitions of the word, “insider,” and the phrase “material information,” and advises employees to confer with the Investment Department’s Compliance Officer if they have questions.
- The Board’s reasonable steps to implement S.B. 133’s rigorous ethics requirements need only minor modification.
- Without effective compliance monitoring, even the best procedures are meaningless.

⁹⁷ Staff holding the following positions are required to submit the forms: Executive Director, Deputy Executive Director, General Counsel, Chief Financial Officer, Chief Investment Officer, Director Member Services, Internal Auditor, Purchasing Manager, Purchasing Assistant, Staff Attorney, Controller, Senior Investment Officer, Investment Officer, Healthcare Plan Officer, Investment Operations Officer and Cash Manager.



Recommendation A49

The Board should review with legal counsel and compliance staff whether staff should be required to obtain advance permission to engage in personal securities transactions and, if so, develop a policy and procedure for such approval. The disclosure form for staff should be revised to require disclosure of personal securities holdings, and both Board members and staff should be required to disclose all investments in excess of \$1,000 regardless of whether the companies invested in are incorporated in or do business in Ohio.

- The law also requires that the Board review its travel policy with the Ethics Commission and submit proposed new rules to the ORSC before adopting them.
 - OP&F’s Rule 742-16-01 permits Board members to receive reimbursement for “all proper, reasonable and necessary expenses actually incurred in the performance of their official duties” and requires advance approval from the Board (or the Chairman or Executive Director in case of emergency) of reimbursement for out-of-state travel. The Board has proposed to OEC to amend the Rule to eliminate the provision allowing board members to receive reimbursement from sources other than the Fund for meals and other food and beverages.⁹⁸
 - The Board adopted in October 2003 and amended in July 2004 a more detailed Travel Policy.
 - ✓ The Policy enumerates alphabetically (from “Alcoholic Beverages” through “Workout Fees”) 32 specific categories of expense for which reimbursement will not be provided. The amendments approved in July, 2004 impose a dollar caps on meals (\$60.00 per day).

⁹⁸ This amendment would appear to be necessary to bring the policy into compliance with Chapter 102 in view of the changes enacted by S.B. 133 discussed above.



- ✓ The amendments also set a maximum of \$6,000 per year per member for reimbursement for travel out-of-state, to be limited to three such trips for year.
- The Board may wish to consider reducing the number of reimbursable out-of-state trips to one per year in view of the fact that Board members will be attending two in-state educational programs each year.
 - If the Board made such a change, the dollar cap on reimbursement could be reduced accordingly.
 - The OP&F Travel Policy explicitly requires receipts only for meal expenditures, and the Fund's expense reimbursement form permits the Board member to certify that an expense was actually incurred in lieu of presenting receipts. IFS was advised that, in practice, receipts are required for all expense reimbursements other than tips unless the trustee certifies the receipt was lost.

Recommendation A50

The Board's Travel Policy should be revised to conform to the practice of requiring submission of receipts for all expenses other than gratuities.

11. Custodian

a. Introduction

FUNDAMENTAL PRINCIPLES REGARDING CUSTODY:

- *A fundamental function of the banking system for many years has been the custody of securities. Often this is combined with a trust responsibility, which is a legal and fiduciary relationship. Regardless of whether trusteeship is involved, custody is an operational and financial function.*



- *The barest essentials of custody are to hold securities either physically or in legal name in an electronic depository, to effectuate receipt and delivery of securities following purchase and sale transactions, to collect income, and to provide accurate inventory and accounting. Most banks can do this to some degree. A number of regional banks have fairly sophisticated personal trust systems that can perform the basic functions reasonably well. However most of them have only limited capabilities that are primarily designed to handle a low volume of uncomplicated securities positions.*
- *Large, complex institutional investors need to custody their portfolios in banks providing global master trust and custody services. Investment activities cannot be accomplished within legally required time limits without maintaining an institutional trustee or custodian. The distinction is legal, not operational.*
- *The custodian's basic responsibility is to effect receipt and delivery of securities traded by the investment managers, to collect income on those securities, and to maintain accounting records of all holdings and activities.*
- *Master trust and custody banks provide a wide range of operational and recordkeeping services, and can manage multiple investment entities (for example separate pension plans) through a combined set of investment accounts without violating the legal separation between the entities. Such master trust and custody banks become global when they have the direct and/or indirect capability of providing custody services in many countries linked electronically and consolidated into a single reporting system.*
- *Pension master trust and custody is a service business line provided by a limited number of banks, which requires highly complex and developed systems, and thus significant continual investments in hardware, software, communications systems and personnel. As the need to automate the process has increased, dozens of major regional banks have stopped offering pension master trust and custody services and have limited themselves to the low volume, limited reporting needs of local personal and corporate trust.*
- *Modern global markets consisting of many types of securities, electronic depositories, straight-through and near straight-through processing (essentially same day), the need for real-time, trade date portfolio information, and a wide range of sophisticated analytics demand custody banks to have very complex, sophisticated systems to support the custody operation. Master trust and custody banks that have the capabilities to provide the comprehensive range of functions and services necessitated by large sophisticated institutional investors are referred to in the industry as the "top tier" custodians. Only about six or seven U.S. banks are alluded to as the "top tier" global*



custodians⁹⁹ because they have made the strategic decision and investment of capital to develop and maintain a competitive position in the pension master trust and custody market and to attract the volume necessary to support it. There may be an equal number of foreign banks in this category. (See Exhibit D, Comparison of Current Custodians Capabilities vs. Top-tier Custody Bank Capabilities.)

- *Custody is largely a network of highly automated, tightly controlled communications and reporting systems. The custody relationship involves not only electronic links, but interpersonal relationships among the fund, the investment managers, the brokers, the governmental and private agencies who hold securities must be working flawlessly to avoid trade fails and other loss of value. Changing custodians requires a transition that is an enormously complex task. Even moving from one top tier custody bank to another, where both have highly sophisticated recordkeeping systems, is a challenge.. Additionally, the visible and hidden costs of transitioning from one custodian to another are easily in the hundreds of thousands of dollars. For these reasons, most institutional investors change custodians very infrequently unless there is a material reason that compels change.*

BACKGROUND DISCUSSION REGARDING THE OP&F CUSTODIAN RELATIONSHIP¹⁰⁰

Chapter 113 of the Ohio Revised Code provides that the Ohio Treasurer of State is the statutory custodian for all state agency funds. Section 113.051 of Chapter 113 ORC establishes the Ohio Treasurer of State's custodial duties and provides that the Ohio Treasurer of State may enter into sub-custody agreements to delegate the custody functions to qualified financial institutions acting as sub-custodians consistent with the requirements of section 135.18 of the Ohio Revised Code. Given that even the basic accounting and security clearance functions in today's automated society can be done efficiently only through financial institutions, this delegation is essential. All domestic and international custody functions are delegated by the

⁹⁹ May 2005 survey of Global Investor magazine provided the top ten unweighted rankings of client satisfaction (U.S. banks providing services to institutional investors only). The survey ranking acknowledged Mellon (#4), Northern Trust (#5), Citigroup (#7), Bank of New York (#8), JPMorganChase (#9), and State Street (#10). All six also are on the top ten list weighted by size of account, although in a different order. The other four banks are non-U.S. or provide services to investment funds and managers.

¹⁰⁰ IFS was not retained nor is it authorized to practice law in the state of Ohio. For this reason, we necessarily rely on the interpretations of statutory provisions that have been provided to us during the review and comment process. Our discussion and observations may point out areas of inconsistency and question whether certain statutory provisions impede the retirement system's duty to administer its operations in the most effective and efficient manner. However, the discussion and observations found in this section (as well as the report as a whole) are not intended as contrary legal interpretations of the treasurer's authority or implementation of applicable law as presented to us by the treasurer's Office.



Ohio Treasurer of State to one or more financial institutions for each respective Ohio pension fund.

Section 61 of Chapter 742 O.R.C. designates the Ohio Treasurer of State as the custodian of all funds under the control and management of the Board of trustees of the OP&F and all disbursements of such funds shall be paid by the Ohio Treasurer of State.

Section 113.05(B)(2) provides that funds may be kept in “secured and insured depositories in or out of [Ohio] as designated by the treasurer of state.”

b. Evaluation of OP&F’s’ Relationship with Their Custodian

1) Summary Of General Observations Regarding OP&F’s Custody Bank Relationship

OBSERVATIONS REGARDING CUSTODY BANK RELATIONSHIP:

- Consistent with applicable statutory authority, The Ohio Treasurer of State has exercised this power and has designated various banks to perform the services involved in custody of pension securities. During our review we found no instance where the Treasurer acted inconsistent with the authority granted in the current Ohio statutory custody model.
- The Ohio Treasurer of State’s Office informed IFS that Section 135.18 of the Ohio Revised Code requires the Ohio Treasurer of State, as custodian, to select institutions that maintain an Ohio presence.¹⁰¹ Ohio is not a major financial center and currently no “top-tier” custodial banks are headquartered there. There are several very capable regional commercial banks headquartered in Ohio that are well qualified to handle depository

¹⁰¹ It was also acknowledged that the language of § 135.03 ORC which provides that “any national bank located in this state and any bank as defined by section 1101.01 of the Revised Code, subject to inspection by the superintendent of financial institutions, is eligible to become a public depository, subject to sections 135.01 to 135.21 of the Revised Code” appears contradictory.



transactions and may have some capabilities in certain other typical custodial functions such as securities lending. However, while capable to perform many functions, they have limited capability to maintain the quality of securities clearance, recordkeeping, valuation, and controls for domestic custody of complex securities and no capability to perform global custody services that are required for direct investment in foreign securities. In order to enable the retirement systems (in this case OP&F) to obtain global and more sophisticated custody services, other institutions must be retained. IFS has been advised that Ohio law permits the Ohio Treasurer of State, as custodian, to further delegate global and more sophisticated custody functions to sub-custodian banks,¹⁰² and that those banks do not have to be an Ohio depository banks. Thus, non-Ohio depository banks are utilized for non-U.S. custody and domestic custody, clearance, income collection and reporting functions are typically handled by institutions that maintain an Ohio presence. Only about 20% of OP&F assets are non-U.S and virtually all of its assets are managed externally.¹⁰³ Under current law, OP&F is not able to have the advantage of a top-tier custody bank for the majority of its assets.

- Since Ohio law vests custodial authority in the Ohio Treasurer of State, all decisions regarding (a) which depository bank should be the primary bank custodian for any fund required by law to be kept in the custody of the Ohio Treasurer of State (e.g., OP&F), (b) when and how frequently OP&F custody banks should change, (c) the appropriate pricing structure OP&F pays for custody services, and (d) what provisions should be in the bank custodian contract are within the sole purview of the Ohio Treasurer of State.
- It is our understanding that OP&F has been afforded the opportunity to provide input into the selection and management of the custody banks and in 2003, the Ohio State Treasurer entertained OP&F's request to change domestic custody from U.S. Bank to Huntington.

¹⁰² We were informed by the Ohio Treasurer of State's Office that the sub-custodian bank may also hold domestic securities and that each need is examined on a case-by-case basis.

¹⁰³ Only cash is managed internally at the time of our due diligence.



¹⁰⁴ However, any such participation is discretionary and not OP&F's right since OP&F is not statutorily assigned custodial duties for its own assets. Therefore, if OP&F does advise the Ohio Treasurer of State of serious deficiencies in an existing custody relationship, OP&F has no control over whether or not action will be taken or whether a chosen successor will be capable of providing services that address the problem.¹⁰⁵

- IFS was advised that the current law does not permit sharing or delegation of the Ohio Treasurer of State's custodial authority to the retirement systems. For that reason, OP&F is bound by all decisions of the Ohio Treasurer of State regarding the custody bank. Thus, pursuant to Ohio law, OP&F has no control over the custody bank it must use in fulfilling its legal requirement to (a) invest fund assets prudently and (b) defray reasonable expenses.¹⁰⁶ At the same time, Ohio law makes clear that the Ohio Treasurer of State does not have investment responsibility for the fund assets.¹⁰⁷
- We understand Ohio Treasurer of State's custodial role and responsibility is dictated by Ohio law and that the selection of the custodial bank (including the requirement to use a bank with an Ohio presence) is a consequence of compliance with such law. However, we believe it results in a custody services structure that is more costly and less responsive to the legitimate needs of OP&F (and the other pension systems) to manage their investment operations and achieve the most efficient net return. While in a legal sense the Ohio Treasurer of State is the primary user of custody services, absent the need for physical protection of negotiable instruments, the primary operational user of custody services are the retirement systems (in this case OP&F).

¹⁰⁴ In 2002 the Ohio Treasurer of State also entertained OPERS' request to change international assets from Chase to State Street.

¹⁰⁵ Whether or not the Ohio Treasurer of State has been responsive is not the issue. The issue is the fact that the Treasurer does not have to address any concerns or problems raised by the retirement funds.

¹⁰⁶ See, §742.11(A) ORSC.

¹⁰⁷ §113.051 ORC -- "the duties of the treasurer of state do not include making investment decisions of an owner...is not responsible for the investment decisions of an owner. ... " nor is the treasurer responsible for "monitoring compliance with an owner's internal investment policies." "Owner" means the governing board or officeholder responsible for any funds required by law to be kept in the custody of the treasurer of state, i.e., OP&F.



- Securities lending is not viewed as custody. Accordingly, OP&F has the authority to select an institution to execute securities lending. Further, the institution is not required by law to be an Ohio depository bank. OP&F has used Key Bank, which is headquartered in Ohio, for securities lending for many years. Securities lending is a service that some regional banks have the capability to execute.

2) The Consequences Of The Current Ohio Statutory Custody Model

OBSERVATIONS REGARDING THE CONSEQUENCES OF THE CUSTODY MODEL:

- Requiring OP&F to use a bank that does not have the necessary systems and required level of services results in exposure to the types of risks set forth below. Not all of these risk situations are necessarily occurring frequently today, but all are more likely when using a non-“top tier” custody bank.
 - Increased risk of receive and deliver fail, especially with more complex types of securities.
 - Delay and possible error in income collection, especially with more complex securities.
 - Delay and possible inability to collect the maximum possible recovery on foreign withheld taxes (including on ADRs which may be held in domestic portfolios).
 - Greater pricing discrepancies related to reconciliation of investment manager’ values, (possibly combined with less sophisticated capabilities) increase administration time and delays in closing of books.



- Inability to manage and support securities litigation activities optimally.
- The current custody model is made to work in most cases, although overall not as efficiently or economically as it potentially could work.
 - The ability to provide supplemental services is a chronic weakness at most second tier custody banks.
 - Given the existing statutory framework, improvement will not be accomplished by changing banks. Making further changes at this time will merely create further costs and distract staff from higher value-added activities.
- The current custody structure, particularly the Treasurer of State's day to day involvement and oversight of OP&F's investment transactions, is overly complex. Complexity increases the risk of error and delay.
 - The Ohio Treasurer of State is statutorily the custodian, but is not a financial institution able to effect transactions.
 - The Ohio Treasurer of State requires every trade and securities position to be reconciled daily with its own internal custody records. Thus every transaction every day needs to flow through the investment manager, Huntington, OP&F and the Ohio Treasurer of State. Every non-U.S. transaction must, in addition, also go through Bank of New York.
 - An additional layer of complexity is created when securities lending is incorporated into the mix. Notwithstanding the fact that the securities lending agent is selected by OP&F, the securities lending agent must nevertheless know what securities are available on a real time basis, and when securities on loan have been sold or



otherwise recalled. Typically, although not in all cases, securities lending is done by the custody bank in order to reduce the additional information flows that a third party securities lending agent needs to function. However, Huntington Bank does not have the capability to manage an effective domestic (or international) securities lending operation. The global custodian bank – Bank of New York -- has the ability to manage a domestic and international securities lending program. However, OP&F elected to retain State Street to handle non-U.S. securities lending and Key Bank as domestic third party securities lending agent. This requires both Huntington and Bank of New York, respectively, to maintain real time data links with the two agent banks.

To assist the reader in understanding the complexity of the information flows among the Treasurer, OP&F, and the various banks utilized for custody and securities lending, we have provided a flow chart, at Exhibit E, entitled *Ohio Police and Fire Pension Fund Custody Structure Flows of Data on Transactions, Holdings and Values*.

CONCLUSIONS REGARDING THE CURRENT CUSTODY MODEL:

- The current statutory custody model, particularly the in-state requirement, impairs OP&F's ability to invest assets of the Fund effectively and efficiently.
- Although the OP&F pays a fee for the custody bank services it receives (e.g. \$1.75 million for 2004), under the current Ohio custody statutory model, it has not authority over the selection, management, or termination of the bank that provides its custody services.

Set forth in Exhibit F are additional examples of how the current custody model has impaired OP&F's ability to invest the assets.



- Ohio is not the only state or municipality using the treasurer as “custodian of assets” model. There are a number of states and municipalities where the treasurer of state, as custodian selects the custody bank. Examples include Connecticut, Pennsylvania, New York City, and New Jersey, North Carolina, Michigan, and South Carolina. However, Ohio is the only state, to the best of our knowledge, that still utilizes a custody model that calls for the custody bank to have an in-state presence. This was previously a requirement in New Jersey and in Indiana. However, within the last several years, both states have eliminated this requirement.¹⁰⁸ Pennsylvania and New York City use custody banks with a local presence. However, they are not required to use a local bank and in their case both banks are “top-tier” custody bank. In a majority of states, the retirement systems (or the investment council) have the ability to select their custody bank.
- Even in a number of states where the state treasurer is designated as the custodian of all funds (e.g., Iowa, Missouri, New Mexico, Washington State) the treasurer does not select the bank to provide custody services to the retirement systems and/or the investment council (as applicable). For example, although pursuant to law¹⁰⁹ the Office of the Washington State Treasurer represents Washington state in all contractual relationships with financial institutions for custodial services, the Treasurer delegates that authority (e.g., to the Washington State Investment Board) to conduct the procurement for the services of a custodian bank.¹¹⁰ As in Ohio, securities lending is not viewed as custody, so the Washington State Treasurer does not have authority over the selection of the securities lending agent.

¹⁰⁸ Indiana changed its law as recently as 2003. P.L. 72-2003 eliminated the requirement that the board utilize an Indiana bank. Instead, the board is now authorized pursuant to IC 5-10.3-5-5 to use a bank domiciled in the US and approved by the Indiana Department of Financial Institutions under IC-28-1-2-39.

¹⁰⁹ Revised Code of Washington (RCW) 43.08.015.

¹¹⁰ See RFP#06-05, RFP for Global Custodian and Securities Lending Services, issued November 1, 2006. Based on the selection and recommendation of the Washington state investment board, the Washington State Treasurer will execute the global custodian contract resulting from the procurement. The Executive Director of the investment board will execute the contract for securities lending with the same firm.



- The changing nature of the securities markets and the basic process of custody have rendered the current Ohio statutory custody model obsolete. Modern custody of securities no longer requires physical holding of securities in order to safeguard them; custody is now electronic communication and reporting. Recordkeeping and reconciliation of custody data is no longer a function of inventorying physical securities. (See Table, entitled *Comparison of Custody “Then” and “Now”*, in Investment Issues Section 9(A).)
- It has been suggested that the current custody model was created to add additional safeguards and oversight to better protect the pension funds’ assets. Safeguard and oversight can be required components of a custody model that is more consistent with best practices. Procedures exist that make available computerized comparisons of security holdings, values, and cash flows; providing a safeguard on the accuracy of custody records at least equal to, and in many ways better than, reconciliation of each transaction and each value did in former times at a significantly lower cost in time and personnel.
- It is less than optimal for the authority to select and terminate the custody bank to be vested with a single elected official, without at least some degree of binding involvement from the retirement system’s board of trustees that must use the services of the custody bank. Particularly since the board of trustees is bound to a rigorous fiduciary standard of care and duty of loyalty to its members.
- Ohio law should be amended to establish an alternative statutory custodial model that is more consistent with best practices – a legal and operational structure that empowers the OP&F board of trustees to decide whether to change custody banks, who to select, and the authority to manage the provider of its custodial services.



Recommendations A51 – A55

We recommend that the applicable Ohio statutes be amended to remove the requirement that financial institutions retained to provide custodial services must have a presence in Ohio.

We recommend that the applicable Ohio statutes be amended to grant authority to select, contract with, manage, and terminate the financial institution(s) that will provide master custody services to the retirement systems which are subject to the oversight jurisdiction of the ORSC.

As an alternative to granting the retirement systems the power to independently select the custody bank, we recommend that the statute be amended to (a) allow the pension fund to select the custodial bank from a list of candidates developed by the Treasurer of State, pursuant to specific written criteria established by the respective pension fund defining the services required, and (b) require the consent of the retirement system as a prerequisite to effecting a change of their respective custody bank.

To maintain accountability and oversight, we recommend amending the applicable statutory language regarding the Ohio Treasurer of State custody bank reporting requirements to provide for periodic review, spot check, and audits rather than complete transaction data transfer.

12. Internal Controls and Risk Management

a. Introduction

FUNDAMENTAL PRINCIPLES REGARDING INTERNAL CONTROLS AND RISK MANAGEMENT:

- *The primary role of the system of internal controls is to provide management with reasonable, but not absolute, assurance that investments and investment transactions and related income including realized and unrealized gains and losses are adequately safeguarded and accounted for properly.*
- *Risk identification, analysis and assessment are essential components of the control structure of an organization. A properly functioning enterprise risk management¹¹¹*

¹¹¹ COSO. *Enterprise Risk Management – Integrated Framework*. Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.



process can help Board and staff achieve the pension fund's established performance and profitability targets and prevent loss of resources. Enterprise risk management helps ensure effective reporting and compliance with laws and regulations, and helps avoid damage to the Board's reputation and associated consequences. In the absence of an enterprise risk management process, risks and opportunities that confront a pension fund may not be properly addressed. Insofar as assets are internally managed, enterprise risk management takes on greater significance.

- *Investment risk is best controlled through investment policy statements and investment manager guidelines.*

BACKGROUND

Outside pressures on the organization in 2004 placed OP&F in the political and media spotlight. The pressure resulted in significant changes in the governing laws and the System's operating state.

Responsibility for review and approval of manager and custodian invoices at OP&F falls under the Compliance Officer.

FUNDAMENTAL PRINCIPLES REGARDING INTERNAL CONTROLS AND RISK MANAGEMENT:

- *Having detailed procedures facilitates the important control mechanism of reviewing and verification by internal audit.*
- *The lack of detailed documentation of procedures and controls over implementation increases the likelihood that risk reduction mechanisms will not be adequately followed, especially when personnel changes occur.*
- *Turnover in management and operating personnel is a regular occurrence. Sometimes such transitions can be managed with sufficient overlap and training, but often new people need to find their own way. General policies are helpful in these situations, but detailed procedure documents provide greater assurance that personnel change will not result in a lapse of control.*



GENERAL CONCLUSIONS REGARDING INTERNAL CONTROLS AND RISK MANAGEMENT:

- The fundamental elements of an internal controls and risk management process are in place at OP&F, and are being followed, but the process is not sufficiently documented. Therefore documentation enhancements are needed to be more reflective of best practice.

1) Internal Controls for Compliance with Adopted Standards, Policies and Procedures

OBSERVATIONS REGARDING INTERNAL CONTROLS AND RISK MANAGEMENT:

- *The System's Policy and Procedures Manual* includes a brief policy on the review process of each type of invoice.
- *Action Checklists* - There are check sheets of the principal actions needed to establish a newly hired manager and to remove a terminated one.

2) Controls over Payments

FUNDAMENTAL PRINCIPLES REGARDING CONTROLS OVER PAYMENTS:

- *Managing the approval of invoices for payment is a fundamental risk control process. It is also one that is relatively easy to effect, in that fees are normally paid in hard dollars based on contractually explicit terms.*
- *Control over the validation and approval of payments is a vital aspect of financial security.*
- *For an investment fund with external management, the largest set of third party payments is to investment managers and custodians.*
- *Manager fees are almost universally based on a rate applied to assets under management and typically the contract specifies which asset value is to be used (e.g., quarter end value from the custodian's audited statement). There may also be a performance based component.*



- *Custodian fees are typically a combination of asset based, transaction, and fixed fees for various parts of the relationship. Invoices are typically created by the vendor for review and payment by the client.*
- *The typical process of reviewing such invoices is to confirm asset values, contractual rates, and if applicable transaction volumes and rates of return, and then to verify the accuracy of the calculation. In addition, such a process needs to include a control for inclusion of new managers and removal of terminated ones.*
- *Adequately documenting processes in readily available manuals has many benefits. Failure to document, subject the pension fund to institutional memory risk, as well as implementation risk, i.e., the staff carrying out the procedure may know all the details but they may leave without other staff knowing the process. Thus, the absence of detailed documentation leads to risk of error or omission in the implementation of the process if there is a sudden unexpected change in personnel.*

OBSERVATIONS REGARDING CONTROLS OVER PAYMENTS:

- *The Investment Manager and Custodian Invoice Review Procedures* document describes what is done, but does not specify by whom and how.
 - This entire procedure is only two paragraphs long.
 - The manager invoice section states only that the “[I]nvoices are reviewed for accuracy based on the compensation terms set forth in the Investment Manager Agreement....”
 - Key elements to the procedure that are missing include:
 - ✓ who is responsible for verifying the invoice,
 - ✓ who reviews and approves the verification,
 - ✓ where certified asset values are obtained,
 - ✓ where rate tables are maintained and checked, and
 - ✓ where other applicable terms of the contract are maintained and checked.



- **The custodian invoice procedure** is equally brief, stating only that “[I]nvoices are reviewed for accuracy based on the reasonableness of the number of billed transactions for the month.”
 - Custody invoicing is especially prone to inaccuracy, because pricing is often complex. Each security that is received or delivered for sale or loan incurs a charge, so does each collection of income, each movement of cash, and numerous other operating activities.
 - There are fee components based on assets, requiring the same process to certify accuracy as is needed for a manager invoice.
 - This billing is further complicated since the source of all the data underlying the invoice is generated by the custody bank itself.
 - The process of verifying custody invoices can be done reasonably; but it can also be carried beyond the point of cost justification. Unless a custody bank has a demonstrated history of materially erroneous billing, not every invoice has to be reviewed much beyond a reasonableness test every month. Reviewing asset values should be done, based on the manager-custodian reconciliation process. However, transaction volumes, which can be reconciled to the custodian’s detailed activity reports, need to be done on a spot basis only.
- Overall, we found that the policy and procedure documentation to be too brief and lacking in detail and specificity.
 - However, we did not find any evidence that an appropriate process for verifying reasonableness of the invoice amounts (given asset values) was not in place and being followed.



Recommendation A56

We recommend that the procedures for these functions be expanded in the Manual to include sources of information, outline of process, and responsibilities by position.

3) Internal Auditing

Periodically the Association of Public Pension Fund Auditors (APPFA) reviews the internal audit resources of public pension funds. APPFA's 2005 survey covered the internal audit staffing at over 40 public retirement systems. The APPFA 2005 survey results found that the average size of the internal auditing professional staff is approximately 2.3% of total staff size.¹¹²

OBSERVATIONS REGARDING INTERNAL AUDITING STAFF:

- When compared to average audit staff sizes of other public funds the OP&F Internal Audit department is understaffed. To reach the mere average of public funds OP&F would need to add two to three staff.¹¹³ At its current level of one, the Internal Audit department is below the mean as a percentage of total staff size.

Recommendations A57 – A58

OP&F should increase audit staff commensurate with its size, needs, industry practices to a total of three or four auditors.

In the event that OP&F cannot quickly act on our preceding recommendation to increase the number of internal audit staff, OP&F should supplement its Internal Audit capabilities with outsourcing audits in accordance with an approved audit plan until staff size and capabilities come up to speed.

¹¹² Association of Public Pension Fund Auditors, Inc. Survey of Public Pension Funds reported the following audit staff size for the ten pension funds listed: CalPERS -- 36 auditors; LACERA -- 7; COPERA -- 5; LASERS -- 8; TRS of LA -- 8; NYSERS -- 16; NYSTRS -- 9; OH PERS -- 6; TX TRS -- 8; and VRS 5.

¹¹³ APPFA. Survey of Public Pension Funds. The average size of audit staffs is approximately 2.3% of all staff.



4) The Number and Frequency of Internal Audits

OBSERVATIONS REGARDING NUMBER OF INTERNAL AUDITS:

- While the internal auditor endeavors to function according to professional standards the overall task is not likely to be addressed effectively or efficiently given its current understaffing (discussed above).
- For this reason, it is virtually impossible for the team of one to properly audit OP&F. The auditor is responsible for all aspects of internal auditing and for both investments and benefits functions of the System. Ideally the internal auditor should be planning audits annually to be done by a staff of around four, while in reality he can barely hope to dent the audits that should be and need to be done. The OP&F auditor has identified 63 auditable areas. 43 of these are ranked High to Moderate risk. Over half of the remaining 20 areas that are ranked Low risk are in the IT area. If the audit cycle were to cover these 53 areas it would take the auditor 10 years (at 5 audits per year) to make one cycle. Within the 43 High to Moderate risk category, fully 30 areas require specialized knowledge and expertise in health, information systems, and investment related fields.
- We can easily conclude that the department's internal audit plan is incapable of achieving an appropriate level of audit coverage necessary to accomplish generally accepted management objectives for an IA department, assuming that three or four auditors are required. We hasten to point out that this is not a criticism of the current audit staff.

Recommendation A59

Consistent with the above, OP&F should increase the size of its internal audit department and develop an audit plan that is appropriate.



5) Internal Audit Structure

OBSERVATIONS REGARDING INTERNAL AUDIT STRUCTURE:

- Although the internal audit function at OP&F consists of only one professional, it is at an appropriate level within the organization and properly aligned. Internal auditor reports directly to the Board and administratively to the Executive Director. This structure is consistent with best practice.
- The Internal Auditor job description provides sufficient latitude for the incumbent to conduct his activities in accordance with the Standards for the Profession Practice of Internal Auditing. The incumbent auditor is well qualified for the position.

Recommendation A60

Once the appropriate size and plan are achieved the Audit Committee should periodically conduct a Quality Assessment in accordance with professional standards.¹¹⁴

- The internal auditor is in the process of preparing an audit manual to serve as a guide for the activities of the department.

Recommendations A61 – A64

The preparation of the internal audit department manual should be completed within a reasonable time period.

Other supportive internal audit documentation and tools should also be developed such as a “recommendation tracking tool” for the Audit Committee. The “recommendation tracking tool” periodically reports the status of all internally or externally developed audit recommendations.

Management should consider developing and issuing a Fraud Policy Statement. In the absence of such a statement, the Internal Auditing Department operates in a vacuum since its role in a fraud is not clearly defined.

¹¹⁴ We understand the P&F has a QA scheduled for the latter part of 2006.



Recommendations A61 – A64

The department (and the rest of the OP&F) would benefit from a clearly stated and approved policy on matters where fraud is alleged. Such a policy would also serve as the basis for other OP&F staff and the System as a whole to deal efficiently and effectively with fraud should it occur.

b. OP&F's Holistic View of Risk Management

FUNDAMENTAL PRINCIPLES REGARDING HOLISTIC VIEW OF RISK MANAGEMENT:

- *The current paradigm on risk management is to take an enterprise view of risk.¹¹⁵ This view, as described by the Committee of Sponsoring Organizations (“COSO”)¹¹⁶, is based on several premises:*
 - *Every entity exists to provide value for its stakeholders.*
 - *All entities face uncertainty and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value.*
 - *Uncertainty presents both risk and opportunity, with the potential to erode or enhance value.*
 - *Enterprise Risk Management (“ERM”) enables management to deal effectively with uncertainty and associated risk and opportunity, enhancing the capacity to build value.*
 - ✓ *Enterprise Risk Management encompasses the original internal control framework components developed thirteen years ago¹¹⁷ and incorporates them into the new ERM - Integrated Framework¹¹⁸. The new ERM Framework adds objective setting, event identification, and risk response to arrive at the new integrated framework:*

¹¹⁵Enterprise Risk Management – Integrated Framework. 2004.

¹¹⁶ Committee of Sponsoring Organizations of the Treadway Commission (SEC). It is generally acknowledged that the principles of the Committee and the COSO Framework extend beyond for profit organizations to other organizations.

¹¹⁷ Internal Control – Integrated Framework. COSO/Treadway. 1992.

¹¹⁸ Op cit.



| Old Paradigm Components of the 1992 COSO Internal Control Framework | Components Added by the ERM Framework | New Paradigm 2004 - Enterprise Risk Management – Integrated Framework |
|--|--|--|
| Control Environment | → | Internal Environment |
| | Objective Setting | Objective Setting |
| | Event Identification | Event Identification |
| Risk Assessment | | Risk Assessment |
| | Risk Response | Risk Response |
| Control Activities | | Control Activities |
| Information and Communication | | Information and Communication |
| Monitoring | | Monitoring |

OBSERVATIONS REGARDING HOLISTIC VIEW OF RISK MANAGEMENT:

- Although the System takes a holistic view of portfolio risk management that is driven by its asset allocation, its view of overall organizational risk management is compartmentalized.
 - Each department head is held responsible for informal risk identification and mitigation within his/her own area without a mechanism for the conglomeration of risk management that culminates at the Executive Director and Board.
- Implementation of any new paradigm is not without cost and OP&F should consider the relative benefits and costs of implementing the ERM Integrated Framework prior to doing so. The COSO ERM – Integrated Framework contemplates an implementation program that begins at the top of the organization with a champion, the CEO and Board,



to assume ownership. Cost considerations would include staff time and possible software tools designed for ERM, i.e., a risk database.

Recommendation A65

OP&F should consider implementation of an enterprise risk management framework that incorporates the Observations recommended in the COSO ERM – Integrated Framework.

c. The Role of Internal Audit in Enterprise Risk Management¹¹⁹

Implemented by management, ERM is evaluated by the internal auditors for effectiveness and efficiency.

- *Internal auditors, in both their assurance and consulting roles, contribute to the management of risk in a variety of ways. They play a key role in evaluating the effectiveness of – and recommending improvements to – ERM. IIA Standards specify that the scope of internal auditing should encompass risk management and control systems.*
- *The internal auditor's varied roles in and emphasis on ERM are dependent on the maturity of the ERM process in the organization. The safeguard that should be put in place before the internal auditors carry out their ERM-related roles is to ensure that the entire organization fully understands management's responsibility for risk management.*
- *The internal auditors' core ERM role is to provide objective assurance to the board and senior management on the effectiveness of the ERM activities in helping ensure key business risks are managed appropriately and the system of internal control is operating effectively.*
- *Internal auditing's key ERM-related roles and assurance activities include:*
 - *Providing assurance on the design and effectiveness of risk management processes.*
 - *Providing assurance that risks are correctly evaluated.*
 - *Evaluating risk management processes.*
 - *Evaluating the reporting on the status of key risks and controls.*

¹¹⁹ Excerpts from Executive Summary of ERM Integrated Framework, issued by COSO - Sept 2004; Position paper by IIA -- The Role of Internal Audit in Enterprise-wide Risk Management - Sept 2004; IIA UK: "Position Statement on Risk-Based Internal Auditing"



- *Reviewing the management of key risks, including the effectiveness of the controls and other responses to them.*
- *Additional legitimate internal audit roles and consulting activities may help to protect the internal auditor's independence and objectivity when accompanied by adequate safeguards. They include:*
 - *Championing the establishment of ERM within the organization.*
 - *Developing risk management strategy for board approval.*
 - *Facilitating the identification and evaluation of risks.*
 - *Coaching management on responding to risks.*
 - *Coordinating ERM activities.*
 - *Consolidating the reporting on risks.*
 - *Maintaining and developing the ERM framework.*
- *The roles the internal auditors should NOT undertake are:*
 - *Setting the risk appetite.*
 - *Imposing risk management processes.*
 - *Providing assurance to the board and management*
 - *Making decisions on risk responses. This is management's responsibility.*
 - *Implementing risk responses on management's behalf.*
 - *Accountability for risk management.*

13. Investment Accounting

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT ACCOUNTING:

- *The primary purpose of an investment accounting process is to serve as a fundamental internal control over a system's investment activities in order to provide management with reasonable assurance that assets are properly safeguarded and that all transactions are recorded and reported timely and accurately in accordance with management's policy directives.*
- *A basic characteristic of the accounting process is that it should be independent of the people who have custody and control of the assets. A typical investment accounting system provides such controls primarily by maintaining a place in which all transactions are properly recorded, ideally, at or near the time of the activity and 'ownership' of the accounting system is independent of the investment decision makers.*



OBSERVATIONS REGARDING INVESTMENT ACCOUNTING:

- At OP&F investment accounting functions are performed by the investment managers, the custodian and by OP&F's investment department staff. Staff has used the PAM¹²⁰ Investment Accounting package since 2000 purchased from Princeton Asset Management (PAM), now a subsidiary of State Street. Seventy-five percent of peer funds reported using a purchased or leased investment accounting system. Whereas 62.5% of peer funds reported using the custodian as the holder of official accounting records, OP&F has decided to bring investment accounting in-house. This decision is consistent with good internal control principles, which suggest that there be adequate separation between the custody and accounting functions.
- The System's trading for domestic equities and fixed income is conducted externally by the investment managers and their systems do not interface with PAM automatically.
- Staff manually enters domestic transactions from trade blotters received from the investment managers. International transactions are manually entered from the custodian's records.
- All actual activity should be subsequently compared against the accounting records, either automatically or manually, and thus controlled.
 - This is accomplished at OP&F by comparison of cash and share balances through regular periodic reconciliations among the three accounting sources: investment manager, custodian, and the System.

¹²⁰ PAM, a product of Princeton Financial Systems (PFS). PFS is a subsidiary of State Street Corporation. PAM is a well known and widely used investment accounting system.



- Final reconciliations are also subject to supervisory review by the investment operations officer. Additionally, the PAM¹²¹ investment accounting system provides trade date financial reporting, managerial analysis capabilities and support for the System's general ledger.
- Summary entries are prepared from the reconciled investment accounting records for posting to the OP&F general ledger.
- While accounting systems are maintained by the managers and custodian, it is a best practice to also maintain a parallel accounting system for control purposes.
 - Since OP&F's recording of transactions is based on original transactions only for domestic securities, this control does not exist for international securities.
 - OP&F relies on the custodian to maintain the original book of record. This is not unusual since international trading often includes more complicated entries and corresponding currency transactions.

Recommendation A66

Investment accounting should report to the financial management area of the organization rather than the investment area.

¹²¹ PAM is generally well known by institutional investors to be a sophisticated investment support application capable of addressing global investment decisionmaking support, trading support, straight-through processing, recordkeeping, compliance, reconciliation, settlement, accounting, performance measurement and reporting.



B. Management Issues

1. Board Governance, Policies and Oversight

a. Effectiveness and Appropriateness of the Policies, Procedures, Rules, and Statutory Provisions Currently Used by the System for Board Governance and Compliance with These Procedures, Rules and Statutory Provisions

BACKGROUND

As used in this report, the term “governance” refers to the system by which an organization is directed and controlled. A governance structure defines the roles of various participants in the components of the organization’s decision-making process, including the identification of issues requiring action, analysis of alternatives, the making of the decision, the implementation of the decision, and for monitoring and assessing performance.¹²²

The System’s governance structure is articulated primarily in Chapter 742 of the Ohio Revised Code, as amended by the provisions of Senate Bill 133, other provisions of S.B. 133, the Board’s Rules set forth in Chapter 742 of the Ohio Administrative Code (the “Rules”) and the official Board Policies¹²³. We have already commented on the most significant elements of the statutes and the policies implementing provisions relating to travel and ethics (see Section 9(A) above), and will not repeat that discussion here. Rather, this section of our report will focus on the statutes, rules and official policies that relate to other aspects of the governance of the System.

¹²² See, generally, “Preamble”, *OECD Principles of Corporate Governance* (Organization for Economic Co-operation and Development, 2004).

¹²³ Except as indicated in the text, the Board Policies we reviewed were those in existence as of March 2005.



FUNDAMENTAL PRINCIPLES REGARDING BOARD GOVERNANCE:

- *A good governance structure includes most, if not all, of the following principal elements: accountability; transparency; fairness, responsiveness; inclusiveness, compliance with legal requirements; predictability; effectiveness and efficiency. These governance concepts are pertinent to all types of organizations, including public pension plans.*
- *It has been documented that the value of poorly performing companies improved significantly after the institution of good governance practices.¹²⁴ Thus, good governance adds value.*
- *Poor governance is an internal threat that can unnecessarily expose an entity to the possibility that policies and procedures may not be implemented properly. For a pension fund, poor governance creates the threat that the System's assets will underperform expectations.¹²⁵*
- *Good board governance creates the context for the pension fund organization.¹²⁶ The costs of poor public pension fund governance, particularly given a system's asset size and number of participants, are potentially greater than the costs of poor corporate governance.*
- *Poor governance is typically ranked as the principal barrier to excellence within an organization, followed by inadequate resources and lack of focus or of a clear mission.¹²⁷*
- *The starting point for a good governance structure is clear written documentation of its elements.*

¹²⁴ Wilshire study of "CALPERS effect." Steven L. Nesbitt, Long-Term Rewards From Shareholder Activism: A Study of the "CalPERS Effect", J. of Applied Corp. Fin. (Winter 1994), and Steven L. Nesbitt, The "CalPERS Effect": A Corporate Governance Update, July 19, 1995. The 1994 and 1995 studies were more extensive and supported Wilshire's initial 1992 study indicating that a company's stock performance seemed to improve as a result of CalPERS' focus.

¹²⁵ Public Pension Systems Statements of Key Risks and Common Practices to Address Those Risks, July 2000. Endorsed by the Association of Public Pension Fund Auditors (APPFA), the National Association of State Retirement Administrators (NASRA), and the National Council of Teachers Retirement (NCTR).

¹²⁶ The 7 Habits of Highly Effective Pension Funds by Keith Ambachtsheer, The Councilor, Council of Institutional Investors Newsletter, February, 2004.

¹²⁷ Source: "Excellence Shortfall in Pension Fund Management: Anatomy of a Problem" by Keith Ambachtsheer, Craig Boice, Don Ezra and John McLaughlin – October 1995.



OBSERVATIONS REGARDING BOARD GOVERNANCE:

- The policies and rules used by the System for Board governance are generally appropriate and effective. The System’s Policies and Rules cover all of the significant aspects of governance a sophisticated public pension fund requires. The Board’s statement of its “Mission, Vision and Values,” as posted on the OP&F website¹²⁸ was most recently updated on November 7, 2005. The Mission section of the statement refers to “providing retirement and related benefits, accurate information, dependable communication and valuable educational assistance to our members.” It also explicitly acknowledges the Board members status as fiduciaries, stating, “As responsible fiduciaries, we will professionally manage the resources of OP&F and implement its practices, plans and benefit services with the highest ethical standards.” This reference to ethics in the statement of the Mission indicates the high priority of ethical conduct at the Fund. The recitation of Core Values in the statement lists prudence, integrity and empathy, with focused declarations of the roles those values play in providing services to the members and operating the Fund.

OBSERVATIONS REGARDING BOARD COMPOSITION:

- We researched board composition at the 22 public pension funds, outside the state of Ohio, that constitute the customized peer group for STRS and OP&F. The results are set forth in Table B1 below – Board Composition Comparison. The OP&F peer group is highlighted in yellow and the STRS peer group is highlighted in blue. The average board size for the 22 funds identified in the table is 11 and the median is 11.
- The OP&F Board has nine trustees, and S.B. 133 did not change the size of the Board. When compared to other state and local public pension funds, a nine member Board is slightly smaller than the average size of the boards of the twelve retirement systems in

¹²⁸ Accessed at <http://www.op-f.org/values.asp>. The link to this statement appears at the bottom of various pages on the website, a location not particularly easy to find.



OP&F’s peer group. The average size of those boards is 10.2. However, the median board in the group has nine members.

| Table B1: Board Composition Comparison | | |
|--|------|---|
| Fund Name | Size | Board Composition Description |
| Ohio Police and Fire Pension Fund | 9 | 6 employee members elected by their respective member groups; 3 statutory members with professional investment experience (<i>one appointed by the Governor, one appointed by the State Treasurer, one appointed jointly by the Senate President and the Speaker of the House</i>) |
| State Teachers Retirement System of Ohio | 11 | 5 elected contributing teacher members; 2 elected retired teacher members; an investment expert appointed by the governor [1]; an investment expert appointed jointly by the speaker of the House and the Senate president [1]; an investment expert designated by the treasurer of state [1]; and the superintendent of public instruction or her designated investment expert [1] |
| The School Employees Retirement System of Ohio | 9 | 4 members are elected by the membership and 2 members are elected by service and disability retirees. The remaining 3 are appointed investment experts. |
| Ohio Public Employees Retirement System | 11 | 6 elected, 4 appointed and 1 statutory |
| State of Hawaii Employees’ Retirement System | 8 | 4 of the eight members on the Board are elected by the membership. 3 members are citizens of the State (<i>one of whom is an officer of a bank authorized to do business in the State or a person of similar experience, who are not employees and are appointed by the Governor</i>). The State Director of Finance is an ex-officio member by statute. [1] |
| Arkansas Teacher Retirement System | 15 | The Bank Commissioner, the Treasurer of the State, the Auditor of the State, and the Director of the Department of Education shall be the ex officio trustees. [4] 11 members shall be elected to the ATRS Board of Trustees – seven of whom shall be active members of the system with at least five years of credited service in force, one who is a member of a racial ethnic group and is either an active or retired member, and three (3) who are retiree members and reside in the State of Arkansas. |
| Teachers’ Retirement System of Oklahoma | 13 | The State Superintendent of Public Instruction, ex officio, The Director of State Finance, ex-officio, The Director of the Oklahoma Department of Career and Technology Education, ex officio (or his/her designee) [3]; 1 member appointed by the governor; 2 members appointed by the Governor and approved by the Senate – other [7] ? – Karen will call back before the end of this week. |
| New Mexico PERA | 12 | 10 elected by various portions of the members (4 by state members, 4 municipal members and 2 by retiree members); [2] ex-officio (State Treasurer, Secretary of State) – information provided by Jane Clifford @ PERA |



| Table B1: Board Composition Comparison | | |
|---|-------------|---|
| Fund Name | Size | Board Composition Description |
| Maine State Retirement System | 8 | The Treasurer of State or the Deputy Treasurer of State; A person who is a member of the retirement system through employment as a teacher; a person who is a member of the retirement system through employment as a state employee [3]; 4 persons appointed by the Governor and subject to review by the joint standing committee of the legislature, [1] a person who is a member of the retirement system through a participating local district and who must be appointed by the governing body of the Maine Municipal Association |
| Public Employee Retirement System of Idaho | 5 | Retirement Board consists of 5 members appointed by the Governor to fulfill five-year terms. 2 members of the Board must be active members of the system with at least ten years of service. The other 3 members are selected from private sector. |
| Employees' Retirement System of Rhode Island | 15 | The Retirement Board is composed of 15 members chosen in accordance with Title 36 of the Rhode Island General Laws |
| Indiana Public Employees' Retirement Fund | 6 | 5 are appointed by the Governor; 1 is Director of the Budget Agency or Director's designee – an ex officio voting member of the board (effective July 1, 2005–Senate Bill #149) |
| Indiana State Teachers' Retirement Fund | 6 | 5 are appointed by the Governor – 2 of the trustees must be Indiana educators eligible to be members of the Fund. A Director appointed by the Governor carries out the policies set by the board and administers the Fund on a daily basis. Pursuant to Indiana law, the Director is also required to be a member of the Fund. 1 is Director of the Budget Agency or Director's designee – an ex officio voting member of the board (effective July 1, 2005 – Senate Bill #149) |
| City of Los Angeles Police and Fire Pension System | 9 | 5 appointed by Mayor and 4 are elected – two are elected by active fire and police officers and two are elected by retired fire and police officers – currently have 8 – w/ one vacancy – currently have only 4 mayoral appointees. (information obtained over the phone - spoke with David) |
| Teachers' Retirement System of Louisiana | 16 | 12 elected, 4 ex-officio; The four ex-officio members include the State Superintendent of Education, the State Treasurer, and the Chairmen of the House and Senate Retirement Committees. |
| Colorado PERA | 16 | State Auditor and State Treasurer as ex-officio [2], 14 representative members are elected by mail ballot by their respective division members to serve on the Board for a four-year term |
| Georgia TRS | 10 | 2 ex-officio members – the State Auditor, the Director of the Office of Treasury and Fiscal Services; 5 Governor's appointees, 1 appointee of the Board of Regents who is a TRS member, 2 appointees made by the Board of Trustees. |



| Table B1: Board Composition Comparison | | |
|---|-------------|---|
| Fund Name | Size | Board Composition Description |
| Maryland State Retirement and Pension System | 14 | A combination of elected, appointed and ex-officio members |
| Michigan State Employees' Retirement System¹²⁹ | 5 | The State Treasurer [1] who may appoint a representative from the Department of Treasury to serve as a voting member of the board in the absence of the State Treasurer and 4 trustees appointed by the governor, with the advice and consent of the Senate. <i>(Not more than 2 of the trustees appointed under this subsection shall be members of the same political party).</i> |
| New York State Teachers | 10 | 3 teacher members, 1 NYSTRS retiree, 2 school administrators are appointed by the Commissioner of Education, 2 present or former school board members, 1 present or former bank executive is appointed by the Board of Regents, the State Comptroller or designee [1] |
| North Carolina Retirement System Board of Trustees of the Teachers' and State Employees' Retirement System | 14 | The Board of Trustees governing the State and Local Retirement Systems is composed of two governing bodies. The first is the Board of Trustees of the Teachers' and State Employees' Retirement and the second is the Board of Trustees of the Local Governmental Employees' Retirement System. <ul style="list-style-type: none"> ▪ The Board of Trustees governing the Teachers' and State Employees' Retirement System has 14 members. The State Treasurer and Superintendent of Public instruction serve ex officio [2]. 10 members are appointed by the Governor and confirmed by the Senate. 1 member is appointed by upon the recommendation of the Speaker of the House of Representatives and 1 member is appointed upon the recommendation of the President of the Senate. |
| Board of Trustees of the Local Governmental Employees' Retirement System | 17 | <ul style="list-style-type: none"> ▪ The Board of Trustees of the Local Governmental Employees' Retirement System has 17 members – the Board of Trustees of the Teachers' and State Employees' Retirement System, plus 3 additional members appointed by the Governor. |
| Public School Employees Retirement System of PA | 15 | Ex-officio [3] – Secretary of Education, the State Treasurer, the Executive Secretary of the PA School Boards Association; 2 persons appointed by the Governor, 3 persons elected by the active professional members of the system from among their number; 1 person elected by the active nonprofessional members of the system from among their number; 1 person elected by the annuitants of the System from among their number; 1 person elected by members of the PA public school boards from among their number; and 2 Senators and 2 members of the House of Representatives. |

¹²⁹ Bureau of Investments



| Table B1: Board Composition Comparison | | |
|---|-------------|--|
| Fund Name | Size | Board Composition Description |
| Teacher Retirement System of Texas | 9 | Board members are appointed by the Governor for six-year, staggered terms and are confirmed by the Senate. The governor designates the board’s presiding officer. |
| Tennessee Consolidated Retirement System | 19 | The Board consists of 9 ex-officio members. 8 representatives of the active TCRS membership and 2 representatives for retirees. |
| Virginia Retirement System | 9 | The Governor appoints 5 members, including the chairman. The Joint Rules Committee of the Virginia General Assembly appoints 4 members. The General Assembly confirms all appointments. Of the nine Board members, 4 must be investment experts; one must be experienced in employee benefit plans; one must be a local government employee; one must be an employee of a Virginia public institution of higher education; one must be a state employee; and one must be a public school teacher. The public employee members may be either active or retired. |

OBSERVATIONS REGARDING MEMBERSHIP CRITERIA:

- While it did not change the Board’s size, S.B. 133 significantly changed the makeup of the Board. The Attorney General (AG) and the State Auditor are no longer members of the Board. Given the fact that the AG is, by statute, “the legal counsel of the [B]oard,”¹³⁰ the AG’s presence on the Board created a potential conflict since he or she would, in essence, be his or her own lawyer. The AG’s absence from the Board mitigates somewhat the effect of the provision of S.B. 133 giving the AG the right to sue Board members for breach of fiduciary duty, but concerns still remain as discussed earlier in this Report. Likewise, removing the Auditor from the Board resolves conflict issues arising out of the Auditor’s oversight functions. S.B. 133 also eliminated the Board seat held by a municipality fiscal officer selected by the Governor. IFS is aware of a concern that the removal of the Auditor and AG from the Board deprives OP&F of potential sources of political support within the overall governmental structure of the State.
- These three seats are now held by an “investment designee” selected by the state Treasurer, and two “investment expert members,” one named by the Governor and one

¹³⁰ O.R.C. Sec. 742.09.



named jointly by the Speaker of the House of Representatives and the President of the Senate.¹³¹ Each of these three Board members, referred to on the Board’s website as the “Investment Members,” must “have direct experience in the management, analysis, supervision, or investment of assets.” And none of the investment members may have been employed by any of the statewide retirement systems, or by any firm that provided “services of a financial or investment nature” to any of the systems during the three years immediately preceding his or her appointment. The six elected Board members (two active police officers, two active firefighters, one “police retirant member” and one “firefighter retirant member” still constitute the majority of the Board.

- The changes in the Board’s composition to add the three investment members create challenges to preserve both the appearance and the reality that the Board’s decisions are not burdened by conflicts of interest. While the law now requires Board members running for election to one of the five seats for active members of the System or the two seats for retirees to disclose contributions to their campaigns, the “investment expert members” appointed by the Governor and the House Speaker and Senate President and the Treasurer’s “investment designee” need not disclose their contributions to the campaigns of the state officials who appoint them.
- In addition, while the System cannot do business with a Board member or a firm he or she controls¹³², that ban does not cover business dealings with the firm that employs the Board member, and does not restrict the other state-wide systems in their dealings with the Board member or his or her firm or employer. Thus, for example, an “investment expert member” of the OP&F Board can obtain brokerage business from the managers of the State Teachers’ Retirement System with that fund’s assets even as that same manager is managing an OP&F portfolio and subject to the OP&F Board’s oversight. In addition, there are no limits to a Board member’s employer’s dealings with the Fund after his or her tenure on the Board ends.

¹³¹ O.R.C. Sec. 742.03.

¹³² O.R.C. Sec. 742.111



Recommendation B1

We recommend that the Board require that the Board’s “investment expert designees” and “investment expert members” be required to disclose any campaign contributions either they or their employers have made to the officials who have appointed them. In addition, the firms that employ those, and any other, Board members should be barred from doing business with the assets of any of the Ohio state-wide retirement systems while on the Board and for a period of at least three years thereafter.

- The Board amended and restated its Governance Policy in June, 2005. The former policy’s ethics provisions now appear, restated and enhanced, in a separate Ethics Policy which was adopted a month earlier. The Governance Policy articulates a “Governing Style” which declares that the Board “will concentrate on providing strategic leadership and inspiration for the achievement of the purposes of OP&F.” The first of ten enumerated components of the “governing style” states that the Board will “[c]oncentrate on the achievement of its core obligation and not on the administrative or programmatic means to attain them.” This emphasis on the Board’s role in setting policy and strategy, rather than administration and implementation, is sound, and consistent with good governance principles. The Governance Policy’s Code of Conduct section places special emphasis on protecting the authority of the Board as a whole, stating explicitly, “Board trustees must recognize the lack of individual authority in any Board trustee or group of Board trustees. . . , and that only the Board may authorize the delegation of its authority.”
- In view of the fact that this governance model places on staff the responsibility for implementing the Board’s policies, IFS endorses the statement in the Governance Policy’s Code of Conduct section that “Board trustees may not attempt to exercise individual authority over OP&F, the Executive Director or OP&F staff members, except as authorized and established through formal Board action” (emphasis supplied). This statement renders it clear that staff is accountable to the Board as a whole, and not to any individual Board member or group of trustees. We note, however, that the Policy goes on



to require that each trustee “inform the Executive Director of any meetings involving OP&F business that is held with outsiders when OP&F staff is not involved in such meetings.” While neither the policy nor any law authorizes the Executive Director to ban such a meeting, and maintaining a record of such meetings is not inappropriate, care should be taken to assure that Board members are not inhibited from maintaining contacts with people and organizations that can provide useful insight and perspective that will enhance their ability to make sound decisions.

- While not officially designated a “governance document,” the OP&F Investment Policy and Guidelines (the “IPS”) (as most recently amended in April, 2005) delineates the respective roles of the Board, the staff, the investment consultant and the investment managers with respect to the investment of the OP&F’s assets. The IPS set forth each party’s decision-making, reporting and monitoring responsibilities in adequate detail. The allocation of responsibility appears consistent with the Governance Policy’s provisions assigning to the Board strategic and policy-making responsibility.

OBSERVATIONS REGARDING BOARD OFFICERS:

- The Governance Policy provides for three officers, a Chairman, a Vice-Chair and a Chair-Elect. While all are elected by the Board each year, the Policy explicitly provides that the Chairman and Chair-elect must be elected from among the four “employee members” of the Board, and the Vice Chair from between the two “retiree members.” Moreover, the position of Chairman is to rotate each year between an active police member of the Board and an active firefighter member of the Board, so that when the Chairman is a police member, the Chair-elect must be a firefighter member, with the Chair-elect automatically becoming the Chairman each year. Thus, as a practical matter, it is necessary each year only to elect a Chair-elect (from between the two active trustees from the service (police or fire) not represented in the chairmanship) and the Vice-Chair. None of the “investment members” are eligible to occupy any of these offices.



- All of the Board members are subject to the same rigorous standard of fiduciary responsibility described earlier in this report. And the provisions of the Governance Policy quoted above establish clearly that the Board acts as a body, and not by individual members. Accordingly, IFS questions the appropriateness of rendering one-third of the Board, its “investment members,” ineligible to serve as officers of the Board. We also question the automatic rotation of the Chairmanship between trustees elected by active police officers and firefighters. While we can understand that a rotation prevents the appearance of having one “side” dominate the Board, the fiduciary obligations of each Trustee, combined with the requirement that officers be elected by the Board, should be sufficient to address that concern, particularly if the Fund’s participants and the unions which represent them are properly educated and informed about the affairs of the Fund.

Recommendation B2

We recommend that the Board amend the Governance Policy to render all trustees eligible to serve as officers.

- The revised Governance Policy no longer spells out the duties of the officers, except to refer to the Chairman’s power to appoint members of the Board’s committees. There is no specific provision for calling meetings, setting agendas or recording minutes. In addition, the revised Governance Policy deleted provisions calling for the Chairman to:
 - “guide the discussions and deliberations of the Board so that they are consistent with the levels of policy development and issue resolution, which the Board of Trustees has kept to itself”;
 - “guide the business of the Board to avoid those issues, which are clearly within the province of the Executive Director”; and



- “[i]n conducting Board meetings, . . . allow for fair, timely and thorough discussion while being mindful of the time constraints on the Board and . . . direct the discussion so as to retain focus.”

It is unclear whether the omission of these provisions reflected a deliberate judgment on the merits of these provisions of the prior policy document, as opposed to a decision that they were unnecessary to articulate. IFS did not view these provisions as problematic or otherwise undesirable or inappropriate.

FUNDAMENTAL PRINCIPLES REGARDING BOARD COMMITTEES:

- *Board Committees provide a systematic, focused approach for trustees to deal with issues and achieve objectives. Smaller groups can generally work more efficiently and less formally. The use of a committee structure is consistent with governance best practices. In our experience most public fund boards employ committees as part of their governance structure.*

OBSERVATIONS REGARDING OP&F’s USE OF BOARD COMMITTEES:

- The Governance Policy authorizes the Board to “establish committees with such duties as the Board deems necessary from time to time” and refers specifically to an Administration and Audit Committee and a Disability Committee. The Board has also established a Finance Committee, a Benefits Committee, a Health Care Committee and an Investment Committee. Two of these committees, Health Care and Investments, are “committees of the whole,” and thus indistinguishable from the entire Board. We are unable to identify a reason for classifying the Board as a “Committee” for these purposes.
- Each committee has a charter which clearly delineates the range of its responsibilities.¹³³ Yet the Governance Policy provides that committees “shall act only in the intervals between meetings of the Board of Trustees and shall be subject to the control and

¹³³ Section 742-3-05 of the Board’s Rules contains additional provisions governing the functioning of the Disability Committee.



direction of the Trustees.” The latter portion of this clause seems to refer to the fact that the full Board can modify any committee’s charter, and that, as indicated immediately below, the committees mostly analyze issues and make recommendations to the full Board, and have little actual decision-making authority. It is therefore not clear why the Governance Policy states that committees are to act only between Board meetings.

- None of the Disability, Benefits and Health Care Committees has decision-making authority. Each Committee reviews issues within their respective purviews and makes recommendations to the full Board, and each also monitors the delivery of services to members and other aspects of the administration of the Board’s decisions and legal requirements. The committee charters do not grant actual decision-making authority except as follows:
 - The Finance Committee charter authorizes that body to “Review *and approve* the overall Fund budget. . .” (emphasis supplied).
 - The Administration/Audit Committee charter gives that committee the authority to “oversee” the selection of the Fund’s auditor, to conduct the Board’s annual self-evaluation, develop the Board’s education program, pre-approve out-of-state travel by Board members and “oversee and administer” the Executive Director’s employment terms and annual evaluation.
- The Administration/Audit Committee’s charter vests that body with a wide range of responsibilities. In addition to the decision-making functions referenced immediately above, the Committee has monitoring, liaison and oversight responsibilities regarding personnel policies, information systems, the Board’s communications plan, internal controls, legal proceedings, contracting, and overall operations. Given this broad responsibility for crucial operational functions, this committee ought not be also engaged in either the internal or external audit functions. For example, Trustee expenses and



travel are subject to semi-annual audit review,¹³⁴ but it is the Administration/Audit Committee that is responsible for pre-approving out-of-state travel and reviewing Board expenses.¹³⁵ The audit function should not be combined with operational responsibilities.

Recommendation B3

We recommend that the Board establish a separate Audit Committee to perform the audit-related functions now performed by the Administration/Audit Committee.

b. Compliance with Statutory Provisions and Rules and Governance Procedures

OBSERVATIONS REGARDING OP&F'S COMPLIANCE WITH STATUTORY PROVISIONS, RULES, AND GOVERNANCE PROCEDURES:

The information available to IFS gives us no reason to believe that the Board is not currently in compliance with its internal governance procedures and statutory provisions and rules. Many of the statutory provisions have been recently changed as a result of S.B. 133, and the Board has been adopting new policies and modifying existing ones to implement these changes. The Fund's Board and staff have been diligent in taking those steps.

c. Review of Certain OP&F Policies and Procedures

The policies and procedures involving ethics and conflicts of interest are reviewed in Section 10(A) and 2(B) of this Report. Internal and external checks and balances are discussed at Section 12(A).

¹³⁴ See Board Travel Policy, as amended February, 2005.

¹³⁵ The Finance Committee Charter gives that body responsibility to review staff and trustee travel expenses, as well. It is unclear whether both the Finance and Administration/Audit Committees perform that function.



1) Trustee Education and Training

FUNDAMENTAL PRINCIPLES REGARDING TRUSTEE EDUCATION AND TRAINING:

- *Pension trustees may not escape the standard of prudence in decision making by having a “pure heart and an empty head.”*
- *A trustee may be liable for a loss to the fund resulting from their failure to act as “a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims...”*
- *A trustee can not fulfill their duties without knowledge. To obtain the knowledge necessary to become “familiar with these matters,” and become aware of what prudent persons “acting in a like capacity” are doing, education is both necessary and appropriate.*
- *Delegation is not abdication – a board of trustees may delegate responsibility for a function but delegation does not relieve the trustees from the duty to monitor. Since most public funds boards are composed of lay people, in order to prudently monitor they must acquire knowledge of the subject matter over which they have authority and control.*

OBSERVATIONS REGARDING OP&F’S TRUSTEE EDUCATION AND TRAINING:

- The Board has adopted trustee education policies to implement S.B. 133, and those policies contain appropriate goals and requirements. The requirements for Trustee education and training introduced by S.B. 133 are referred to in Section 9(A) of this Report. The Board’s revised Governance Policy addresses three specific aspects of trustee education mandated by S.B. 133:
 - ✓ The Board must develop an education program with the other retirement systems and submit it to the ORSC.
 - ✓ New Board members must complete an orientation program within 90 days of appointment or election to the Board.



- ✓ Board members with more than one year experience on the Board must participate in a continuing education program at least twice in each of the Fund’s fiscal year.

- The Board also adopted Continuing Education Compliance Guidelines for implementation of the Policy and the legal requirements. The Guidelines provide appropriately for the new trustee orientation program to have a component covering “topics of common interest to all board members sponsored and developed by the Ohio retirement systems” and a separate component conducted at the OP&F offices devoted to issues specific to OP&F. This “in-house component” includes meetings with each department director and the Human Resources Manager. Introducing new trustees to the operating departments is an excellent idea in view of the governance structure which gives the Board policy-making authority, with implementation delegated to staff. The Guidelines also set forth clear procedures for all Board members to satisfy their continuing education requirements.

- We note that the Board’s Travel Policy acknowledges that trustees “are being afforded educational opportunities through attendance at various seminars or conferences, in order to improve their effectiveness as named fiduciaries of the OP&F.” Some have questioned whether participation in such programs is appropriate in view of the fact that they often take place outside of Ohio, often in resort-type settings. These observers have correctly pointed out that the Fund’s assets are for the benefit of the members, and they challenge the appropriateness of using those assets to cover the expense of participating in such events. We respect the sincerity with which these objections were expressed. Nonetheless, we concur with the Board that participation in such programs is essential as it contributes to the development of the Board and the Fund. National trustee education programs bring together trustees and staff from retirement systems all over the country. Their sessions provide opportunities, formal and informal, to exchange ideas and learn about how other retirement systems respond to the issues that the Board must face. Such programs can also attract expert speakers who might not be available to only a single



fund, or even a single state's funds. And we have no reason to doubt that the Board will enforce the new policies on travel expenses, discussed at Section 10(A), which will avoid abuses and wasteful expenditures.

- In order to maximize the benefits of these education programs, trustees who attend them should share the materials with the full Board and provide a brief report of the highlights of the sessions. We understand that trustees generally deliver conference materials to OP&F, and many provide an oral report on the conferences they attend.

Recommendation B4

The Board's Continuing Education Guidelines should be amended to reflect formally as a requirement the practice that Trustees who attend education sessions (other than those presented at regular Board meetings or other events attended by all Board members) should bring all written material back to OP&F so it is available to the rest of the Board, and should present a brief report of the substantive highlights of the session.

- In early December of 2004, the Ohio state wide public pension funds held a joint-trustee orientation program. The majority of the Board trustees and many staff members attended the program and IFS observed. We found the program, including the subject matter and the presenters to be very substantive and professional. The two day program covered fiduciary basics, government and legislative relations, actuarial principles, ethics, investment basics, the difference between governing and operating fiduciaries, and health care issues. The approximate cost of OP&F's share of the program was \$3,066.

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d. General Overhead and Maintenance Costs of Office Building and Appropriateness of All Administrative Costs

BACKGROUND

Given the concerns in Ohio regarding building and administrative expenses, we were tasked with reviewing OP&F's general overhead and maintenance costs and its administrative costs in comparison to other retirement systems in Ohio and across the nation. Thus, we compared OP&F to its customized peer group, as well as its sister pension funds. We surveyed the peer group to determine their total administrative costs as well as some of the components that comprise administrative costs, such as general overhead and maintenance, including fixed assets,¹³⁶ computer systems, telephones, and building utilities and maintenance. [Note: OP&F did not contract with Cost Effectiveness Measurement, Inc. (CEM) to conduct a Defined Benefit Administration Benchmarking Analysis.]

The following two tables (Table B2 and B3) reflect the information provided by the peer group respondents. We caution the reader that, while we provided instructions with the survey instrument, the information presented in the tables reflects the data provided by the respondents, based on their individual reading of the instructions. We attempted to obtain clarification and provide explanations, where possible, when we were aware of differentiating factors.

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¹³⁶ **Fixed Asset**, are typically considered to be possession or valuable belonging to a business organization that are used over a long period of time. Examples of physical fixed assets include company cars, office equipment, art work, etc.



OBSERVATIONS REGARDING GENERAL OVERHEAD AND MAINTENANCE COSTS:

| Table B2: Comparison of General Overhead Costs | | | | | | | | | |
|--|--------------------------------------|--|--|---|-----------|-----------|-----------|------------------------|-----------------|
| Total Administration Expenses (in basis points) | Oklahoma Teachers' Retirement System | Public Employee Retirement System of Idaho | Public Employees' Retirement Fund of Indiana | Indiana State Teacher's Retirement Fund | Ohio SERS | Ohio STRS | Ohio PERS | Average for Peer Group | Client Ohio P&F |
| Fund Asset Size in Billions | \$7.24 | \$8.6 | \$10.6 | \$4.04 | \$8.97 | \$56.18 | \$64.97 | \$22.94 | \$9.83 |
| Total Staff on Payroll ¹³⁷ | 49 | 64 | 119 | 50 | 169 | 594 | 555 | 228.6 | 166.5 |
| General Overhead and Maintenance (Total) | 0.41 | 4.20 | NA | NA | 5.10 | 2 | 2.3 | 2.8 | 2.07 |
| Does your System own its building? | no | yes | yes | no | yes | yes | yes | 71% | yes |
| If yes, do you lease a portion of the building to outside tenants? | NA | yes | no | NA | yes | no | no | - | yes |
| Rent | 0.20 | 0.725 ¹³⁸ | NA | NA | 0 | 0 | 0 | NM | 1.1 |
| Building utilities and maintenance | 0 | 0.725 | NA | NA | 1.36 | NA | 0.70 | NM | 0 |
| Telephones | 0.04 | 0.725 | NA | NA | 0.13 | NA | NA | NM | 0.07 |
| Computer systems | 0.17 | 0.725 | NA | NA | 1.16 | 1 | 0.3 | NM | 0.3 |
| Fixed assets | 0 | 0.1 | NA | NA | 2.32 | 1 | 1.3 | NM | 1.7 |
| Other | NA | 1.20 | NA | NA | 0.12 | NA | NA | NM | 1.7 |

- We received survey data on general overhead and maintenance costs from two of the four out-of-state peers and the three other Ohio public pension funds. The average total general overhead and maintenance costs for the five peer funds was 2.8 basis points, slightly higher than OP&F's reported 2.07 basis points. Only two of the out-of-state peer own their own building, while all of the Ohio funds do.

¹³⁷ As of 6/30/2005

¹³⁸ Idaho reported paying 3.0 basis points for Rent, building utilities and maintenance, telephones and computer systems.



- Given the limited amount of peer cost data, no definitive conclusions can be reached about OP&F’s general overhead and maintenance costs.

OBSERVATIONS REGARDING ADMINISTRATIVE COSTS:

| Table B3: Administrative Costs | | | | | | | | | |
|--|---|--|--|---|--|-------------|-------------|--------------|-----------------|
| Name of Pension Fund | Teachers' Retirement System of Oklahoma | Public Employee Retirement System of Idaho | Public Employees' Retirement Fund of Indiana | Indiana State Teacher's Retirement Fund | School Employees Retirement System of Ohio | Ohio STRS | Ohio PERS | Peer Average | Client Ohio P&F |
| Fund Asset Size in billions | \$7.24 | \$8.6 | \$10.6 | \$4.04 | \$8.97 | \$56.18 | \$64.97 | \$22.94 | \$9.83 |
| Total Staff on Payroll ¹³⁹ | 49 | 64 | 119 | 50 | 169 | 594 | 555 | 228.6 | 166.5 |
| Is your System responsible for the administration of a healthcare program? | no | no | no | no | yes | yes | yes | 42.9% | yes |
| If so, what is the total administrative cost of the program? | NA | NA | NA | NA | \$1,123,267 | \$3,900,000 | \$4,170,548 | \$3,064,605 | \$2,212,590 |
| Total Administrative expenses ¹⁴⁰ In basis points | 5.5 | 7.7 | 13 | NA | 21.1 | 11 | 9.48 | 11.3 | 17.1 |
| Non-Investment Compensation | 3.75 | 3.3 | 4 | NA | 12.06 | 5 | 4.94 | 5.5 | 10.5 |
| Other Administrative Expenses | 1.83 | 4.4 | 9 | NA | 9.04 | 6 | 4.54 | 5.8 | 6.6 |

- We received administrative expense information from three out-of-state peers and the three other Ohio state public pension funds. Only three Ohio funds, in addition to OP&F, are responsible for administering their healthcare program. OP&F’s healthcare administration costs are almost double those of Ohio SERS, but about half of the costs of STRS and PERS, the two much larger funds.

¹³⁹ As of 6/30/2005

¹⁴⁰ Net of investment related expenses



- Regarding total administrative costs, OP&F's costs are higher than all of the peers (in terms of basis points) except for Ohio SERS. Broken down, its non-investment compensation costs are higher than all the peers except for Ohio SERS, but its other administrative costs are closer to the peer average of 5.8 and lower than Ohio SERS and Indiana PERS.
- Given the limited amount of peer cost data, no definitive conclusions can be reached about OP&F's administrative costs.

2. Organizational Structure And Resources

a. Staff Size, Qualifications and Performance Evaluations

FUNDAMENTAL PRINCIPLES REGARDING STAFFING:

- *Staffing is the process of attracting, organizing, and retaining employees that possess the skill sets, which in the aggregate, enable an organization to carry out its mission and objectives in an effective and efficient manner.*
- *A pension fund's organizational structure and staffing strategy should be designed to accomplish its statutorily defined stated purpose and mission. Thus, whether or not an organization has adequate staffing is contingent on the sum and extent of tasks that are necessary to achieve its core business functions successfully and prudently.*
- *It is difficult to compare the staffing complement of one pension fund to another because their respective missions may be different or the board of trustees may have decided, for various reasons, that it is prudent to utilize one course of action rather than another viable means to achieve their stated purpose and mission. Additionally, factors beyond the control of the board of trustees may affect their ability to obtain sufficient staffing to carry out their stated purpose and mission in the most effective and efficient manner (e.g., lack of autonomy to determine staffing levels, absence of authority to establish its budget, etc.). As a result, staffing levels may be artificially depressed.*
- *We caution that making comparisons to staffing levels at other public investment entities is not an ironclad basis for determining what the Board needs, particularly if the goal is to operate in an efficient and effective manner consistent with best practices. The greater the number of shared characteristics, the greater the level of comparability. Use of asset*



size alone does not take into account levels of comparability nor does it recognize the fact that staffing needs are driven by required functions.

- *Survey information reflects that while there is a moderate correlation between the size of the fund and the number of professionals responsible for administering its investment portfolio (0.42), there is a much higher correlation between the percent of the fund assets managed internally and the number of professionals responsible for these investments (0.75).¹⁴¹*
- *An entity with fewer assets, but a labor intensive, actively managed, internal investment program would be expected to have a higher staffing level than a large entity with a “plain vanilla,” externally managed, passive investment program.*
- *To enhance the likelihood that the organization will operate effectively and efficiently, it is vital that staff has the appropriate skill set, experience, and training to perform their assigned job functions. If they do not, it exposes the organization to operational risk.*
- *Performance evaluations are an essential management tool as well as an instructional tool, helping staff to develop their goals and objectives for the coming year and providing feedback on work performance during the year. At a minimum, personnel evaluations should be done on an annual basis. Updates should also be done on a quarterly or semi-annual basis to provide an overview of each employee’s work for the time period since the last evaluation and to determine whether the employee is on the right track toward meeting their goals and objectives.*
- *Staff should be evaluated in accordance with predefined standards that are achievable and measurable. Unless a job is purely quantitative in nature (e.g., producing widgets on a factory line), performance evaluations always have a subjective component. The evaluation should be balanced to reflect impartial criteria with those that are more easily measured.*
- *Performance guidelines should be tailored to the employee’s particular functions.*
- *The annual evaluation should not contain any surprises for either the staff member or the supervisor. If the employee has not been working to their potential, do not wait until the annual evaluation to discuss the issue. However, if the issue has been frequently been discussed during the year, it needs to be included in the evaluation.*

¹⁴¹ Callan Associates Inc., “Fund Sponsor Cost of Doing Business Survey.” A correlation of 1.0 is perfect correlation.



OBSERVATIONS REGARDING STAFFING:

- In Table B4 below, we compare the total OP&F staff versus the limited custom peer group data as of June 30, 2005. As noted earlier, these peers were chosen in part due to their similar asset size to OP&F and due to the fact that they externally manage over 99% of their assets on average. Only OP&F, which manages 1.1%, and Ohio SERS, which manages 1.2% internally, use any internal management at all. Asset allocation comparisons across the peer group are shown in Investment Issues Section 6(A). The peer group is too small to make any definitive conclusions, but it is useful for anecdotal comparisons.
- Given those factors, it is interesting to note the wide range of total staff size across the peer group – from a low of 49 at Oklahoma Teachers to a high of 169 at Ohio SERS. At 166.5 total FTEs (Full Time Employees), OP&F is on the high side of its peer group. As can be seen below, OP&F has a fairly large investment staff (especially if you include the six investment accounting staff members); however OP&F is one of only two funds shown below that manage cash internally. In addition, the five investment professionals shown below also include two real estate investment professionals who are no longer employed by OP&F, although OP&F has hired additional investment staff in the interim. We understand that as of the final drafting of this report in September 2006, OP&F has (in addition to the CIO) two senior investment officers, one investment officer, one assistant investment officer, a cash manager and one compliance assistant (the compliance officer position remains open as does an administrative assistant position). OP&F's systems and IT staff is the second largest at 24 FTEs, where the peer group average is 18.5 (of those peers who have distinct IT staff). OP&F's Benefits Administration staff of 68.5 is also slightly above the peer group average of 50.6 FTEs. Ohio SERS has the second largest Investment and Benefits Staff, largest IT staff and largest legal staff.



| Table B4: Peer Staffing Comparison | | | | | | |
|---|---------------------|------------------|---------------------|-------------------------------|------------------|--------------------------|
| | Ohio P&F | Idaho ERS | Indiana PERS | Indiana State Teachers | Ohio SERS | Oklahoma Teachers |
| Asset Value | \$9.8 billion | \$8.6 billion | \$10.6 billion | \$4.0 billion | \$9.0 billion | \$7.2 billion |
| Total FTEs | 166.5 | 64 | 119 | 50 | 169 | 49 |
| <i>Professional</i> | 62 | NA | NA | 13 | NA | 13 |
| <i>Support</i> | 104.5 | NA | NA | 36 | NA | 36 |
| Office of the Executive | 8 | 12 | 4 | 6 | 5 | 6 |
| <i>Professional</i> | 8 | 9 | NA | 5 | 4 | 2 |
| <i>Support</i> | - | 3 | NA | 1 | 1 | 4 |
| Total Investment Staff | 8 | 3 | 4 | 3 | 10 | 4 |
| <i>Professional</i> | 5 | 2 | - | 3 | 6 | 1 |
| <i>Support</i> | 3 | 1 | - | - | 4 | 3 |
| Investment Accounting | 6 | - | - | - | 4 | - |
| Systems & IT | 24 | 9 | - | 7 | 39 | 19 |
| <i>Professional</i> | 18 | 9 | - | 1 | 35 | 4 |
| <i>Support</i> | 6 | - | - | 6 | 4 | 15 |
| Legal | 4 | - | 4 | 2 | 8 | - |
| <i>Professional</i> | 2 | - | NA | 1 | 6 | - |
| <i>Support</i> | 2 | - | NA | 1 | 2 | - |
| Mgmt Services | 48 | - | - | - | - | 2 |
| <i>Professional</i> | 12 | - | - | - | - | 2 |
| <i>Support</i> | 36 | - | - | - | - | - |
| Benefits Admin | 68.5 | 40 | 107 | 31 | 57 | 18 |
| <i>Professional</i> | 14 | NA | NA | 3 | 9 | 4 |
| <i>Support</i> | 54.5 | NA | NA | 28 | 48 | 14 |
| Other | - | - | - | 1 | NA | - |
| <i>Professional</i> | - | - | - | - | NA | - |
| <i>Support</i> | - | - | - | - | NA | - |

- The OP&F position descriptions provided outline the necessary qualifications for each staff member. For example, the CIO is required to have a Bachelor’s Degree, a Master’s degree is preferred or eight years related experience and/or training (CFA Charterholder preferred), as well as various language, mathematical and reasoning ability skills. The COO is required to have a Master’s degree or equivalent; or four to ten years’ related experience and/or training, as well as other required basic skill sets. We note, however, that while the CIO and SIO are asked to be CFA Charterholders, the Investment Officer –



Equities is not, even though it is required/preferred for the candidate to have Master's degree. We think that the IO position description should note that a CFA Charterholder is at least "preferred" or "desired."

Recommendation B5

Consider amending the Investment Officer position description to note that a CFA Charterholder is preferred.

- OP&F management employees are rated annually in accordance with two sets of competencies at 25% of the total score each: "OP&F Core" and "Management." The "Core" competencies include Customer Service, Teamwork, Communications and Job Knowledge. The "Management" competencies include Leadership, Managing People and Business Ethics. The remaining 50% of the evaluation score is based on achievement of "Current Goals." Employees receive ratings from 1.00 to 5.00 where 1.00 represents Performance is Outstanding and 5.00 represents Performance Does Not Meet Minimum Requirements. These performance evaluation criteria seem to meet the necessary requirements.

b. Reporting Lines of Authority and Roles

FUNDAMENTAL PRINCIPLES REGARDING REPORTING LINES OF AUTHORITY:

- *A Statement of Governance Principles should clearly delineate roles and responsibilities of the Board, key staff and service providers.*
- *Fiduciary responsibilities should be acknowledged in writing.*
- *A clear organizational structure should be defined and distributed.*

OBSERVATIONS REGARDING REPORTING LINES OF AUTHORITY:

- As discussed in Section 1(B), OP&F has an "Amended and Restated Board Governance Policy" dated June 2005, which outlines the responsibilities of the Board and committees.



(See discussion in Management Issues Section 1(B).) In addition, as mentioned previously, Section II. of the IPS defines the responsibilities of the Board (Investment Committee), staff, consultants and investment managers.

- In summary, per the IPS, the Board is responsible for:
 - Setting investment policy and reviewing it;
 - Selecting consultants and investment managers;
 - Monitoring investment performance for managers and overall fund;
 - Monitoring costs;
 - Reviewing annual plan prepared by staff (note: this is not currently prepared, see IFS' recommendation in Investment Issues Section 3(A));
 - Reviewing and approving real estate transactions;
 - Monitoring compliance;
 - Evaluating and rating managers in accordance with approved rating system;
 - Reviewing potential changes to the investment operations; and
 - Reviewing proposed investment department operating budget.

- Staff are tasked with:



- Managing OP&F assets in accordance with the IPS;
 - Monitoring compliance with investment manager guidelines;
 - Proxy voting;
 - Reporting on fund performance to the Board quarterly on achievement of goals at least annually; and
 - Acknowledging in writing their fiduciary responsibilities.
- It is our understanding that there is no equivalent document to the IPS, however, that outlines the roles and responsibilities of the non-investment staff, versus the Board and external service providers. Individual staff duties are outlined in their position specific job descriptions. For example the CIO is responsible for “implementation of all investment related policies and procedures adopted by the Board and for ensuring the execution of investment functions on a daily basis” and the Member Services Director “manages the daily operations providing Benefits Services for the members of the Fund. This includes the determination and disbursement of benefits and insuring legal compliance in all departmental activities.” The Deputy Executive Director “supports the Executive Director and leadership in managing and directing the Ohio Police and Fire Pension Fund, including direct oversight responsibilities in the following areas: Project Management, Building Management, Customer Service, Records, Imaging and Mail Services, Strategic Planning and the Information Services Department.” Including the roles of key staff, such as the Executive Director and Executive Director, in the overall governance documents would fulfill this need.

Recommendation B6

Consider adding roles and responsibilities of key OP&F staff to the Governance Policy.



c. Policies for Professional Ethics Standards and Conflicts of Interest

See also the additional discussion on Conflicts of Interest with regard to Chapter 742 and S.B. 133 in Investment Section 10(A) above.

FUNDAMENTAL PRINCIPLES REGARDING ETHICAL STANDARDS AND CONFLICTS OF INTEREST:

- *The nature of retirement systems such as OP&F demands a high degree of confidence from the beneficiaries of the funds and the public in general. Every board member and employee is expected to exhibit the highest level of integrity, professionalism, and ethical behavior.*
- *Public retirement systems typically operate pursuant to ethics codes, disclosure requirements, conflict of interest prohibitions, and other policies designed to ensure the proper administration, effective operation, and prudent investment of assets. A “conflict of interest” is any action that is or reasonably appears to be influenced by consideration of personal gain or benefit to any third party or entity rather than motivated by the best interest of the beneficiaries for whose benefit the assets under control of the board are invested. Such conflicts of interest involve gifts and disclosure of confidential information. A Code of Ethics may also cover specific issues, such as personal securities trading, political contributions, and travel and entertainment.*
- *Adherence to ethics polices, such as those that relate to managing conflicts of interest, are critical for the Board and staff to carry out their fiduciary responsibilities.*

ANALYSIS:

- We reviewed professional conduct policies of two trade associations which are relevant to the investment professionals employed--The CFA Institute (formerly the Association for Investment Management and Research) and the Investment Management Consultants Association (IMCA).



- The CFA Institute produces a Code of Ethics and Standards of Professional Conduct (as amended and restated May 1999). Among other elements, the Code of Ethics dictates that members of the CFA Institute “act with integrity, competence, dignity, and in an ethical manner when dealing with the public, clients, prospects, employers, employees, and fellow members” and “use reasonable care and exercise independent professional judgment.”

- The Standards of Professional Conduct imposes various requirements on members:
 - Maintain knowledge of, and adhere to, all applicable laws and regulations of any entity governing the member’s professional activities;

 - Not engage in any professional misconduct;

 - Prohibition against plagiarism;

 - Duties of loyalty, compensation disclosure, and avoidance of conflict, with respect to an employer;

 - Responsibility to exercise diligence and thoroughness with investment actions and recommendations, which includes an obligation of objectivity and independence;

 - Requires an exercise of fiduciary responsibility with all matters relating to investment decisions and portfolio management; and

 - Requires full disclosure of all forms of compensation, and any conflicts of interest.

- The CFA Institute has also issued an exposure draft to its members for comment, “Asset Manager Code of Professional Conduct.” While the above-cited Code of Ethics and the



Standards of Professional Conduct address individual conduct, the exposure draft is meant to apply to organizations responsible for managing assets. It is meant to provide a blueprint for minimum standards an organization should adopt when providing asset management services for clients. As such, it is useful to examine this exposure draft for elements which are relevant to internally managed assets of a public retirement system, as well as the oversight responsibility for outside managed portfolios.

- The exposure draft discusses various factors that related to several broad areas:
 - Loyalty to clients;
 - Investment process and actions;
 - Trading;
 - Compliance and support;
 - Performance and valuation; and
 - Disclosures.
- The IMCA has adopted a Code of Professional Responsibility (July 2003). It requires its members to:
 - Place the financial interests of the client first;
 - Fully disclose to clients services provided and compensation received;
 - Comply fully with all statutory and regulatory requirements affecting clients; and



- Maintain the highest standard of personal and professional conduct.

OBSERVATIONS REGARDING ETHICAL STANDARDS AND CONFLICTS OF INTEREST:

- We reviewed several sections of the Ohio Police and Fire Employee Handbook which govern conflict of interest and professional ethics guidelines:
 - Section 201 – Business Ethics and Conduct (revised January 03)
 - Section 202 – Conflicts of Interest (revised January 03)
 - Section 206 – Confidentiality (revised January 03)
 - Section 207 – Insider Trading Policy (New January 03)
 - Section 209 – Disclosure Statements (January 02)
- Our review of this material indicates that the requirements imposed by OP&F are consistent with the standards and requirements outlined in the CFA Institute and the IMCA materials. The requirements imposed on the investment staff appear reasonable.

d. Reasonableness of System's Practices and Costs

The reasonableness of the systems practices is addressed above and the reasonableness of the System's costs is discussed in this Management Issues Section 1(B) and in the Investment Issues Sections 4(A) and 5(A).



e. Communication Policies and Procedures between the Board and its Members and Retirees

FUNDAMENTAL PRINCIPLES REGARDING PARTICIPANT COMMUNICATIONS:

- *The amount of financial data and statements available to individuals has multiplied over recent years. Whether it be banks, insurance companies, mutual funds, brokerage accounts or mortgage companies, the amount and sophistication of information available to individual customers has increased dramatically. The ways in which individuals access this information has also multiplied, in particular through telephone and internet access. Customers expect to be able to find out what they want to know quickly and efficiently, and most financial services providers have built systems to do this.*
- *Pension plans are obligated to provide some information to their participants on an annual basis, but most attempt to provide more than is required. Plan managers recognize that an effective communications program can boost participant satisfaction and can more efficiently handle the volume of calls and information requests that inevitably grows each year. Today it is common to see plans offer newsletters, call centers, web sites and mailed statements, all coordinated to respond to the major issues facing the plan and its participants. Although not all measure participant satisfaction or staff response time, virtually every plan and its executives recognize the need for a program and expect to devote a growing amount of staff and resources to this function.*

OBSERVATIONS REGARDING OP&F'S COMMUNICATION PROGRAM:

- OP&F has an extensive and documented communications plan. The Communications Manager is responsible for developing and implementing this plan and reports to the Executive Director. The main membership communication goal is to “communicate OP&F news, policy and rule changes, and enrollment and benefit information.” They accomplish this goal through:
 - **Members Report newsletter:** mailed four times annually to OP&F members and available online. This includes newsworthy events, legislation, etc.



- **Members' Guidebooks:** OP&F prints eight guidebooks annually describing the programs and options available to members. They are part of a *pre-retirement package and are available at the seminars and online.*
- **Targeted Communications:** These are publications specific to major benefit changes, e.g., the implementation of DROP.
- **Member Questions:** There is a questions tab on the website and OP&F promises an e-mail response within five business days (they have 10 business days to respond to a written letter).
- The Member Education Manager is also involved in communication through the development of a member outreach program in 2000. This division provides pre-retirement seminars and benefit counseling services and also staffs a call center that is open from 8 a.m. to 4:30 p.m., with a goal of answering 90% of calls in 30 seconds or less. They currently conduct their seminars in six major Ohio cities annually. In addition, this division performs outreach to the retirement community in the form of attending benefit fairs and other special request presentations.
- The Communications division provides other official reports to the legislature, media and employers such as:
 - Annual Reports: Comprehensive Annual Report and Popular Annual Financial Report;
 - Monthly Board Report newsletter distributed to the members of the Ohio General Assembly and other interested parties (will also provided testimony if/when required);



- News releases and media advisories;
- OP&F staff is also available for interviews and to meet with or respond to other media inquiries;
- The *Employer Digest* newsletter three time per year (also online);
- The *All Points Bulletin* employee newsletter is distributed six times per year; and
- Other targeted communications where necessary.
- Our interviews with Board members and various constituent groups showed that there was general satisfaction with the amount and timing of the communications by the System, although OP&F has not conducted a formal membership satisfaction survey.
- OP&F's program appears to conform to best practice among its peers. IFS' survey found that of the peers:
 - 100% provide a website with access to essential information about the plan;
 - 100% produce newsletters for participants;
 - 100% operate a call center offering telephone access to information;
 - 40% provide participants with a Plan Summary;
 - 80% provide participants with an annual statement of benefits; and
 - All provide participants with an Annual Report for the plan.



Recommendation B7

OP&F's communications program appears effective and should be maintained. However, we recommend that they conduct a membership satisfaction survey to verify this.

3. Ability to Attract and Retain Employees

FUNDAMENTAL PRINCIPLES REGARDING COMPENSATION:

- *Salaries in the public pension sector across the United States – both for funds that use external management exclusively as well as those that use internal management – vary widely. Nonetheless, competitive salary schedules are necessary to ensure the Board's ability to attract and retain qualified investment professionals. The need for competitive salaries may be more acute when there is extensive internal management.*
- *Incentive plans can play an important role. Financial incentives can provide a recognized, accepted and effective method of stimulating productivity and retaining key staff. Incentive compensation is most appropriate where there is a demonstrable and significant connection between (a) the extent to which an employee is motivated to do superior work and (b) the employee's efforts and skills in that regard produce desirable outcomes for the organization. Employees that participate in the incentive program should have responsibilities that enable them to contribute directly and significantly toward achievement of major fund objectives.*
- *The compensation of private sector investment management professionals is not subject to the public sector "fish bowl" complications and frustrations of government bureaucracy. As a result, private sector professionals are much better compensated relative to the value they create. While it is generally expected and accepted that public pension funds will not be able to compete with the salaries offered by private investment management firms, these private sector firms are still competition for at least some of OP&F's staff.*



OBSERVATIONS REGARDING COMPENSATION¹⁴²:

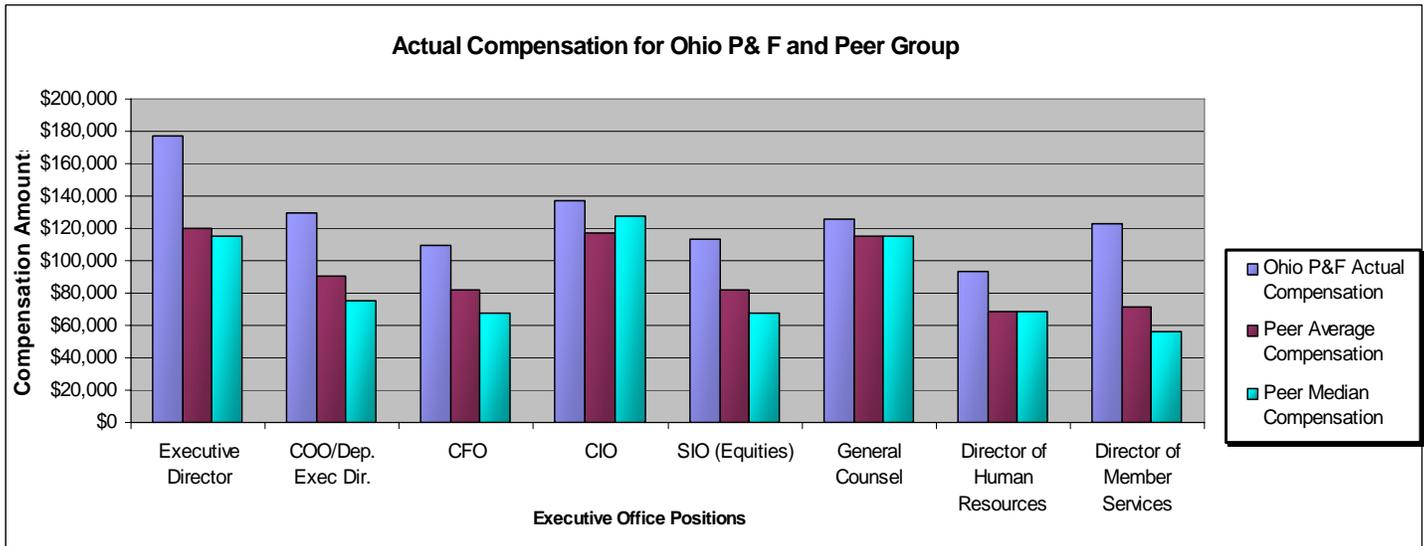
Base Salary

- IFS surveyed OP&F's custom peer group. Unfortunately, the responses to this survey were limited and the types of professionals employed by the different peers varied considerably. Given those limitations, however, we can still make some anecdotal comparisons:
 - 60% of peers (and OP&F) have discretion over compensation levels, while the remaining 40% are subject to the state civil service requirements;
 - 60% of the peers compensation levels is subject to legislative approval (which includes the 40% referenced above and one other peer fund);
 - Staff positions are subject to legislative approval at the same 40% of the peer group, while they are subject to approval by another agency or member of the executive branch at 80% of the peers, but not at OP&F; and
 - 100% of the peers, as well as OP&F, have independent personnel authority in hiring, promotion and termination.

- As shown in the chart below, OP&F's senior staff salary levels compare favorably to the peer pension funds. The OP&F actual salary is above the average and median for the peer group for all of the positions surveyed, for which we had peer fund data. (Note: all peers did not provide salary information for all positions.)

¹⁴² In accordance with the September 14, 2005 letter agreement between IFS and the ORSC, IFS surveyed the agreed upon peer group to obtain compensation levels (for investment and "key" non-investment staff, including the General Counsel, the COO, the CFO, the Director of Human Resources and the Director of Member Services) and information on employee benefits offered. IFS also agreed to review the Deloitte & Touche *Compensation Program Review and Update Final Report* issued July 19, 2002.





Bonuses and Incentive Compensation

- Peer group data on bonuses and incentive compensation is very limited. OP&F has a “Discretionary Non-recurring Reward (Bonus) Program” that allows non-recurring rewards up to 3% of an individual’s base wages or \$3,500 (whichever is lesser). These rewards can be given for meeting certain goals, receiving educational certifications, “substantial work effort” and/or to supplement or in lieu of a merit award. OP&F reported that most of their senior staff received bonuses in the range of \$750 to \$1500. OP&F does not have an incentive compensation plan. The only two peer funds that reported paying bonuses or incentive compensation are as follows:
 - Idaho pays bonuses up to a maximum of \$1,000 to the Executive Director, the COO, the CFO, the Director of Member Services and the SIO. The CIO is eligible for incentive compensation up to 30% of his/her current compensation.
 - Ohio SERS has an incentive compensation plan with three tiers: Tier I covers the CIO (target of 35% of base salary, maximum 52.5%), Tier II covers the SIOs and IOs



(target of 25% of base salary, maximum of 37.5%) and Tier III applies to the Associate Investment Officers (target of 15% of base salary, maximum of 22.5%).

- Based on IFS' experience with this project as well as other prior surveys, we find that it is relatively unusual for a public pension fund to offer incentive compensation to investment staff when no assets are internally managed. This is primarily because it is more difficult to show a direct relationship between the performance of the fund or asset class and the work performed by an employee. These incentive compensation plans are generally based on both quantitative (e.g., fund or portfolio beating a stated benchmark by a certain percentage, peer group comparisons) and qualitative criteria (e.g., supervisory or monitoring responsibilities).

Fringe Benefits

- As shown in the table below, all of the peer funds offer defined benefit plans. The contribution levels vary dramatically – OP&F and Ohio SERS contribute the most on a combined basis, with Idaho being a close 3rd. The two Indiana funds do not require any employee contribution – they and the Idaho ERS offer a defined contribution plan as well. Health insurance benefits appear fairly standard, with a couple peers not offering vision or life insurance. Most peers do not provide other “fringe” benefits with the exception of tuition assistance plans provided by three peers, the use of a “pool vehicle” by two funds and one fund offers a transportation allowance. In summary, Ohio P&F's fringe benefits appear in line with its custom peer group, although the employees might benefit from the addition of a defined contribution plan.



Table B5: Peer Fringe Benefit Comparison as of June 31, 2005

| | Ohio P&F | Idaho ERS | Indiana PERS | Indiana State Teachers | Ohio SERS | Oklahoma Teachers |
|---------------------------------|------------------------------------|---------------|----------------------------------|------------------------|---------------|-------------------|
| Asset Value | \$9.8 billion | \$8.6 billion | \$10.6 billion | \$4.0 billion | \$9.0 billion | \$7.2 billion |
| Defined Benefit Plan | Yes | Yes | Yes | Yes | Yes | Yes |
| <i>Employee Contribution</i> | 8.5% | 6.97% | 0% | 0% | 8.5% | 7% |
| <i>Employer Contribution</i> | 13.55% | 11.61% | 4.5% | 7% | 13.55% | 7.05% |
| Defined Contribution | No | Yes | Yes | Yes | No | No |
| <i>Employee Contribution</i> | - | 100% | 10% | 3% | - | - |
| <i>Employer Contribution</i> | - | - | 3% | - | - | - |
| 457 Plan | No | No | Yes - \$15 Employer Contribution | No | No | No |
| Healthcare | | | | | | |
| <i>Medical</i> | Y | Y | Y | Y | Y | Y |
| <i>Disability</i> | Y | Y | Y | Y | Y | Y |
| <i>Dental</i> | Y | Y | Y | Y | Y | Y |
| <i>Vision</i> | Y | Y | Y | Y | Y | N |
| <i>Life Insurance</i> | Y | N | Y | Y | Y | Y |
| Other: | | | | | | |
| <i>Transportation Allowance</i> | N | N | Y | N | N | N |
| <i>Agency Car</i> | N | N | Y – Pool Car | N | Y – Pool Car | N |
| <i>Day Care</i> | N | N | N | N | N | N |
| <i>Tuition Assistance</i> | Y | Y | Y | N | Y | N |
| <i>Adoption Assistance</i> | N | N | N | N | N | N |
| <i>Other</i> | Free Parking, Prescription Program | | | | | |

Turnover

- The survey data on staff turnover was not meaningful, however OP&F’s staff turnover is provided below. As can be seen in the chart OP&F’s has experienced significantly higher turnover in its investment professional staff than in the total staff for three of the



four periods analyzed. Over 50% of the investment staff departed in 2003, including the internal fixed income portfolio manager. Our interviews at OP&F, however, did not lead us to conclude that on the whole staff turnover (or staff compensation) was a significant problem.

| Table B6: OP&F Staff Turnover | | | | | | | |
|--|-----------------------------------|-------------------|--|-------------------|---------------------------------------|-------------------|---------------------------------------|
| Year | Total Non-Investment Staff | Departures | Total Investment Professional Staff | Departures | Total Investment Support Staff | Departures | Average Total Staff on Payroll |
| Through 6/30/2005 | 156 | 7 | 9 | 1 | 6 | 0 | 171 |
| Percent | - | 4.5% | - | 11.1% | - | 0% | 4.7% |
| 2004 | 158 | 18 | 10 | 0 | 6 | 0 | 178 |
| Percent | - | 11.4% | - | 0% | - | 0% | 10.1% |
| 2003 | 163 | 16 | 9 | 5 | 6 | 0 | 181 |
| Percent | - | 9.8% | - | 55.6% | - | 0% | 11.6% |
| 2002 | 164 | 22 | 12 | 2 | 5 | 1 | 173 |
| Percent | - | 13.4% | - | 16.7% | - | 20% | 14.5% |

OBSERVATIONS REGARDING DELOITTE & TOUCHE’S COMPENSATION STUDY:

- IFS reviewed Deloitte and Touche (D&T) June 2002 compensation study. D&T’s overall study approach was typical of employee pay studies of this nature. The steps D&T took included:
 - Meeting with the Fund to determine the compensation philosophy and job evaluation methodology;
 - Conducting interviews with the Fund project team and staff;
 - Reviewing job documentation to determine survey benchmark position matches and assess determination of each job’s status either exempt or non-exempt;
 - Conducting market pricing analysis to determine external values;



- Developing a competitive salary structure to reflect the Fund’s compensation philosophy;
 - Determining program change implementation cost alternatives;
 - Preparing salary administration guidelines; and
 - Preparing a final report with conclusions and recommendations.
- Reviewing and confirming the Fund’s compensation philosophy is an important element of a compensation study in order to conduct the market analysis and determine competitive market pay rates and ranges. We found that D&T’s thorough discussion of the compensation philosophy lent structure to the study and served as a good basis for the discussion later in the report. The philosophy documented in the report reflects the objectives of the compensation program, the defined labor market in terms of geography and industry for different positions, the need for balance between external competitiveness and internal equity, as well as the importance of a positive relationship between pay and performance.
 - We found that overall D&T did a good job at fulfilling the stated objective of the compensation study, which was to address four major areas of OP&F’s compensation program, including:
 - *Determine the market competitive pay levels/ranges.* D&T’s report discusses at length the process for determining market competitive pay levels and ranges and found that Fund positions are paid competitively, on average. In addressing this objective, D&T also discussed the development of the salary structure and noted that salary range midpoints are closely aligned with the market median base salaries for



similarly graded positions. Furthermore, D&T included appendices (B-1 and B-2) which contain market pricing analysis data and help to further address this objective, although typically greater supporting detail is provided.

- ***Develop an easy to administer and understand job evaluation grading tool.*** D&T proposed “market pricing” to slot jobs as OP&F’s job evaluation tool, which is not a formal job evaluation methodology, and in the absence of market rates, a comparison of the job to be graded with already graded jobs to determine the appropriate grade. While we believe that D&T could have addressed this area more thoroughly (e.g., by describing compensable factor that should be considered and by including examples of how the technique is to be used), especially since it is one of the four major objectives of the study, we are not overly concerned since the majority of the population are in jobs that can be readily matched to survey benchmarks, and concur in general with D&T’s observation that this approach better lends itself to rapid responses to external labor pressures and ease of administration and explanation.

- ***Verify the accuracy of existing job descriptions and their FLSA status.*** While the report contains little supporting documentation on the accuracy of job descriptions and their FLSA statuses, we understand that D&T provided a high level review of the FLSA status of jobs to the Fund under separate cover. In addition, job descriptions were reviewed prior to conducting the market study, which is appropriate, and the Fund made changes to the job descriptions prior to D&T’s benchmarking to eliminate inconsistencies. Based on the information provided in the report, we can assume that this study objective was met.

- ***Develop salary administration guidelines.*** D&T provided an entire section addressing these guidelines for the updated compensation program. In addition, D&T delved into all of the typical issues arising in the administration of a compensation program, including salary range maintenance, starting salaries for new employees,



- maximum salaries, performance planning and merit salary increases, promotional increases, transfers and demotions, special salary increases, grade level determination, overtime, compensatory time, non-recurring rewards and vacation accrual determination.
- In summary, we found that D&T's overall approach used in the study was thorough and in line with best practices for such a study. The D&T study appears to have achieved its objectives. However, as discussed above, there were some areas that we believe could have been more completely addressed, including:
 - Minor refinements to the labor market job pricing protocol;
 - Greater supporting detail on the job pricing work, including survey matches, scope measures used, and how the proposed salary structure was developed;
 - Reference to differences, if any, between base salary and total cash compensation market position;
 - More information on the new job evaluation and grading tool;
 - More detail on how pay and performance are linked; and
 - More detailed explanation on how implementation cost was derived.
 - D&T also gave a number of recommendations in its report, some of which are communicating compensation philosophy to employees, creating a stronger relationship between pay and performance, revising job titles to reflect current market practices, and streamlining the organizational structure to improve span of control, among others. The issues that D&T addressed and the recommendations they made in the report are sound



and set the stage for OP&F to take the next steps in improving their compensation program design, development and maintenance.

4. Monitoring of Investments and Reporting

a. The Effectiveness of the System's Investment Oversight

BACKGROUND

This section addresses what information the System uses to monitor the investments and overall strategies of the investment program and the overall effectiveness of the System's oversight. This includes the numerous performance reports that they receive from the various consultants as well as the staff's role in monitoring of investments.

Reporting to the ORSC is covered separately in Management Issues Section 5(B). Performance and the performance measurement process are discussed in detail in Investment Issues Sections 3(A) and how the System uses its consultant(s) and the functions they perform are discussed in detail in Section 5(A).

FUNDAMENTAL PRINCIPLES REGARDING INVESTMENT PERFORMANCE REPORTS:

- *Those charged with responsibility for oversight of sophisticated investment programs require clear, concise, consistent reports on the performance and risk of the programs. The reports should be prepared on a regular periodic schedule (e.g., at least quarterly). Key statistics (such as investment rates of return) should be verified by a third party that is independent of those making the investment decisions within the program. These reports serve as one of the most important management tools available to those with oversight of the investment program.*
- *Quarterly performance reports should include detailed information on:*



- *Investment performance over multiple cumulative and consecutive time periods for the total fund, each asset class composite as well as each individually managed portfolio;*
- *Comparisons of that performance to well-defined benchmarks and market indices;*
- *Comparisons of that performance to appropriate peer groups, at the total fund level, the asset class level and individual manager portfolio level;*
- *Measurement of a variety of risk metrics and portfolio characteristics, selected on the basis of investment strategy and style, at the total fund level, the asset class level and individual manager portfolio level;*
- *Comparisons of these risk metrics and portfolio characteristics to those of the benchmarks and market indices;*
- *Attribution analysis that decomposes the investment returns to investigate the sources of those returns;*
- *Compliance verification against investment guidelines regarding performance, peer group comparisons, holdings, portfolio composition, permitted and prohibited securities, other deviations from stated benchmarks, etc.*
- *Such reports should also be designed to enable the end-user to answer a set of key investment questions:*
 - *How does the performance of the investment program and its individual components compare to its objectives?*
 - *How does the performance compare to other sources of investment performance?*
 - *Is the investment program generating appropriate risk-adjusted returns?*
 - *What are the magnitude of the risks incurred by the investment program and its components?*
 - *How does the risk level compare to its benchmark(s)?*
 - *Do the active investment managers generate a return that is consistently in excess of the return of the appropriate benchmark or market index?*
 - *Do the active investment managers demonstrate skill that adds value above what the investment program could achieve by using passive management? If so, how does that skill compare to peers?*



- *Are the passive investment managers achieving benchmark returns with benchmark risks at reasonable cost?*

The elements listed above can be organized in such a way that each and every performance report has a similar structure that provides useful, actionable information to decision makers.

GENERAL OBSERVATIONS REGARDING INVESTMENT PERFORMANCE REPORTS:

We describe below the various useful and typical elements that should be included in a quarterly performance report. In the following sections we then discuss the System's individual performance reports and the elements they include.

b. General Market Environment Overview

A "Market Environment" report is useful in that it provides insight to both the short and long term performance of the various asset classes where a Fund has made investments. It is also useful for explaining the current market environment in which the System is investing. Typical information included in these reports range from broad based index returns and sector returns across various asset classes, to economic statistics such as inflation statistics (Consumer Price Index), the current Federal Funds rate¹⁴³, Gross Domestic Product¹⁴⁴, employment data and other related market statistics.

c. Summary Performance for the Total Fund

The quarterly report should provide an exhibit summarizing the performance of the Total Fund against its policy index, which reflects the System's agreed upon investment policy and asset allocation, established in its IPS. Performance history should include both short,

¹⁴³ Federal funds rate is the interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight: www.federalreserve.gov.

¹⁴⁴ Gross Domestic Product – Total Value of a country's output produced by residents within the country's physical borders: "International Investments" Fifth Edition, Bruno Solnik & Dennis McLeavey.



intermediate and long-term performance. Periods such as the most recent quarter, year-to-date, one year, three year, five year, seven year, ten year, other longer term periods on an annualized basis as available. Inception to date performance for the Total Fund and each asset class should also be included.

d. Asset Allocation versus Policy Index Exhibit

This exhibit should document how the Fund's allocation has changed since the previous time period and how it compares to the fund's Policy Index. It shows the major asset classes of the policy index (Domestic Equity; International Equity; Fixed Income, Real Estate; Alternatives; Liquidity Reserves), in comparison to the policy index. Although use of this exhibit is not universal, we believe it is important to determine whether or not the Fund is in compliance with its asset allocation policy, and whether rebalancing decisions should be considered on a routine basis as required.

e. Breakdown by Asset Class and by Investment Manager

Reporting should also provide a section for each major asset class, providing performance for that asset class compared to the top level policy index, over trailing annualized periods, as well as consecutive annual or rolling one year periods. This performance comparison should also be compared to a peer universe of asset class returns relative to similar plan sponsor pension funds. Additional reporting detail may be required for some particular asset classes. For example, domestic equity may be broken down further by capitalization range and/or by style. Comparisons may also be included at the sub-asset class level for sub-asset classes composites if they exist and are routinely reported. Finally, each asset class reporting section should also include exhibits down to the individual investment manager portfolio level. For example, all domestic large cap value managers should be included within the same reporting exhibit, providing the System a consistent framework to compare strategies with a similar objective and



mandate together versus a common benchmark, and within a peer universe of similar managers or style of accounts.

f. Cumulative and Consecutive Time Period Performance

In order to maintain a thorough understanding of investment performance, it is important to review cumulative (trailing periods, e.g., three years, five years) and consecutive time periods (annual or calendar periods) of performance for the Total Fund, each asset class and each investment manager compared to their respective benchmarks and peer universe.

g. Universe Comparisons on a Cumulative and Consecutive Basis

Universe comparisons provide the System an additional tool in evaluating the performance of the total Fund, asset class and individual investment manager level. While the System may primarily evaluate the manager's performance or risk against its primary benchmark, the additional peer universe ranking information informs the System as to how well their current investment manager compares to other alternative investment options within a particular asset class, sub-asset class or style of management. This is an important additional line of analysis where an investment strategy may outperform its benchmark but still lag its peer group (which is also measured versus the same strategic benchmark). Although, peer group comparisons at the total Fund level are not as meaningful because many funds have different asset allocations, as well as types and levels of permissible investments, comparisons on a total Fund basis are also useful for broad comparison, political and economic purposes. Universe comparisons should be presented on a cumulative annualized and consecutive period basis for the total Fund, each asset class and each manager as compared to applicable benchmarks and appropriate style specific peer groups.



h. Domestic Equity Style Analysis

Style based analytics are also helpful in determining what, if any, style biases or particular style bets have been taken by investment staff, compared to both style and policy benchmarks. A holdings based style analysis may help the System determine if the Fund has taken any particular bets in structuring its domestic or other equity portfolios, such as tilting towards growth versus value securities, or overweighing small cap stocks versus the market. Style analysis (holdings and/or returns based) for the domestic equity managers and the total domestic equity composite, should be presented on a quarterly basis as an additional tool to identify style drift and unintended risks to the overall investment program.

i. Portfolio Characteristics for each Equity Manager and Total Equity Composite

The quarterly report should include summary characteristics such as Price/Earnings, Price/Book, beta, dividend yield, average and median capitalization, number of holdings, top ten positions based on market value, top ten best and worst performers and other relevant metrics as compared to the benchmark. An equity analytics summary page will allow the System to evaluate how individual portfolios compare relative to their specific benchmark. For example, a portfolio with a lower dividend yield than its benchmark may have a style bias towards growth stocks. A portfolio with a low beta (a measure of risk relative to the broad market) may have a value bias relative to the broad market. Evaluating this information for each investment manager gives the System more insight as to how its investment managers run their portfolios relative to an objective benchmark.

j. Portfolio Characteristics for each Fixed Income Manager and Total Fixed Income Composite

The quarterly report should include fixed income portfolio characteristics such as effective duration, yield to maturity, time to maturity, average quality and other relevant fixed income measures as compared to the relevant fixed income benchmark. The System's ability to



evaluate the underlying investment managers and their strategies is enhanced by receiving these analytics. Statistics such as effective duration, a measure of interest rate sensitivity, would give the System beneficial information and insight for understanding the specific strategies that a manager employs as well as how the portfolio is expected to react in certain interest rate environments.

k. Risk and Return Analysis for the Total Fund and each Asset Class

It is important to evaluate performance on an absolute basis, as well as on a risk-adjusted basis, to ensure that the System is following the prescribed investment policy and strategy as articulated in the investment policy statement. The quarterly report should show the risk-adjusted return or Sharpe ratio for the total Fund, policy index and asset class benchmarks as well as other appropriate risk measures.

OBSERVATIONS REGARDING CONSULTANT PERFORMANCE REPORTS:

Overview

- Based on review of documents and interviews with Fund staff, it is IFS' understanding that the Fund's general investment consultant's (Wilshire's) staff collects financial data from the System's custodian bank and independently calculates performance data and provides that data monthly to Fund office investment professionals. Wilshire then collects performance data from the System's investment managers for comparative purposes. Any differences in performance calculations between the investment manager and Wilshire are researched by Wilshire between the investment manager and custodian bank. If the matter is not resolved through this research, the investment manager then provides a reconciliation of the activity to Wilshire and the matter is coordinated and resolved between the investment manager, Wilshire and the custodian. (See additional discussion on performance measurement in Investment Section 3(A).)



- Third party investment consultants are of particular value with regard to providing independent performance monitoring. Based on IFS' review of investment related documents and related interviews, the performance measurement process seems reasonable and within the CFA Institute performance measurement standards.
- Based on interviews with Fund investment staff, IFS understands that a performance reporting and monitoring report is also prepared internally for System review after performance information for each investment manager account is collected on a monthly basis from Wilshire. Once this information is collected, composite returns are calculated for the System's asset class composites and for the total Fund composite. This internal report is oriented to the Board's requirements emphasizing performance on a net of fee basis across accounts, asset class composites and the total Fund composite, and reporting on any significant difference between the preliminary and final reports.
- Overall, upon review of OP&F's investment reporting by its general investment consultant and real estate consultant, IFS found that reporting was quite comprehensive and thorough in many areas, particularly concerning public market securities.
- The Townsend Group report on real estate also seemed well organized and thorough. However, reporting from Wilshire within its routine quarterly reporting on the System's private market strategies, such as Private Equity (Alternatives) and Real Estate, could be strengthened. This improved reporting should include performance comparisons versus a peer universe of results in addition to performance results versus the stated benchmark.
- The Fund staff's report on the Private Equity program is a good overview of the entire program, its allocation, portfolio structure and current funding status. Based on IFS' review of the report, however, it appears to lack sufficient detail concerning performance of the individual private equity strategies as well as the composite results versus an appropriate benchmark and relevant peer universe.



Review of the Wilshire Associates Quarterly Report to the Board

- IFS reviewed the performance reports provided by Wilshire to the Board. In the course of a year, Wilshire provides a series of full length quarterly investment performance reports and asset class reviews. As needed, Wilshire also provides a Capital Markets Assumption Summary, as well as Asset Allocation/Asset Liability reports, in conjunction with its standard quarterly reporting requirements (see discussion of asset allocation in Investment Section 6(A)). During the course of the year Wilshire will also conduct certain educational sessions on various investment topics, as requested, to the Board and Fund staff.
- ***Performance Evaluation Report:*** This report for the most recent quarter includes a general market environment section, performance results (for total Fund composite, asset class composite and separate strategies), a variety of risk reporting on public security portions of the investment program and a variety of other reporting at the total Fund, asset class and portfolio account level. Performance is generally summarized on a trailing annualized basis for the short, intermediate and long term versus applicable benchmarks and universe peer groups. As earlier discussed, risk reporting is quite comprehensive across the public market portfolio composites and underlying portfolios. Real estate risk reporting is included with The Townsend Group report, and risk reporting associated with the Private Equity (Alternatives) program is summarized in the Fund staff's internally generated private equity report.
- A summary of IFS' recommended reporting categories versus Wilshire's Performance Evaluation Report is shown below.



| IFS Recommended Categories | Wilshire Performance Evaluation Report |
|---|--|
| Frequency | Quarterly |
| Market Summary | Yes |
| Performance: Total Fund vs. Policy Index | Yes |
| Performance: Asset Classes vs. Policy Indices | Yes |
| Performance: Sub-Asset Classes | Yes; although only for Fixed Income (Core Fixed, High Yield, TIPS and Mortgage); Internally Managed Equity |
| Performance: Manager Level Performance vs. Specified Benchmark | Yes |
| Asset Class Characteristics | Yes |
| Risk Measures | Yes |
| Universe Comparisons of Performance at Total Fund, Asset Class and Manager Levels | Yes |

Recommendations B8 – B9

The System should consider including sub asset class composites within the equity asset class in the quarterly Performance Evaluation Reports.

The System should consider including rolling one year performance summaries at the total Fund, asset class and manager level following the current annualized performance summaries to report on performance consistency versus the benchmark and peer universe over time.

Review of The Townsend Group Quarterly Real Estate Report to the Board

- **Real Estate Report:** The Townsend Group is an independent real estate investment manager retained by the System to provide independent real estate advice, management and reporting. This report provides a summary of the marketplace, update of the System’s activities over the past quarter and shows performance for the asset class as well as comparing performance and characteristics of the portfolio to the policy index (benchmark) by property type and region.



| IFS Recommended Categories | The Townsend Group Real Estate Report |
|---|--|
| Frequency | Quarterly |
| Market Summary | Yes |
| Performance Total Fund vs. Policy Index | Yes |
| Performance: Asset Class vs. Policy Index | Yes: trailing annualized |
| Performance: Sub-Asset Classes (Styles of Management) | Annual performance (Stable, Enhanced & High) |
| Performance: Manager Level Performance vs. Specified Benchmark | Yes |
| Asset Class Characteristics | Property type diversification compared to benchmark |
| Risk Measures | Yes |
| Universe Comparisons of Performance at Total Fund, Asset Class and Manager Levels | No |
| Other | Purchases and sales by type of real estate Adherence to policy guidelines |

Alternative Investments (Private Equity): OP&F Review

- IFS reviewed Fund staff’s report regarding the Alternative Investment Program (Private Equity). Based on IFS’ limited review, the report seems more oriented towards the overall private equity market, and its related conditions, as opposed to the performance of the System’s actual private equity portfolio. The report also does not appear to address various risks such as sector/industry exposure and other similar elements of risk. As recommended earlier in this Report, an ongoing third party private equity advisor could assist Fund staff with ongoing advisory work and provide more comprehensive reporting and oversight to address some of these issues.

| IFS Recommended Categories | OP&F Private Equity Program Update |
|--|---|
| Frequency | Quarterly |
| Market Summary | Yes |
| Performance Total Fund vs. Policy Index | No |
| Performance: Asset Class vs. Policy Index | No |
| Performance: Sub-Asset Classes (Styles of Management) | No |
| Performance: Manager Level Performance vs. Specified Benchmark | No |



| IFS Recommended Categories | OP&F Private Equity Program Update |
|---|--|
| Asset Class Characteristics | Strategy and geographic type diversification compared to benchmark |
| Risk Measures | Yes |
| Universe Comparisons of Performance at Total Fund, Asset Class and Manager Levels | No |
| Other | Summary of commitments by calendar year and manager |

Sufficiency of Investment Manager Guidelines

- IFS reviewed a sampling of investment manager guidelines for both equity and fixed income managers. Overall, IFS found that a consistent set of criteria was applied to each type of investment manager, a similar framework of written controls governing risk was established, prohibited activities were documented, allowable investments were enumerated, permissible levels of cash were highlighted and other criteria was also included. We provided below a sample outline of investment manager guideline provisions for one of the System’s domestic small cap growth managers (Harris Investment Management):
 - I. Purpose
 - II. Investment Manager Philosophy and Investment Approach
 - III. Investment Guidelines
 - IV. Typical Portfolio Characteristics
 - V. Performance Objectives and Evaluation
 - VI. Manager Communications
- Overall, although the guidelines were generally shorter than most guidelines we review in the industry, most elements which should be present were incorporated into the standard format.



- However, we believe that several areas could be expanded and developed further. These areas include fiduciary provisions designed to protect the System as well as brokerage practices requiring best execution.

Recommendation B10

The System should consider reviewing all investment manager contracts and/or guidelines to consider adding provisions to strengthen fiduciary provisions designed to protect the System and stipulate that brokerage practices require best execution.

2. Sufficiency of Authority and Resources to Monitor the Fund's investments

BACKGROUND

Whether the Board in fact has the autonomy appropriate to that level of authority can be evaluated by considering whether the Board has independent budgetary, spending, procurement and personnel authority over the retirement system it is responsible for administering. In exchange for needed independence, public pension fund trustees are typically subject to high fiduciary standards and stringent reporting and disclosure requirements. Those standards and obligations provide the checks and balances appropriate to a public body such as a public retirement system.

FUNDAMENTAL PRINCIPLE REGARDING BOARD'S AUTHORITY AND RESOURCES TO MONITOR INVESTMENTS:

- *Operating autonomy provides public pension funds with the ability to manage their investment program optimally so as to maximize returns. At the same time, trustees must exercise such autonomy in a manner that minimizes risk and expense for the benefit of plan participants.*



OBSERVATIONS REGARDING BOARD'S AUTHORITY AND RESOURCES TO MONITOR INVESTMENTS:

- Ohio Law vests the Board with plenary authority to manage the OP&F. Chapter 742 gives the Board broad authority to administer the System. The Board “may sue and be sued, plead and be impleaded, contract and be contracted with, employ and fix the compensation of employees, and adopt rules for the proper administration and management of the fund.”¹⁴⁵
- Whether the Board in fact has the autonomy appropriate to that level of authority can be evaluated by considering whether the Board has independent budgetary, spending, procurement and personnel authority over the retirement system it is responsible for administering. In exchange for needed independence, public pension fund trustees are typically subject to high fiduciary standards and stringent reporting and disclosure requirements. Those standards and obligations provide the checks and balances appropriate to a public body such as a public retirement system.
- Operating autonomy provides public pension funds with the ability to manage optimally their investment program so as to maximize returns. At the same time, trustees must exercise such autonomy in a manner that minimizes risk and expense for the benefit of plan participants.
- IFS found that the OP&F Board has the necessary authority and resources to monitor the System’s investments. The Board is designated by law as “the trustee” of specific funds created by the legislature.¹⁴⁶ The Board has the authority to set its own budget.¹⁴⁷ While S.B. 133 requires that the administrative budget be submitted to the ORSC at least 60 days before it is adopted¹⁴⁸, the Board retains final authority and therefore can devote the

¹⁴⁵ O.R.C. Sec. 742.10.

¹⁴⁶ O.R.C. Secs. 742.11(A), 742.59

¹⁴⁷ O.R.C. Sec. 742.101.

¹⁴⁸ O.R.C. Sec. 742.102(D).



resources necessary to manage the Fund and its investments subject to the fiduciary principles applicable to all Board decisions regarding use of the Fund's assets. In addition, the Fund operates its procurement and personnel functions separate and independent from the state-wide civil service and procurement functions.

5. Reporting to the ORSC

This section addresses the ORSC's request for identification of items critical for an oversight body to review on a regular basis as part of its oversight duties, including the reporting form and content. In formulating our findings and recommendations for this task, we researched pension oversight in each state.

FUNDAMENTAL PRINCIPLES/BACKGROUND REGARDING PENSION OVERSIGHT:

The Uniform Management of Public Employee Retirement Systems Act ("UMPERSA") affirms trustee autonomy in the management of public retirement systems as a best practice.¹⁴⁹ At the same time, UMPERSA also affirms the compelling interest of the legislature to insure that mismanagement of the retirement systems does not occur.¹⁵⁰ In order to balance the competing legitimate public interest of the legislature with the trustee's legitimate need for autonomy, pension fund trustees should be subject to strict fiduciary standards, and transparent reporting and oversight. Thus, pension fund trustees are not independent without accountability.

The federal government is responsible for oversight of private pension funds. However, it has virtually no oversight responsibility for state and local government pension plans. Oversight of public pension funds is within the purview of the individual state and local governments. As a result, levels of trustee autonomy and the methodology for pension fund reporting and oversight vary greatly from state to state. In most states, pension fund oversight is part of the customary duties of the Legislature, i.e., addressed within the purview of one or more

¹⁴⁹ Note seven states in relevant part that "the authority conferred upon the trustees is intended to ensure that retirement system trustees have a level of independence sufficient to permit them to perform their duties and to do so effectively and efficiently." Comments to Section 7 of UMPERSA by the National Conference of Commissioners on Uniform State Laws (1997).

¹⁵⁰ Note five states in relevant part that "the legislature has a strong interest in effective and efficient management of public retirement systems. Mismanagement presents obvious political hazards and, in the long run, may result in lower benefits, higher contribution levels, or both." Comments to Section 5 of UMPERSA by the National Conference of Commissioners on Uniform State Laws (1997).



standing legislative committees. The Executive branch may also have pension oversight authority. Thus, most states have vested pension fund oversight within multiple entities, i.e., some combination of executive branch (e.g. the Governor, and/or some other state official and/or agency/commission separate from the Legislature (e.g., the State Auditor, the State Comptroller, the Department of Insurance) and the Legislature. About a dozen states, in addition to Ohio, have established formal, permanent pension oversight entities (e.g., commissions, councils, etc.) which are not part of the state legislature's standing committee structure.¹⁵¹ The purpose of most such formal entities is to provide continuity of expertise and informed independent research, analyses and advice regarding proposed retirement system(s)-related legislation, the condition/performance of the retirement system(s), and other pension-related matters to the Legislature, the retirement system(s), and the general public.

To the best of our knowledge, confirmed by a 1999-2000 study conducted by the Texas Pension Review Board, a comprehensive, up to date list of permanent oversight entities, such as the ORSC, does not exist. Therefore, in order to identify items critical for an oversight body to review on a regular basis as part of its oversight duties we researched the pension oversight entities of each state. Exhibit G sets forth the information we were able to glean regarding pension oversight in each state, including the entities responsible for pension oversight, their responsibilities, and the information they receive as part of their oversight duties.

In addition to the ORSC, Exhibit G identifies twelve other formal pension oversight entities:

- The Indiana Pension Management Oversight Commission;
- The Commission on Government Forecasting and Accountability (previously the Illinois Pension Laws Commission);
- The Louisiana Commission on Public Retirement;
- The Massachusetts Public Employee Retirement Administration Commission;
- The Minnesota Legislative Commission on Pension and Retirement;
- The Missouri Joint Commission on Public Employee Retirement;
- The Oklahoma State Pension Commission;
- The Pennsylvania Public Employee Retirement Commission;
- The Tennessee Council on Pensions and Insurance;
- The Texas State Pension Review Board;
- The Virginia Joint Legislative Audit and Review Commission; and
- The Wisconsin Joint Survey Committee on Retirement.

Exhibit G confirms that pension oversight in a majority of states is assigned to standing or interim committees within the legislature, typically also in combination with the executive branch of the state. Performing such oversight functions is consistent with the necessity to

¹⁵¹ These entities are typically composed solely or primarily of representatives from the Legislature. However, the composition in several states also includes lay members that are required to have investment or benefits expertise.



balance the interests of the legislature in the proper management of the pension funds with the pension fund trustees' need of autonomy (see notes to UMPERSA). The authority of oversight entities varies from state to state. However, whether oversight is the responsibility of a formal oversight entity or within the purview of a standing legislative committee, the oversight function typically includes – (1) review of the annual report(s) and financial statement(s), (2) monitoring, reviewing and commenting on pension-related legislation (including the financial and actuarial impact), and (3) monitoring the pension funds' actuarial soundness (e.g., funding status, actuarial assumptions).

As Exhibit G reflects, in addition to monitoring proposed legislation and actuarial soundness issues, in a number of states oversight authority may also extend to (1) regulation of pension funds, (2) conducting independent actuarial valuations and performance reviews, (2) requiring periodic experience studies, (3) researching the practices of other states to suggest necessary pension reform, (4) conducting surveys and studies regarding pension issues, including the practice of other public pension funds, as well as (5) monitoring and providing advice regarding:

- *investment performance of the fund(s),*
- *pension fund management practices,*
- *adherence to sound pension policy,*
- *compliance with applicable statutory pension fund laws,*
- *the fairness of benefits structures against the efficient use of tax dollars, and*
- *the impact of federal legislation.*

In determining the items critical for an oversight body to review on a regular basis, it is essential to first establish the oversight body's mission and scope of authority. There should be a correlation between the oversight entity's scope of authority and the information that it requires to fulfill its mission. What is critical information for one oversight entity may not be necessary for another.

BACKGROUND OF THE ORSC

The ORSC was established in 1968 as an independent, bi-partisan body,¹⁵² to advise and inform the Ohio General Assembly on all matters relating to the benefits, funding levels, investments and operations of the five statewide retirement systems. The ORSC has nine voting

¹⁵² It is IFS' understanding that the formation of the ORSC was initiated, in part, in response to concerns of the Legislature to prevent future insolvencies in light of the insolvency at that time of a majority of the 464 local police and fire funds. This concern is consistent with the Note to Section 5 of UMPERSA.



members and five non-voting members,¹⁵³ its own dedicated staff and budget. By law, the state retirement systems are required to pay a proportionate share of the ORSC's costs based upon their respective assets; the ORSC receives no legislative appropriations.¹⁵⁴ This model is consistent with that of most of the formal pension oversight entities. (See Exhibit G.) The ORSC is one of the oldest of the permanent oversight entities. As a result, it has provided input and served as a model for the other oversight entities in their consideration of composition, statutory duties and oversight functions, etc.

A comprehensive description of the ORSC, its history, objectives, goals, structure and operations is available on its web site at www.orsc.org. The website also contains links to reports and analyses generated by ORSC, applicable excerpts of the Ohio Revised Code, schedules, and other useful links to several pension-related organizations with whom the ORSC interacts.

ITEMS CRITICAL FOR ORSC TO REVIEW:

In determining the items critical for ORSC to review on a regular basis, it is essential to keep in mind ORSC's mission and scope of authority. There should be a correlation between ORSC's scope of authority and the information that it requires to fulfill its oversight responsibilities. The ORSC's enabling statute is particularly specific in defining the reporting requirements imposed on ORSC and, in turn, on the retirement systems under its jurisdiction.

¹⁵³ The ORSC is composed of three representatives appointed by the Speaker of the House, three senators appointed by the President of the Senate, three gubernatorial appointees representing state government, local government and education, and the five executive directors of the state retirement systems who are non-voting members. This composition is consistent with most other formal oversight entities. However, several oversight entities (e.g., Indiana, Louisiana, Massachusetts, and Texas) also have lay members, required to have experience in a pension-related field (e.g. investments, actuarial science). (See Exhibit D.)

¹⁵⁴ The costs of most of the formal oversight entities are paid by the retirement system(s) subject to their oversight. However, the costs of the Texas Pension Review Board are paid from the Texas General Fund. Staffing support for a number of the other formal pension oversight entities is provided by the applicable legislative services agency.



a. ORSC Statutory Oversight & Reporting Requirements:

Set forth below is a listing of the statutory reporting requirements for the ORSC and the Retirement Systems under its jurisdiction.

Pursuant to Chapter 171 of the Ohio Revised Code governing the ORSC, it is responsible for complying with the following statutory oversight and reporting requirements:

As needed

1. **LAW CHANGES:** *Report to the General Assembly on all proposed changes to the retirement laws, including their probable costs, actuarial implications and desirability as a matter of public policy. R.C. §171.04(C).*

Semiannual/Annual Requirements

2. **SEMIANNUAL INVESTMENT REVIEW:** *Report to the Governor and General Assembly on its semiannual review of the investment programs of the state retirement systems. This requirement includes the review of the policies, objectives, and criteria of the system's investment programs. R.C. §171.04(D).*
3. **ANNUAL ACTUARIAL REVIEW:** *Have prepared an annual actuarial review to determine the adequacy of the OP&F contribution rates and make recommendations to the General Assembly for the proper financing of the OP&F benefits. R.C. §742.311. The ORSC voted to expand their review of the contribution rates to the other retirement systems under its jurisdiction.*



4. **ANNUAL REPORT:** *Make an annual report to the Governor and General Assembly covering its evaluation and recommendations with respect to the operations of the state retirement systems. R.C. §171.04(B).*

Every three years

5. **SUPPLEMENTAL CONTRIBUTION RATE STUDY:** *Have prepared an actuarial study of the supplemental contribution rate necessary to mitigate any negative fiscal impact of the alternative defined contribution plan for higher education employees on PERS, STRS and SERS once every three years and submit it to the Ohio Board of Regents. R.C. §171.07.*

Every ten years

6. **ACTUARIAL AUDIT:** *Have prepared actuarial audits of the state retirement systems at least once every ten years and report them to the Governor and General Assembly. R.C. §171.04(E).*

From time to time

7. **LAWS REVIEW:** *Make an impartial review from time to time of all laws governing the administration and financing of the state retirement systems and recommend to the General Assembly any changes it may find desirable with respect to the level of benefits, the sound financing of benefit costs, the prudent investment of funds, and the improvement of language and organization of governing laws. R.C. §171.04(A).*



b. State Retirement Systems' Statutory Reporting Requirements to the ORSC

The cooperation of the five state retirement systems is essential to the work of the ORSC because they generally possess the basic information necessary on all public pension matters and because the ORSC has a duty to assemble factual, comparable and consistent data for the legislature on such matters. Thus, in order to meet its reporting mandate, ORSC requires each of the retirement systems to undertake various management activities and to submit a number of reports.

The state retirement systems are subject to the following reporting requirements to ORSC:

As needed

1. **ACTUARIAL ANALYSIS OF PROPOSED LEGISLATION:** *Have prepared an actuarial analysis of any proposed retirement legislation expected to have a measurable financial impact upon the retirement system and submit it to the ORSC, the standing committees of the house and senate with primary responsibility for retirement legislation and LSC within 60 days of introduction. §§145.22(D), 742.14(D), 3307.51(D), 3309.21(D), 5505.12(D).*

Semiannual/Annual Requirements

2. **ANNUAL ACTUARIAL VALUATION:** *Have prepared an annual actuarial valuation of the retirement system and submit it to the ORSC and the standing committees of the house and senate with primary responsibility for retirement legislation. §§145.22(A), 742.14(A), 3307.51(A), 3309.21(A), 5505.12(A).*



3. **RETIREE HEALTH CARE ANNUAL REPORT:** *Have prepared an annual report giving a full accounting of the revenues and costs related to retiree health care benefits and submit it to the ORSC and the standing committees of the house and senate with primary responsibility for retirement legislation. §§145.22(E), 742.14(E), 3307.51(E), 3309.21(E), 5505.12(E).*

4. **ANNUAL REPORT ON THE DISABILITY EXPERIENCE:** *Have prepared an annual report on the disability experience of each public employer and submit it to the ORSC and the standing committees of the house and senate with primary responsibility for retirement legislation. §§145.351, 742.381, 3307.513, 3309.391, 5505.181.*

5. **PROPOSED ANNUAL OPERATING BUDGET:** *Have prepared an annual operating budget, including an administrative budget for the board, and submit it to the ORSC within 60 days prior to adoption. §§145.092(D), 742.102(D), 3307.041(D), 3309.041(D), 5505.062(D).*

6. **INTERNAL AUDIT COMMITTEE REPORT:** *Have prepared an annual report of the internal audit committee and submit it to the ORSC. §§145.095, 742.105, 3307.044, 3309.044, 5505.111.*

Every five years

7. **ACTUARIAL EXPERIENCE STUDY:** *Have prepared an actuarial experience study of the retirement system at least once every five years and submit it to the ORSC and the standing committees of the house and senate with primary responsibility for retirement legislation. §§145.22(B), 742.14(C), 3307.51(B), 3309.21(B), 5505.12(B).*



8. **DEFERRED RETIREMENT OPTION PLAN REPORT (OP&F AND HPRS):** Have prepared an actuarial investigation of the deferred retirement option plan at least once every five years and submit it to the ORSC and the standing committees of the house and senate with primary responsibility for retirement legislation. §§742.14(F), 5505.12(F).

From time to time

9. **FUNDING PERIOD PLAN:** *Have prepared in any year in which the funding period of the retirement system exceeds 30 years a plan approved by the retirement board to reduce it to no more than 30 years.* §§145.221, 742.16, 3307.512, 3309.211, 5505.121.
10. **ETHICS VIOLATIONS:** The State Ethics Commission is required to report to the ORSC findings with respect to any violations of the ethics laws committed by a board member of any of the five state retirement systems under the oversight authority of the ORSC. §102.06.
11. **STATE AUDITS:** The State Auditor is required to report the results of any audit of any of the five state retirement systems under the oversight authority of the ORSC. §117.10.

STRS also publishes a Comprehensive Annual Financial Report that provides financial, investment, statistical and actuarial information about the system in a single publication.¹⁵⁵

¹⁵⁵ The GFOA has awarded its Certificate of Achievement for Excellence in Financial Reporting to STRS in recognition of its conformance with the highest standards for preparation of state and local government financial reports for at least the last 15 years. OP&F has been awarded the GFOA Certificate of Achievement for Excellence in Financial Reporting in 17 of the last 18 award periods.



c. Analysis Of Whether Items Critical For Oversight Function Are Being Received By ORSC

As demonstrated by the preceding list, the ORSC receives a wide range of recurring and special reports to facilitate its oversight function. We observed that some of the required reports are thoroughly analyzed and refined in a manner that facilitates meaningful understanding and action, while others are essentially compilations of raw data in need of perspective and analysis. Some of these reports are particularly designed to meet information needs of the retirement systems and ORSC, some follow industry standards, and others appear to respond to legislative or regulatory requirements.

The information currently received by the ORSC from the systems and provided by the ORSC to the executive branch, the legislature, and the public appears to be very comprehensive and more than adequate to fulfill its oversight requirements. When compared to the oversight practices of other states set forth in Exhibit G, in most cases, the ORSC currently receives more information to facilitate its oversight function than most of its peers. The one notable exception to this observation is the Massachusetts Public Employee Retirement Administration Commission (PERAC). However, PERAC's mission includes regulation of the pension systems. Therefore, one would expect the information required for PERAC to perform its oversight mission to be different from the ORSC since the respective missions are different.

The fundamental aim of the oversight function is to insure that the pension fund is operating effectively and efficiently. The efficiency and effectiveness of ORSC's activities will be enhanced to the extent that the need for and content of the information the ORSC receives is confirmed to be a material input into the ORSC's further reporting and oversight requirements.

Recommendations B11 – B12

We recommend that ORSC, with the assistance and advice of appropriate representatives of its target audiences (e.g., the Governor, the Legislature, constituent groups), confirm the continued need and value-added of each of the reports it is currently required to produce.



Recommendations B11 – B12

*We recommend that the ORSC develop a strategic plan (for the coming three and five years), setting forth its goals, objectives and the strategies to insure that the information required from the retirement systems is material input to the ORSC reporting requirement and oversight function and to serve as a benchmark for measuring the efficiency and effectiveness of its oversight activities.*¹⁵⁶

d. Review of Report Form & Content

To the extent applicable, the following observations address individual report form and content as stand-alone documents and as they support the recommended consolidated reporting.

OBSERVATIONS:

- Current system reports to ORSC cover a broad range of their activities. Most if not all of these reports cover areas of system activity that are necessarily being managed by each system's board and staff. Some of these reports are already being prepared for the system in the same or similar formats. Thus, given the duplication, arguably the incremental cost to the systems is minimal. Others may involve additional work in data collection, formatting, and reporting incurring additional cost in preparation time and professional fees.
- Portfolio performance is a major economic factor for each system that can be measured as frequently as daily. However, there is a risk in looking at portfolio performance too frequently and becoming focused on short term effects. The widely acknowledged standard is to measure investment performance no more frequently than quarterly and no less frequently than annually. ORSC currently receives semi-annual performance reports. We find this is an appropriate performance review interval.

¹⁵⁶ See, The Texas Pension Review Board Strategic Plan – www.prb.state.tx.us/about/strategicplan



- Other areas of reporting tend to be more stable over longer periods, rendering frequent measurement costly and unnecessary. Such areas as participant demographics, actuarial computations, and benefits experience are most appropriately considered annually at most. Again, we find that the frequency of actual reporting fits this model.
- Administrative and capital budgeting is an area of reporting required under SB 133, and thus is still in development. Budgets are typically prepared on an annual, and sometimes on a rolling multi-year, basis. We find this level of frequency to be adequate and appropriate. Reporting of actual expenditures and variances against budget is also sufficient on an annual basis – and may lead to erroneous conclusions if provided over shorter periods of time. These observations are premised on the ORSC confidence in each system’s board and staff to manage expenditures against budget throughout the year.

In each of these areas we discuss our assessment of current reporting, comment on its strengths, weaknesses, and reasonable uses. We then, if applicable, suggest the content and frequency of additional or substitute reporting.

e. Annual Report of the Auditing Committee

Background

- Each retirement system is required to prepare an annual report of the internal audit committee and submit it to ORSC. SB 133 requires the boards to appoint a committee to oversee the selection of an internal auditor and prepare and submit annually a report of the internal auditor’s actions during the preceding year to the ORSC.
- This requirement essentially supplements the activities of each system’s internal audit department and board audit committee. As such, it provides a control to assure that the audit processes at each fund are being undertaken in an effective and thorough manner. This report has four principal areas:



- A listing of internal audit reviews completed.
- A listing of special projects completed.
- Summary of the board audit committee meetings and actions.
- The internal audit plan for the subsequent year.

OBSERVATIONS REGARDING ANNUAL REPORT OF AUDITING COMMITTEE:

- These appear to be a well focused and comprehensive set of areas appropriate to the oversight role. As a new reporting requirement, the actual content of the reports will be a developing process.
- STRS' report includes a fair degree of detail, but is not easily understood. The 2005 audits are presented in detail. Various tables of relative risk in various portions of the areas audited may lead to identifying where high risk lies, but does not provide any information on the nature of the risks and what recommendations have been made to mitigate them. To achieve this, a detailed study of the quantitative methods and the tables displaying the results is required. The audit committee reporting only briefly describes the subjects discussed at each of its two meetings. The subsequent year audit plan is particularly clear. It shows a ranking of a long list of audit targets, which were selected, and explains to an extent, why.
- OP&F's report is short and direct. The completed audits and special projects sections describe, each in one or two sentences, the purpose of each activity. The audit committee (converted to an administration and audit committee in June) portion describes the subject matter of each of its monthly meetings. The audit plan is a simple list of the scheduled projects.
- As a recommendation for developing the annual report of the auditing committee into a more useful tool, we recommend the following:



Recommendation B13

Completed audits and projects should be articulated including what was audited, the overall result, and what material recommendations were made. Any critical issues identified should be pointed out, and the action or planned action to remediate the situation described.

- The audit committee reports are fairly sufficient summaries. We understand that detailed committee minutes are available. Nevertheless, the reporting requirement specifies that the report reflect the actions taken. The report should be sufficiently comprehensive to constitute a standalone document.

Recommendation B14

We recommend that the report include what was decided, what further work was directed, etc, and not just what was presented to the committee.

- The quantitative measures in the STRS report do not make clear what will be audited and why a particular subject was selected. The OP&F report provides a simple listing, but does not provide any insight. Listing topics not selected has both positive and negative possible ramifications. Showing the overall set of possible subjects and their ranking demonstrates the extent of the responsibility and gives some indication of the risk ranking process used to set priorities. On the other hand, it opens the possibility of having to defend the rankings. The unselected projects may be better limited to discussion in the System's audit committee and only the selected topics reported to ORSC.

Recommendation B15

We recommend that the audit plan include a brief description of what will be audited and why a particular subject was selected.



f. Performance Reporting

BACKGROUND

ORSC retains its own investment consultant, Evaluation Associates (“EAI”), independent of the retirement systems’ investment consultants. EAI provides a semi-annual comparative study report to ORSC. The form and content have evolved over the roughly six years the report has been produced, reflecting refinements and improvements identified by the various parties providing data, producing, and using the report. From time to time the report will include appendices addressing particular issues of interest.

Each report contains a multi-page executive summary with several comparative charts and graphs depicting key measures for the five funds laid out side by side followed by a one page multiple chart summary of each system. The main part of the report follows with more detailed information on the Systems, both comparatively and individually. There are several pages of peer group floating bar charts with all five Systems included, displaying both cumulative and consecutive time periods. This information is followed by individual System data, displayed at the total fund and asset class level. Often, the report includes an appendix providing supplemental information (e.g., performance attribution analyses or cost information).

OBSERVATIONS REGARDING PERFORMANCE REPORTING:

- EAI has done a very commendable job of summarizing a very complex set of data elements from five large systems into a reasonably usable comparison report. Performance is shown on an absolute basis and against custom or policy benchmarks. Showing performance in this context allows evaluation that is relative to a reasonably achievable standard. The main body of the report includes all necessary and useful views of performance for the material portions of the portfolio. The executive summary



includes key views of the data except it does not include the discrete, consecutive period performance.

Recommendation B16

We recommend the current executive summary include performance for consecutive time periods (i.e., successive years) in addition to cumulative periods (i.e., varying periods all ending on the report date).

- We believe multiple views of the same data gives a different and important perspective on not only what was achieved, but how (relative to market conditions) it was achieved.
- The volume of information in the investment performance report is considerable. The amount and substance of information in the executive summary may be useful to certain readers, but is likely to be excessive to others who need to identify key action items more quickly. While it is important and meaningful to make this level of detail available, it may be more useful if the key points are clearly identified in the executive summary. Such a “review by exception” approach in which attention is focused on the areas that fall outside of expected ranges tends to make identifying and acting on those issues more effective. There is a risk, of course, that such reporting addresses primarily negative aspects, and can result in an erroneous conclusion regarding the financial health of the entity. A well designed one to three page key points summary can focus the critical issues (positives and exceptions) and lead the reader to the section of the report where more detailed information can be found.
- Performance data among the five funds is correctly presented relative to appropriate benchmarks, both at the total fund and asset class level. In particular, this is essential at the total fund level, to reflect appropriately different asset class weightings. It is a reasonable approach at the asset class level as well, enabling each System to assess its performance relative to sub-asset class weightings and different style mix and risk tolerance.



- However, comparability is affected since the systems are using different sets of benchmarks. Each system's benchmarks are likely to be the most relevant measure for that system and thus provide an accurate measure of that system's relative performance, although that relevance has to be tested. If the benchmarks and policy indices for each system constitute the best available reflection of the compositions of the portfolio and its investment approach, then comparing each system's relative performance to that of the other systems.

- We believe that a summary highlights, key points and significant exceptions report designed as a "legislative oversight summary" and attached as a cover or preface to the current executive summary (lettered pages) in the EAI report should be developed. In developing the current report and current long executive summary, the elements included and the format of presentation was developed collaboratively and evolved in response to user feedback. This approach represents best practices in report development and should be continued in developing useful and meaningful exception and summary reporting. The following is a list of elements the report should contain:
 - Absolute and relative to policy index five year performance for each system at the total fund and major asset class level.

 - Absolute return of the total fund relative to the actuarially assumed rate of return for five and ten year periods.

 - Narrative exceptions report by system, describing each material variance to guidelines that occurred during the reporting period, and what resolution or correction was or is being done.



- Narrative report of significant events and developments by system during the reporting period, and plan of action if applicable.
- References to pages in the full executive summary and/or the full report for any topics on which further data may be useful or on which action may be warranted.

Recommendation B17

We recommend the development of a summary report designed as a “legislative oversight summary” of key events, highlights and exceptions to be included as a cover attachment to the current executive summary in the EAI report (i.e., the lettered pages of the EAI report) for distribution to senior executives, legislators and others having oversight responsibility.

- Section 171.04(D) of the Revised Code requires the ORSC to review the policies, objectives, and criteria of each system’s investment program. However, the reports reviewed by IFS focused on evaluating investment performance (i.e., returns, asset allocation, and performance attribution). We did not find a review of the systems’ investment policy statements (IPS), which sets forth the policies, objectives and criteria for each system’s investment program.

Recommendations B18 – B19

We recommend the semiannual review of the systems’ investment programs also include findings regarding each retirement system’s investment policy statement, including the adequacy of the objectives and criteria set forth in the policy and whether the systems’ actual investment program is consistent with and in compliance with the IPS.

If the intent of Section 171.04(D) is to limit oversight to measuring and evaluating investment performance and does not extend to the policies, objectives, and criteria of each system’s investment program, then the language of the statute should be amended to clarify the scope of the oversight.



g. Investment Costs

BACKGROUND

Investment costs are an important component in evaluating the effectiveness of portfolio management and of system administration. Particularly in systems that undertake significant internal management, the net after cost portfolio return achieved internally over time on a full cost basis compared to the net return of external management is a critical issue.

EAI provides a summary of the operating costs of each of the five systems subject to the oversight of the ORSC as an appendix in its performance report for the period ending December 31. For the past several years the four largest systems have provided cost information as part of a cooperative survey conducted by a Canadian cost consulting firm, Cost Effectiveness Management, Inc. (CEM). The four systems that participate in the survey provide a copy of their CEM report to EAI. The fifth pension fund, the Highway Patrol Retirement System (HPRS) does not participate in CEM. Therefore, EAI provides, the Highway Patrol Retirement System with a spreadsheet so they can report the same information as the other funds that participate in CEM. This appears to be a reasonable means of providing a comparative overview of the costs of each system relative to each other. Among the five Ohio funds, costs vary significantly. However, this is to be expected, since costs are driven by the size of the fund and the approaches to investing undertaken and these factors vary considerably among the five funds.

A peer group comparison of costs for the five systems is not provided. Peer group comparisons would put the costs of each Ohio fund into better perspective by comparing it to other funds of similar size and investment structure and afford the ORSC with the opportunity to see how the Ohio funds compare to other similar funds across the country. EAI has promised to endeavor to provide peer group comparisons in the future. The CEM reports typically provide peer group comparisons for both administrative costs as well as investment costs. As an initial



step in providing at least some level to peer group comparisons, it may be worthwhile to request that HPRS participate directly in the CEM cooperative survey (assuming they otherwise qualify).

Cost data is meaningful and potentially very important information which is integral to reaching any conclusions on investment performance. However, we caution that as a tool to reasonably evaluate the value added of internal versus external management and active versus passive management, the information provided by CEM and summarized by EAI, is only a start. Ideally such an evaluation is able to measure the incremental costs of internal management and the investment return achieved against the external costs and investment return achievable from external management. The CEM collection and reporting does not reach the level of detail and degree of control over measurement standards to provide the cost measures necessary for such an evaluation.

The question of whether internal or external investment management results in a higher net return is complex, ongoing, and not typically capable of yielding an unequivocal answer. The direct costs of both internal and external asset management can be measured reasonably easily and the indirect costs can be allocated using standard cost accounting principles. The process becomes more complex given the need to factor in longer term costs (such as turnover and training/learning curve costs) and in determining the investment rates that should be used for the alternatives not chosen. EAI has indicated that being able to include reasonable, supportable net returns would enhance their reporting process. We agree. Further, such data would also be useful in the continuing process of evaluating when and where internal asset management adds value relative to external asset management in each system. That said, the process for measuring these costs with the degree of precision necessary to reach clear conclusions (recognizing that cost accounting¹⁵⁷ is as much art as science) may not in itself be justifiable relative to the costs (in terms of time and money) to do so.

¹⁵⁷ **Cost accounting** is the process of tracking, recording and analyzing costs associated with the activities of an organization. In modern accounting, costs are measured in accordance with the [Generally Accepted Accounting Principles](#) (GAAP). Cost accounting can be used to support management decision-making to reduce costs and improve profitability. However, for purposes of analyzing management decisions, standard cost accounting has been replaced with “direct costs” and “indirect costs” analyses to better reflect proper allocation.



We acknowledge that some believe that cost accounting is too subjective a process to produce meaningful results. Nevertheless, while standard cost accounting may not be the appropriate measurement tool, it is the opinion of IFS that a more detailed costs measurement would be useful, which EAI would be able to incorporate into actual and potential returns and risk data so that meaningful net performance reporting, at the level of individual portfolios, could be done periodically.

Recommendations B20 – B21

We recommend ORSC, in coordination with each system, evaluate whether to undertake a project to develop or refine (if such a model already exists) basic cost accounting systems that support measurement of investment costs as well as other cost centers management may need to control.

We recommend that ORSC continue to work with EAI and the systems to develop a meaningful net performance report, including appropriate explanatory information to guide its proper use, and publish this annually as a separate report or appendix to the existing semi-annual report.

h. Actuarial Reporting

OBSERVATIONS REGARDING CONSOLIDATED AND COMPARATIVE REPORTING:

1) Experience Studies

A simple executive summary and table of key measures is probably the best way to present experience data, with the full reports available as backup for professionals to review. Showing key measures (e.g., wage escalation, funded status, amortization years for actuarial unfunded liability absorption, investment rate of return) as of the most recent period as assumed and as they would stand using adjusted data is a meaningful approach that will be widely understood. The individual system actuaries can be of help deciding what data is meaningful to show, how to present it, and how to include explanations to put the changes in context.



2) Annual Actuarial Valuation

Because actuarial valuations are prepared each year, and because they present the same type of information, comparative reporting and evaluation is more easily accomplished. However, it is an area where care has to be taken to avoid costly misinterpretation. Each retirement plan is unique; reflecting a history of operations and employee relations, labor negotiations, benefit formulas, management objectives, political decisions over many years, and a host of other factors. Thus, few of the key values reported in an actuarial valuation report are cleanly comparable across systems.

Arguably, macroeconomic assumptions such as general inflation and expected investment returns, risk, and correlation at the asset class level lend themselves to common values. However, given the complexity of global economic activity and the resulting difficulty to predict it, there is ample room to argue that very different assumptions may have equal probabilities of being correct.

Other assumptions clearly need to reflect the characteristics of the individual system. Each system will have different benefit programs, different risks, different demographics, and different asset mixes reflecting different objectives, cash flows and funded status.

A brief summary of key actuarial and funded status information can be presented annually, provided it contains adequate explanation of differences. The two measures that are most reasonably comparable are funded ratio and years to amortize the actuarial shortfall. However, even here, the most economical objective may not be common among all funds. On a cost-benefit basis, given uncertainty, 100 percent funded may not be the most desirable financial position.

Data that can be presented and, to some degree compared, included also assumptions for asset class and total fund rates of return, wage increase assumptions, major plan provisions, and



key demographic data. Again, input from the systems' actuaries and from the various target audiences as to what is meaningful and useful, while avoiding material distortion, is helpful.

Recommendation B22

We recommend that ORSC work with its independent actuary and the retirement systems' actuaries to develop annual reporting of actuarial and demographic information at a summary level.

i. Health Care and Disability Reporting

OBSERVATIONS REGARDING DISABILITY REPORTS:

- Each system submits a required annual Disability Report to ORSC. The report is purely statistical. It lists the number of disability applications received, approved, denied and in process in total and by employer. This ranges from one employer (Highway Patrol Retirement System) to literally hundreds for the other systems. There is no information regarding the disabilities except raw number of cases.
- Based on these reports in isolation, it is impossible to determine the financial effect the disability experience is expected to have. Unless this data is tracked against prior year data it is impossible to distinguish favorable or unfavorable trends. Without information on types of disability, there is no insight into whether measures might be taken to reduce incidence.
- IFS found no information regarding whether this additional information is analyzed elsewhere. We recognize there are confidentiality issues in publishing such information and we are mindful that there may have been a historical rationale behind the generation of the report.



Recommendation B23

We recommend ORSC review with the appropriate governmental and legislative representatives the use and purpose of these reports, with the goal of either amending the requirements to serve a beneficial purpose or eliminating the reports.

j. Health Care Reports

OBSERVATIONS REGARDING HEALTH CARE REPORTS:

- Each system provides post-employment health care benefits, basically for retired and disabled participants and their eligible dependents. The statute requires each system to submit an annual report of revenues and costs as well as the applicable statutory authority and a summary of benefits. How each system interprets the requirement, particularly with regard to the summary of benefits, differs markedly.
- Overall the financial information provided is reasonably standard and clear, including a balance sheet and statement of cash flows, for most systems. However we found the following differences in the information provided by the systems :
 - Two systems (PERS and HPRS) include detailed financial statements for the current and five prior years.
 - Two systems (STRS and OP&F) include detailed financial statements for the current year and summary financial information for the current and prior five years.
 - One system (SERS) includes summary information only for the current and prior ten years.



- No system provides projections of future contributions, benefit payments or earnings. Thus there is no indication of the future financial adequacy of their respective health care program. In some cases, this issue is discussed verbally in the context of plan provisions.
- The reporting of the summary of benefits, eligibility, and related information ranges from a half page listing of broad categories only to multi-page detailed listings of coverage, premiums, benefits, etc.
- Health care is arguably less controllable, more rapidly growing, potentially financially larger, and a more controversial benefit than pensions and disability payments. The current reporting does not give adequate insight into future costs and future issues stemming from these programs. As a first step in managing these programs in a way that seeks to avoid significant negative surprises, a common standard of reporting that facilitates subsequent analysis is needed.

Recommendation B24

We recommend ORSC design a content and form of health benefits reporting – including the assumptions and results of actuarial projections for future costs – that facilitates long term planning and control, and that appropriate action be taken to implement this reporting across systems.¹⁵⁸

CONSIDERATION OF WHETHER THE FOLLOWING ADDITIONAL ITEMS WOULD ENHANCE ORSC'S OVERSIGHT FUNCTION:

In discussions regarding potential additional information that could be required from the retirement systems to be utilized as part of ORSC's oversight function, as well as current oversight issues, the following items were mentioned:

¹⁵⁸ This recommendation should be considered in light of new Government Accounting Standards Board (GASB) accounting standards (GASB 43 and GASB 45) that will go into effect beginning in fiscal year 2006-2007 and in fiscal year 2007-2008.



- Asset allocation studies;
- Asset liability studies;
- Volatility analysis as part of asset allocation/liability studies;
- Financial audits;
- Inclusion of Medicare Part B premium reimbursements in the annual actuarial valuation.

IFS addresses each of these items below, including whether or not the item would be critical for an oversight body to review on a regular basis as part of its oversight duties.

In general, IFS is a proponent of periodic asset allocation and asset liability studies, as well as financial audits. However, from the perspective of an oversight entity, we do not believe that an oversight body needs to review these studies on a regular basis for the following reasons:

- **Asset allocation studies** analyze different mixes of asset classes in the overall investment portfolio. The basic model for this mathematical exercise was developed over fifty years ago. While such periodic studies provides certain helpful guidance to the boards of the retirement systems in the development of their target asset mixes given their risk tolerance, their results are entirely dependent on the capital market assumptions for future return expectations and volatility and are typically custom tailored to suit the individual investment needs and preferences of a given board.

We do not believe that imposing a requirement that the retirement systems conduct asset allocation studies as part of its reporting to the ORSC would add value to the ORSC's oversight function. Instead, as part of its current oversight



authority, pursuant to §171.04(D), we suggest that ORSC monitor the policies of the retirement systems to determine whether or not the individual retirement systems are periodically conducting asset allocation studies (e.g., whether an asset allocation study is called for in the investment policy statement, the frequency, and whether or not the system is in compliance with its stated policy).

- **Asset/liability studies** are expansions on asset allocation studies in which distribution in the measure of the liability stream is juxtaposed against the distribution of asset values. Liability changes may be the result of changes in discount rates, demographics, plan design and benefit levels, etc. Asset/liability studies can be used as a planning tool as well as an early warning device regarding contribution requirements and funding status. Asset/liability studies are also periodic in nature, typically recommended every three to five years.

We do not believe that imposing a requirement that the retirement systems conduct asset/liability studies as part of their reporting to the ORSC would add value to the ORSC's oversight function. Instead, as part of its current oversight authority, pursuant to §171.04(D), we suggest that ORSC monitor the policies of each retirement system to determine whether or not the individual retirement system is periodically conducting an asset/liability study (e.g., whether an asset/liability study is called for in the investment policy statement, the frequency, and whether or not the system is in compliance with its stated policy).

- While both asset allocation and asset/liability studies are, under certain circumstances, useful tools for managing portfolios and helpful in providing input data to actuarial computations, they do not provide good tools for controlling results. The output of each study is a probability distribution in which the most likely outcome has only a slightly higher probability of occurrence than the



others. In our opinion, for an oversight entity to try to measure actual results against the output of such studies would inevitably leads to invalid conclusions.

- Financial academia is developing different approaches to constructing portfolios against upper and lower limits of return and risk. Deciding what to use and when to use it is a management issue. Legally mandating a particular approach is likely to be counterproductive and would constrain the autonomy of the pension fund board in the management of the investment program.
- **A volatility analysis** is based on the same set of assumptions and essentially the same set of mathematical relationships as an asset allocation study or asset/liability study. While both the asset allocation and asset/liability study usually focus on one or a small set of possible outcomes, a volatility analysis describes the shape of the range of possible outcomes. The most significant use of a volatility analysis is identifying investment structures where the probability of particularly unacceptable outcomes is unacceptably high.

The same conclusions noted above regarding requiring an asset allocation and an asset/liability study would also apply to requiring a volatility analysis as part of such studies.

- **Financial audits** are important in the preparation of financial statements, and are typically required under GAAP (already defined). Financial statements, however, are not meaningful in evaluating economic returns and risks. Further, the State Auditor is already required to report the results of any audit of the five state retirement systems under the oversight authority of the ORSC. §117.10



- **Inclusion of mandated Medicare Part B premiums reimbursement¹⁵⁹ in the calculation of the unfunded liability of the Retirement Systems:** The general principle is that all liabilities that must be funded out of a particular pool of assets and stream of income cash flow should be measured so that a reasonable conclusion regarding the financial health of the system can be reached.
 - The excess of the total statutory contribution above the amount required to actuarially fund the mandated pension benefits may be allocated to the Systems' Healthcare Fund. OP&F and STRS¹⁶⁰ pay the mandated Medicare Part B premium reimbursement from their respective Healthcare Funds.
 - It is the position of the ORSC (as recommended by its actuary) that the funding period calculation required by law should be based on the actuarial costs of all benefits mandated by statute – the pension benefits and the Medicare Part B premium reimbursements. Currently, SERS is the only system that includes the statutorily mandated Medicare Part B premium reimbursements in the development of its funding period calculation.
 - The ORSC has recommended that both OP&F and STRS¹⁶¹ include the actuarial costs of providing Medicare Part B premium reimbursements in their 2006 and future actuarial valuation reports.¹⁶² Consistent with its recommendation, ORSC's actuary already includes an estimate of the cost of

¹⁵⁹ Legislation for reimbursement of the Medicare Part B premium became effective in 1977 for all five systems subject to the oversight of the ORSC. Three systems, SERS, STRS, and HPRS sought legislative changes in 1988, 1991, and 1994 respectively to change the law. As a result, these systems each have limits and/or board control over the amount they pay each year for Medicare Part B. Thus, they are able to control this component of their health care expenses as much as any other portion. STRS only provides partial premium reimbursement to service and disability retirement benefit recipients who are enrolled in Medicare Part B. OP&F and OPERS are still subject to the 1977 legislation. (However, it is our understanding that OPERS is currently planning to seek a legislative change.) Thus, OP&F benefit recipients who submit satisfactory evidence of payment for Medicare Part B to OP&F are also entitled to full reimbursement of their Medicare Part B premium.

¹⁶⁰ As well as HPRS and PERS, although these funds are part of this fiduciary performance audit.

¹⁶¹ As well as HPRS and PERS, although these funds are part of this fiduciary performance audit.

¹⁶² ORSC Annual Report 2005, *Evaluations and Recommendations Regarding the Operations of the Retirement Systems and Their Funds*, issued January 2006.



the mandated Medicare Part B premium reimbursements with retirement benefits when examining the adequacy of contribution rates. It is our understanding that OP&F and STRS consider the mandatory Medicare Part B premium reimbursement to be a health care benefit and not a pension retirement benefit.

- GASB 43 will require the disclosure (but not the funding) of the actuarial costs of providing health care benefits (mandatory and discretionary). Accordingly, all the retirement systems will have to disclose the actuarial cost of Medicare Part B. This should provide the ORSC with the information it requires to evaluate the adequacy of the contribution rates.

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Exhibit A - Summary of Recommendations

Set forth below are summaries of all recommendations from the preceding report. They are listed in the order they appear in the report with corresponding page number. The Task Area of each recommendation or related series of recommendations is set forth for ease of reference.

| Page | Recommendation |
|---|--|
| A – Investment Issues | |
| 1. The Investment Policy Statement | |
| 25 | <i>Amend the IPS to include a separate section in the introduction entitled “mission and purpose” which specifically defines (a) why the plan exists, (b) who the participants and beneficiaries are, (c) who contributes to the plan, (d) the benefits the plan expects to offer over time, and (e) who have ultimate authority over the System. At a minimum, the IPS should reference Section 742.02 O.R.C.</i> |
| 29 | <i>Amend the IPS to expand the discussion on risk and define more clearly the Board’s risk tolerance, and reference its risk management process.</i> |
| 29 | <i>The Board should more clearly address the cash needs of the System in the IPS.</i> |
| 31 | <i>The Board, in the IPS, should address how it plans to meet the statutory 30 year funding period requirement.</i> |
| 35 | <i>Amend the IPS to designate a Policy Index and an Asset Allocation Index as total Fund benchmarks.</i> |
| 37 | <i>Consider revising the IPS so that hedging is allowed only in individual investment manager guidelines, after discussion with the manager and the manager has requested such authority.</i> |
| 39 | <i>Clarify the proxy voting process in the IPS to better describe who can vote proxies and at whose direction.</i> |
| 40 | <i>Expand the IPS to define clearly how brokerage commissions should be monitored and what types of arrangements (e.g., commission recapture) are permissible.</i> |
| 42 | <i>Now that the securities class action litigation and claims management policy has been adopted, an implementation protocol should also be adopted.¹ The</i> |

¹ The following is a list of typical implementation protocol components: claims identification process; designation of individual(s) responsible for monitoring filings sources to identify claims (e.g., staff or outside service provider); determination of class membership (review trading activity to determine whether the pension fund purchased shares during the “class period”); determination of estimated value of potential claim (using a predetermined formula) establishment of a minimum loss threshold (the amount below which the fund’s losses will not ordinarily justify the expenditure of significant fund resources); second tier assessment process (assessing whether the involvement of the fund will benefit plan participants); assignment of responsibilities (the role and authority of key parties – the board, a committee, pension fund staff, outside service providers (monitoring firm, legal counsel, the custody bank, etc.)



| Page | Recommendation |
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| | <i>IPS should reference the existence of the securities class action policy and implementation protocol.</i> |
| 45 | <i>We recommend including a glossary of private equity terms and an in-depth discussion of the asset class in the Private Equity IPS, either in the IPS or in a separate appendix to the Private Equity IPS.</i> |
| 46 | <i>We recommend the Board consider hiring a specialist private equity consultant/gatekeeper if it chooses to expand its allocation to this asset class.</i> |
| 46 | <i>We recommend the Private Equity IPS be amended to define the roles and responsibilities of staff, Board and any consultant in more detail, consistent with the approach used in the total Fund IPS.</i> |
| 46 | <i>Consider revising the IPS to include reference to the use of vintage year performance comparisons for individual private equity investments.</i> |
| 48 | <i>Consider adding a more in-depth discussion on the risks specific to this asset class, consistent with the earlier recommendation for a glossary and in-depth asset class discussion.</i> |
| 2. Portfolio Risk | |
| 50 | <i>In conjunction with the overall framework of the Fund’s stated investment policy, consider establishing an “Annual Investment Plan” outlining the long-term return and risk expectations by asset class and for the total Fund (and any changes from the prior year), as well as specific objectives which the Fund’s investment staff would like to accomplish in conjunction with the Trustees and/or the consultant(s) over the coming year, e.g., evaluating possible new asset classes or strategies, reviewing passive vs. active management, etc.</i> |
| 3. Investment Performance | |
| 79 | <i>Given the International Equity program’s underperformance and higher risk versus its benchmark over the five years ended June 30, 2005, IFS recommends undertaking a special investment review (in addition to the ongoing manager monitoring conducted in the regular course of business). IFS recommends reviewing the individual component strategies of the program concerning performance (both versus the benchmark and peer group), styles of management, market capitalization and the co-variance of all of the component strategies² and initiating investment manager searches (or consolidating similar strategies where appropriate) to replace underperforming investment managers.</i> |
| 88 | <i>Consider using the Lehman Brothers U.S. Universal Index as a new primary or secondary performance and risk benchmark for a Total Fixed Income Composite, which would include the Core Fixed Composite, High Yield Composite and Mortgage Composite, if feasible. The Lehman Brothers U.S.</i> |

² We understand that OP&F has made a number of investment structure changes, including terminating underperforming managers, since our due diligence work was completed.



| Page | Recommendation |
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| | <i>Universal Index includes all of the securities that make up the Lehman Brothers Aggregate Index, but also includes other securities such as High Yield Corporate bonds, 144A securities and dollar denominated Emerging Market bonds.</i> |
| 98 | <i>IFS suggests that Fund staff work with the consultant to attempt to identify the sources and reasons for the Real Estate program’s increased volatility over the past one to two years as a way to further monitor and control risk.</i> |
| 107 | <i>Given the poor longer-term performance of the Alternatives portfolio, we recommend that the Fund undertake a thorough review of this asset class, including its investment policy, structure, processes and available resources. An Alternatives/Private Equity consultant or advisor could assist Fund staff in possibly redefining and enhancing its Alternatives/Private Equity investment approach.</i> |
| 107 | <i>To supplement the long-term policy benchmark for Alternatives, we recommend that the Fund consider adopting additional strategic benchmark(s) for this asset class, such as an additional public market benchmark or the Cambridge Associates Private Equity and Venture Capital benchmarks.</i> |
| 4. Investment Structure and Costs | |
| | <i>None</i> |
| 5. Use of External Consultants | |
| 129 | <i>OP&F’s investment consultant’s contractual scope of services should be expanded to include advice on the compliance procedures employed by the Fund and any recommendations that the consultant believes might strengthen these procedures.</i> |
| 130 | <i>The statutory definition of “fiduciary” should be amended by the Legislature or interpreted by official rulemaking to clarify that OP&F’s investment consultant is a “fiduciary.”</i> |
| 137 | <i>OP&F should seek contractual provisions requiring extensive, prompt, written disclosure from its investment consultant and each manager regarding the amounts of all revenues the investment consultant, and any investment consultant affiliates, receives from any incumbent or proposed manager for OP&F.</i> |
| 137 | <i>OP&F should seek contractual provisions requiring its investment consultant to actually provide (rather than offer) annual disclosure of its business relationships with all investment managers or other providers of investment services. This contractually-required disclosure should include information from the investment consultant regarding the specific amounts paid to the investment consultant, or affiliates of the investment consultant, by investment managers employed by OP&F as well as the specific services provided to those managers.</i> |



| Page | Recommendation |
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| 137 | <i>OP&F should seek contractual provisions requiring each of its managers to annually file a disclosure of its business relationships with OP&F’s investment consultant(s). This contractually-required disclosure should include information from the investment manager regarding the specific amounts paid to OP&F’s investment consultant, or affiliates of the investment consultant, and state the specific services received by the managers.</i> |
| 143 | <i>The Board should continue to employ a real estate specialist to provide a comprehensive range of real estate advisory services.</i> |
| 143 | <i>If it has not already been done, the contract between the Fund and Townsend should be updated to include a complete list of the services provided by Townsend.</i> |
| 143 | <i>The contract should include a provision stating that the real estate consultant serves the Fund in a fiduciary capacity.</i> |
| 6. Asset Allocation | |
| 150 | <i>In its next Asset/Liability study, OP&F should request that the investment consultant address how the Plan will meet the statutorily required amortization period of 30 years.</i> |
| 150 | <i>OP&F should discuss the 8.25% actuarial rate with Wilshire and OP&F’s actuary to see if it continues to be appropriate for the System.</i> |
| 161 | <i>Expand the rebalancing policy to prescribe more clearly the required actions when an asset class falls outside the range. Rebalancing should be required on a periodic basis, e.g., based on monthly or quarterly statements, but only if an asset class falls outside the policy range. Rebalancing should bring the allocation back within the approved range (e.g., half-way to the target), unless the Board votes not to follow its policy under extreme or unusual circumstances.</i> |
| 161 | <i>Update the rebalancing policy ranges so that they are aligned with the new asset class targets.</i> |
| 7. Brokerage Practices | |
| 167 | <i>If OP&F continues to participate in commission recapture programs, we recommend that they develop a written policy and procedure to govern and help monitor the use of commission recapture.</i> |
| 172 | <i>We recommend that the OP&F Board consider and adopt a more comprehensive, detailed Broker Policy, including policies regarding, for example, directed brokerage, commission recapture and use of minority and women-owned brokers. The Broker Policy should be consistent – or ideally, consolidated – with the more narrowly focused Ohio-Qualified policy adopted September 29, 2004. All brokers should be subject to these criteria, regardless of whether they are “Ohio-qualified.” The OP&F Board should work with all of the state retirement systems to adopt uniform criteria for selecting brokers so as to assure that compliance with the “Buy Ohio” criteria is fairly measured across all of the systems.</i> |



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| 8. Due Diligence Procedures/Selection of Investment Service Providers | |
| 175 | <i>While this may seem like a mere detail, we believe that specifying that the real estate policy supplements the broad policy as regards this sub-class would be a more appropriate approach.</i> |
| 176 | <i>We recommend the private equity and commingled real estate policy documents be split into two parts each, and incorporated into the general search policy and the asset class guidelines respectively.</i> |
| 9. Statutory Provisions and Administrative Rules | |
| 183 | <i>See recommendations in Section 11A to amend the current law to remove the in-state bank requirement and to authorize the retirement systems to select their custody banks.</i> |
| 183 | <i>If the law cannot be changed as we recommend, the Board should formally request a memorandum of understanding with the State Treasurer which would require their input into the search, selection, and ongoing monitoring of the custody bank, including by not limited to (a) all negotiations and discussions with the custody bank, (b) participation in the preparation of requests for proposals for custodial services, (c) analysis of the responses to such RFPs, (d) the process for selecting the custodian and monitoring the services provided, and (e) the development of guidelines for the periodic evaluation of the custodian’s services.</i> |
| 184 | <i>While the existing statutory regime is in effect, the Board should request that the Treasurer’s staff meet with the Fund’s staff to establish procedures to eliminate duplication of effort in reconciling and auditing the custody bank’s work and to establish an allocation of responsibilities for setting standards for the bank’s recordkeeping and reporting and then monitoring the bank’s performance against those standards.</i> |
| 186 | <i>The Board should review and amend its Investment Policy and Guidelines to address specifically the legislative provisions related to investments in Ohio business and businesses owned and controlled by women or minorities and to articulate procedures for evaluating such investments to assure that they “offer quality, return and safety comparable to other investments currently available to the [B]oard” as required by law. The Board should also develop and implement a system for monitoring and evaluating compliance with these statutory requirements. In developing that system, the Board should take special care to assure that the monitoring and evaluation processes themselves do not encourage imprudent investment decision-making.</i> |
| 188 | <i>The Board should develop objective criteria, consistent with its fiduciary duty to use OP&F assets prudently, for review and approval of out of state travel. With respect to out-of-state travel for trustee education, the criteria should take into account the fact that trustees will attend two in-state education programs annually, and should also recognize the benefits OP&F can derive through participation in programs sponsored by national organizations which</i> |



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| | <i>may take place outside Ohio. The Board should also consider amending the portions of its Travel Policy which authorizes up to three trips out-of-state each year for education programs in view of the mandatory in-state education requirement.</i> |
| 192 | <i>The Board should adopt a procedure, such as an appropriately detailed annual certification requirement for managers or, if cost-effective, outside resources, to monitor managers' selection of brokers to execute fixed-income and equity trades to assure that the Board's well-formulated policy is being carried out.</i> |
| 192 | <i>The provisions of the Investment Policy and Guidelines that address the investment manager search process should be amended to reflect consideration of the statutory factors and the steps that will be taken to assure that investment managers will be selected consistent with the Board's fiduciary responsibility.</i> |
| 194 | <i>We recommend that the statute be amended to authorize the Board to retain independent out-side legal counsel without the prior approval of the State Attorney General.</i> |
| 194 | <i>In the alternative, if the statue is not amended, or until the statue is amended, we recommend, working with the AG and the Fund's in-house counsel, the Board delineate the respective roles and responsibilities of the AG and OP&F's in-house counsel, and develop a memorandum of understanding which establishes a procedure for the Board to obtain independent out-side counsel if and when a conflict arises with the AG.</i> |
| 196 | <i>OP&F staff should monitor and report to the Board changes in the flow of responses to requests for proposals to provide investment management services to the Fund. In addition, requests for proposals for investment management services should require all respondents to acknowledge, when they submit their proposals, that they are familiar with the lobbyist registration requirements and certify that they will comply with them to the extent applicable. The staff should also review all respondents' registration filings under the new law.</i> |
| 10. Conflicts of Interest | |
| 203 | <i>OP&F should adopt a prohibited transaction policy to define the term "parties in interest." The policy should be modeled on the definition of "parties in interest" contained in ERISA.</i> |
| 203 | <i>OP&F should also develop a process for analyzing transactions with "parties in interest" to assure that their terms and conditions satisfy the legal standard of comparability to the terms of similar transactions between unrelated parties.</i> |
| 207 | <i>The Board should review with legal counsel and compliance staff whether staff should be required to obtain advance permission to engage in personal securities transactions and, if so, develop a policy and procedure for such</i> |



| Page | Recommendation |
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| | <i>approval. The disclosure form for staff should be revised to require disclosure of personal securities holdings, and both Board members and staff should be required to disclose all investments in excess of \$1,000 regardless of whether the companies invested in are incorporated in or do business in Ohio.</i> |
| 208 | <i>The Board's Travel Policy should be revised to conform to the practice of requiring submission of receipts for all expenses other than gratuities.</i> |
| 11. Custodian | |
| 219 | <i>We recommend that the applicable Ohio statutes be amended to remove the requirement that financial institutions retained to provide custodial services must have a presence in Ohio.</i> |
| 219 | <i>We recommend that the applicable Ohio statutes be amended to grant authority to select, contract with, manage, and terminate the financial institution(s) that will provide master custody services to the retirement systems which are subject to the oversight jurisdiction of the ORSC.</i> |
| 219 | <i>As an alternative to granting the retirement systems the power to independently select the custody bank, we recommend that the statute be amended to (a) allow the pension fund to select the custodial bank from a list of candidates developed by the Treasurer of State, pursuant to specific written criteria established by the respective pension fund defining the services required, and (b) require the consent of the retirement system as a prerequisite to effecting a change of their respective custody bank.</i> |
| 219 | <i>To maintain accountability and oversight, we recommend amending the applicable statutory language regarding the Ohio Treasurer of State custody bank reporting requirements to provide for periodic review, spot check, and audits rather than complete transaction data transfer.</i> |
| 12. Internal Controls and Risk Management | |
| 224 | <i>We recommend that the procedures for these functions be expanded in the Manual to include sources of information, outline of process, and responsibilities by position.</i> |
| 224 | <i>OP&F should increase audit staff commensurate with its size, needs, industry practices to a total of three or four auditors.</i> |
| 224 | <i>In the event that OP&F cannot quickly act on our preceding recommendation to increase the number of internal audit staff, OP&F should supplement its Internal Audit capabilities with outsourcing audits in accordance with an approved audit plan until staff size and capabilities come up to speed.</i> |
| 225 | <i>Consistent with the above, OP&F should increase the size of its internal audit department and develop an audit plan that is appropriate.</i> |
| 226 | <i>Once the appropriate size and plan are achieved the Audit Committee should periodically conduct a Quality Assessment in accordance with professional standards.³</i> |

³ We understand the P&F has a QA scheduled for the latter part of 2006.



| Page | Recommendation |
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| 226 | <i>The preparation of the internal audit department manual should be completed within a reasonable time period.</i> |
| 226 | <i>Other supportive internal audit documentation and tools should also be developed such as a “recommendation tracking tool” for the Audit Committee. The “recommendation tracking tool” periodically reports the status of all internally or externally developed audit recommendations.</i> |
| 226 | <i>Management should consider developing and issuing a Fraud Policy Statement. In the absence of such a statement, the Internal Auditing Department operates in a vacuum since its role in a fraud is not clearly defined.</i> |
| 227 | <i>The department (and the rest of the OP&F) would benefit from a clearly stated and approved policy on matters where fraud is alleged. Such a policy would also serve as the basis for other OP&F staff and the System as a whole to deal efficiently and effectively with fraud should it occur.</i> |
| 229 | <i>OP&F should consider implementation of an enterprise risk management framework that incorporates the Observations recommended in the COSO ERM – Integrated Framework.</i> |
| 13. Investment Accounting | |
| 232 | <i>Investment accounting should report to the financial management area of the organization rather than the investment area.</i> |
| B – Management Issues | |
| 1. Board Governance, Policies and Oversight | |
| 241 | <i>We recommend that the Board require that the Board’s “investment expert designees” and “investment expert members” be required to disclose any campaign contributions either they or their employers have made to the officials who have appointed them. In addition, the firms that employ those, and any other, Board members should be barred from doing business with the assets of any of the state-wide retirement systems while on the Board and for a period of at least three years thereafter.</i> |
| 243 | <i>We recommend that the Board amend the Governance Policy to render all trustees eligible to serve as officers.</i> |
| 246 | <i>We recommend that the Board establish a separate Audit Committee to perform the audit-related functions now performed by the Administration/Audit Committee.</i> |
| 249 | <i>The Board’s Continuing Education Guidelines should be amended to reflect formally as a requirement the practice that Trustees who attend education sessions (other than those presented at regular Board meetings or other events attended by all Board members) should bring all written material back to OP&F so it is available to the rest of the Board, and should present a brief report of the substantive highlights of the session.</i> |



| Page | Recommendation |
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| 2. Organizational Structure and Resources | |
| 257 | <i>Consider amending the Investment Officer position description to note that a CFA Charterholder is preferred.</i> |
| 259 | <i>Consider adding roles and responsibilities of key OP&F staff to the Governance Policy.</i> |
| 267 | <i>OP&F's communications program appears effective and should be maintained. However, we recommend that they conduct a membership satisfaction survey to verify this.</i> |
| 3. Ability to Attract and Retain Employees | |
| | <i>None</i> |
| 4. Monitoring of Investments and Reporting | |
| 285 | <i>The System should consider including sub asset class composites within the equity asset class in the quarterly Performance Evaluation Reports.</i> |
| 285 | <i>The System should consider including rolling one year performance summaries at the total Fund, asset class and manager level following the current annualized performance summaries to report on performance consistency versus the benchmark and peer universe over time.</i> |
| 288 | <i>The System should consider reviewing all investment manager contracts and/or guidelines to consider adding provisions to strengthen fiduciary provisions designed to protect the System and stipulate that brokerage practices require best execution.</i> |
| 5. Reporting to the ORSC | |
| 299 | <i>We recommend that ORSC, with the assistance and advice of appropriate representatives of its target audiences (e.g., the Governor, the Legislature, constituent groups), confirm the continued need and value-added of each of the reports it is currently required to produce.</i> |
| 300 | <i>We recommend that the ORSC develop a strategic plan (for the coming three and five years), setting forth its goals, objectives and the strategies to insure that the information required from the retirement systems is material input to the ORSC reporting requirement and oversight function and to serve as a benchmark for measuring the efficiency and effectiveness of its oversight activities.⁴</i> |
| 303 | <i>Completed audits and projects should be articulated including what was audited, the overall result, and what material recommendations were made. Any critical issues identified should be pointed out, and the action or planned action to remediate the situation described.</i> |
| 303 | <i>We recommend that the report include what was decided, what further work was directed, etc, and not just what was presented to the committee.</i> |

⁴ See, The Texas Pension Review Board Strategic Plan – www.prb.state.tx.us/about/strategicplan



| Page | Recommendation |
|------|--|
| 303 | <i>We recommend that the audit plan include a brief description of what will be audited and why a particular subject was selected.</i> |
| 305 | <i>We recommend the current executive summary include performance for consecutive time periods (i.e. successive years) in addition to cumulative periods (i.e., varying periods all ending on the report date).</i> |
| 307 | <i>We recommend the development of a summary report designed as a “legislative oversight summary” of key events, highlights and exceptions to be included as a cover attachment to the current executive summary in the EAI report (i.e., the lettered pages of the EAI report) for distribution to senior executives, legislators and others having oversight responsibility.</i> |
| 307 | <i>We recommend the semiannual review of the systems’ investment programs also include findings regarding each retirement system’s investment policy statement, including the adequacy of the objectives and criteria set forth in the policy and whether the systems’ actual investment program is consistent with and in compliance with the IPS.</i> |
| 307 | <i>If the intent of Section 171.04(D) is to limit oversight to measuring and evaluating investment performance and does not extend to the policies, objectives, and criteria of each system’s investment program, then the language of the statute should be amended to clarify the scope of the oversight.</i> |
| 310 | <i>We recommend ORSC, in coordination with each system, evaluate whether to undertake a project to develop or refine (if such a model already exists) basic cost accounting systems that support measurement of investment costs as well as other cost centers management may need to control.</i> |
| 310 | <i>We recommend that ORSC continue to work with EAI and the systems to develop a meaningful net performance report, including appropriate explanatory information to guide its proper use, and publish this annually as a separate report or appendix to the existing semi-annual report.</i> |
| 312 | <i>We recommend that ORSC work with its independent actuary and the retirement systems’ actuaries to develop annual reporting of actuarial and demographic information at a summary level.</i> |
| 313 | <i>We recommend ORSC review with the appropriate governmental and legislative representatives the use and purpose of these reports, with the goal of either amending the requirements to serve a beneficial purpose or eliminating the reports.</i> |
| 314 | <i>We recommend ORSC design the content and form of health benefits reporting – including the assumptions and results of actuarial projections for future</i> |



| Page | Recommendation |
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| | <i>costs – that facilitates long term planning and control, and that appropriate action be taken to implement this reporting across systems.</i> ⁵ |

⁵ This recommendation should be considered in light of new Government Accounting Standards Board (GASB) accounting standards (GASB 43 and GASB 45) that will go into effect beginning in fiscal year 2006-2007 and in fiscal year 2007-2008.



OP&F CUSTOM PEER GROUP SURVEY RECIPIENTS

School Employees Retirement System of Ohio (SERS)

Public Employee Retirement System of Idaho

Public Employees' Retirement Fund of Indiana

Indiana State Teachers' Retirement Fund

Teachers' Retirement System of Oklahoma

State of Hawaii Employees' Retirement System

Arkansas Teacher Retirement System

New Mexico PERA

Maine State Retirement System

Employees' Retirement System of Rhode Island

City of Los Angeles Police and Fire Pension System

Teachers' Retirement System of Louisiana

OP&F CUSTOM PEER GROUP SURVEY RESPONDENTS

School Employees Retirement System of Ohio (SERS)

Public Employee Retirement System of Idaho

Public Employees' Retirement Fund of Indiana

Indiana State Teachers' Retirement Fund

Teachers' Retirement System of Oklahoma

Comparison of Current Custodian’s Capabilities vs. Top-tier Custody Bank Capabilities

Sophisticated pension funds require top tier banks because they have developed sets of excellent, well integrated measurement and control services, they have established very highly controlled systems for efficient handling of ordinary transactions, the day by day process of settling trades, collecting income, handling proxies, and reporting values and results. Other banks, even regional banks with significant personal trust operations, have less sophisticated, more manual processes for such operations.

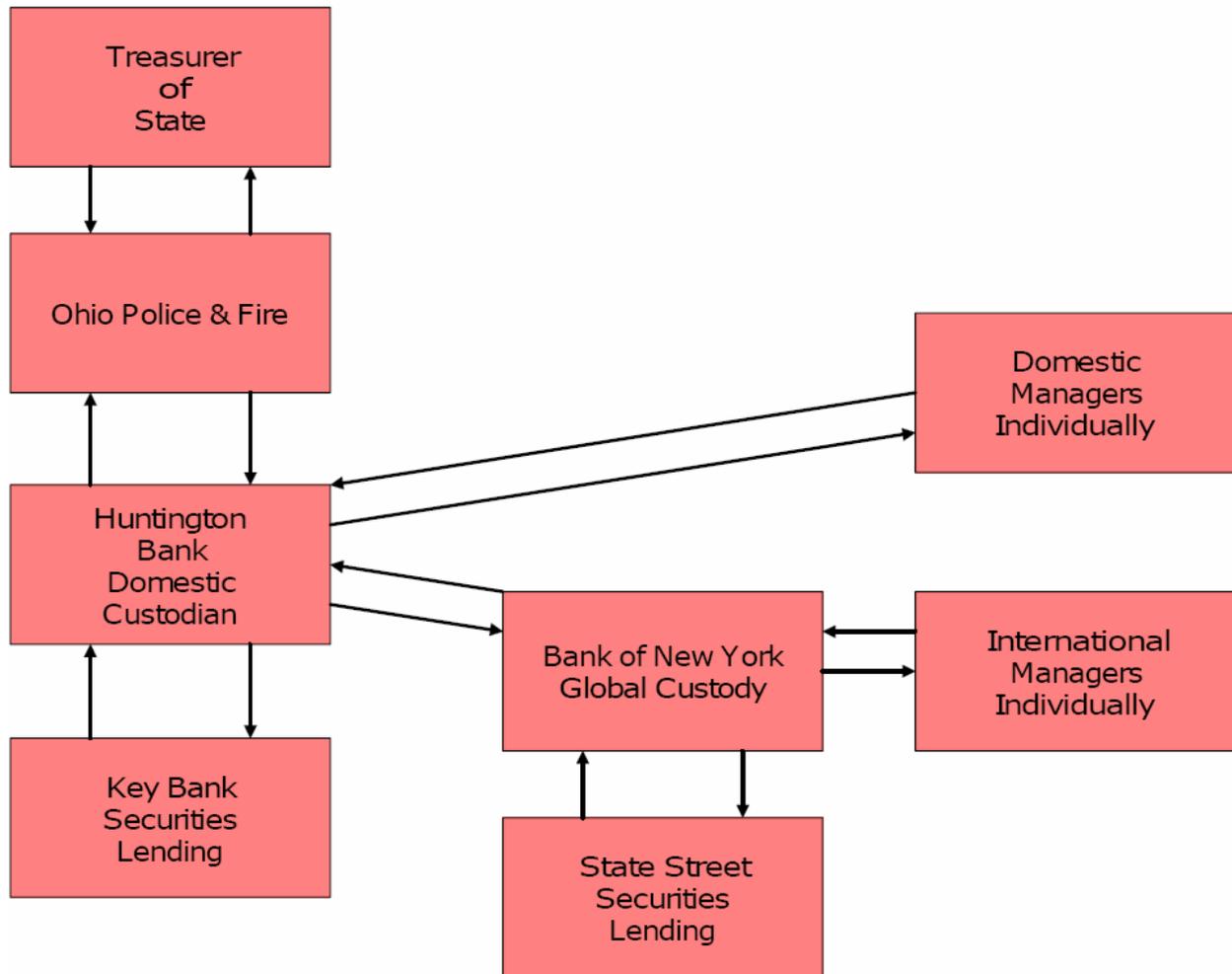
The Table below, entitled *Comparison of Current Custodian’s Capabilities vs. Top-tier Custody Bank Capabilities*, provides a summary comparison of the current Ohio statutory custody model and an alternative model based on the use of one of the leading global custodians. The comparison illustrates the areas which can add costs and risk to the process.

| Comparison of Current Custodians Capabilities vs. Top-tier Custody Bank Capabilities | | |
|---|--|---|
| Custody Area | The Ohio Treasurer of State/Ohio Bank/Others | Integrated Global Custody |
| Domestic custody, clearance, income and record keeping | System designed for small volume of relatively simple transactions | System designed for large volume, real time electronic interface with virtually all financial institutions. |
| Global sub-custody clearance, income and record keeping | Single client arrangement with a recognized global custody bank | Integrated system of branches and sub-custodians covering high volume, quality tested communications and integrated reporting |
| Securities lending | Limited, special purpose data communication with third party agents | Combination of custody bank securities lending and tested, high volume communication with third party agents |
| Supporting analytical services | Few if any available directly; interface with third party providers must be created in each case | Many available directly or through third party providers over regular, proven interfaces |



| Comparison of Current Custodians Capabilities vs. Top-tier Custody Bank Capabilities | | |
|---|--|--|
| Custody Area | The Ohio Treasurer of State/Ohio Bank/Others | Integrated Global Custody |
| Reporting and reconciliation to the statutory custodian and the Fund | Daily with transaction by transaction detail reporting and reconciliation between custody bank and managers, between custody bank and global sub-custodian, and between custody bank and the Fund, in case the of case of internally managed portfolios. | Typically monthly data and exception reporting to the Fund based on detailed reconciliation between custody bank and managers. |
| Frequency and reason for turnover | Potential for periodic change based on The Ohio Treasurer of State overall state bank relationship management | Infrequently in order to maintain continuity of systems and usually based on quality of services |
| Access to historical data, such as to support class action claims | Typically lost or difficult and expensive to maintain with custody bank changes unless maintained internally at System | Continuity of relationship affords long term access to historical data, although custody bank changes have same loss of access effect. |

Ohio Police & Fire Pension Fund Custody Structure Flows of data on transactions, holdings and values



**Examples of How the Current Ohio Statutory
Custody Model Impaired OP&F's Ability to Invest
the Assets of the Fund Effectively and Efficiently**

- The Ohio Treasurer of State, in effectuating Ohio law, selected Huntington Bank as OP&F's current domestic custody bank. Huntington Bank is not considered a "top-tier" bank. Any selection of a custody bank outside the top-tier group for a sophisticated institutional investor, such as OP&F, necessarily involves a compromise in services, efficiency and/or price. We found the breath of services OP&F's current custodian can provide at present to be limited.
- Huntington Bank's securities and portfolio custody and reporting services are designed for personal and corporate trust clients, not a multi-billion dollar pension trust. The ability to support complex custody accounting and control systems is largely driven by economies of scale that depend on the bank's ability to attract hundreds of large pension fund holdings.
- Huntington Bank is able to provide the basics of securities custody at a level generally commensurate with a regional bank personal trust operation. Its agreement with the Ohio Treasurer of State identifies the Bank's responsibilities with regard to receiving and delivering securities, collecting income, valuing the portfolio, and maintaining accounting records. Huntington Bank also provides interfaces with OP&F, the Ohio Treasurer of State, and the sub-custody banks.
- A number of services that top tier custody banks regularly offer are either not available directly from Huntington Bank or, if they are, may not fully meet the needs of the end user -- OP&F. In a best practices model, OP&F would be empowered to prudently select its primary bank custodian or a third party provider based on a cost-benefit criterion.
 - Under the current Ohio statutory custody model OP&F uses multiple banks – the banks selected by the Ohio Treasurer of State for domestic and global custody and the bank OP&F selects for securities lending. Multiple relationships add complexity, additional risks (e.g. the potential for transactions fails) and in most cases additional costs.

**Examples of How the Current Ohio Statutory
Custody Model Impaired OP&F's Ability to Invest
the Assets of the Fund Effectively and Efficiently**

- We were informed that Huntington initially did not have the systems capability to provide necessary custody services for a fund as large as OP&F.
 - Huntington had to build systems, controls and interfaces with other institutions in the Ohio Treasurer of State complex custody system.
 - During interviews we were informed that investment managers sometimes disagree with Huntington on reconciliations, corporate actions, and information flow, and that at times manager instructions are not executed properly by Huntington. Delay and lapse in timely and accurate provision of these aspects of securities custody affects OP&F's costs, risks, and investment returns.
 - OP&F reported that Huntington cannot adequately meet the Fund's need for class action litigation support.¹
 - OP&F also faced systems changes, such as rebuilding the data feed that existed among its in-house PAM portfolio accounting system, U.S. Bank and Wilshire.
- Huntington has worked diligently to make the relationship work and to deliver the services had promised. Several sources complimented Huntington on the transition and the improvement in making domestic custody work. Huntington was praised for the quality of its people.
 - Despite Huntington's efforts to create a workable system, its ability to provide what are fairly routine services for any "top-tier" custody bank is lacking. In this area we found:

¹ When banks do not have adequate long term data search and retrieval capabilities and structures to support an institutional investor's securities class action protocol, pursuing lead plaintiff status and recovery become even more difficult.

**Examples of How the Current Ohio Statutory
Custody Model Impaired OP&F's Ability to Invest
the Assets of the Fund Effectively and Efficiently**

- Quality standards for basic settlement and income collection are lower; and
 - Supplemental services such as guideline compliance monitoring and management do not exist; and
- While Ohio Treasurer of State granted OP&F's request to replace US Bank, it was under no obligation to do so, even though OP&F may have prudently determined that the services provided by US Bank did not allow OP&F to invest the fund assets in an effective and efficient manner. Huntington Bank replaced US Bank as OP&F custody bank.
 - Huntington Bank has no operational relationships to provide global custody and clearing services. The Ohio Treasurer of State selected Bank of New York in 2004 to provide global custody and clearing services to OP&F, replacing State Street in that role. We were informed that OP&F objected to the change (OP&F reported that it had no problems with State Street and costs associated with the State Street services appeared reasonable). However, the Treasurer of State was under no obligation to honor OP&F's request to retain State Street and did not.
 - Consistent with its authority to select its securities lending agent, OP&F elected to retain State Street as third party international securities lending agent rather than switching to BONY for securities lending (the global custody bank selected by the Treasurer for OP&F also had the capacity to perform securities lending).
 - Retaining State Street as third party international securities lending agent, when the Treasurer switched to BONY as global custody added complexity and cost to the process.
 - OP&F has no authority over implementation of custody bank transitions.

**Examples of How the Current Ohio Statutory
Custody Model Impaired OP&F's Ability to Invest
the Assets of the Fund Effectively and Efficiently**

- The transition from US Bank to Huntington took six to eight months and consumed considerable OP&F staff time.
- The transition from Bank of New York took six months rather than the one month promised and resulted in increased costs and reduced services, particularly with regard to support for PAM (a product from a State Street subsidiary).
- Transitions are always costly in terms of time, disruption and money. These costs are a combination of out of pocket fees, transactions costs within the investment portfolios, and opportunity costs of staff and management time, the bulk of which are borne by the system involved (in this case OP&F). Examples of the functions that require time and often cash expenditures are listed below:
 - Time to find, hire, and negotiate documentation;
 - Establishing account structure and reporting requirements;
 - Setting up communications protocols with investment managers, performance measurement services, brokers and other service providers;
 - Developing securities inventories and verifying receipts and deliveries;
 - Changing registered owners;
 - Implementing and testing reporting links;
 - Coordinating short term (unsettled trades, accrued income) and long term (securities litigation, dividend reclaim) transitional activity;
 - Disrupting the recordkeeping systems that are necessary to support activities requiring long term data recovery, such as shareholder litigation;
 - Working parallel operations; and
 - Staff time in coordinating the process.
- Changing custodian banks is a very complex and very expensive process. Putting aside the cost of selecting and contracting with a new custody bank, the logistics of moving securities,

**Examples of How the Current Ohio Statutory
Custody Model Impaired OP&F's Ability to Invest
the Assets of the Fund Effectively and Efficiently**

records, receivables, data, reporting, controlling and monitoring processes, securities loans, sub-custody agreements, communications links to investment managers, brokers, sponsors, beneficiaries, and hundreds of other large and small relationships are immensely complicated. As noted before, OP&F has no control over when the domestic or global custody banks may change. Consequently, when such a decision is made, it has no choice but to spend time transitioning and recreating systems and controls. This is time that could otherwise be spent adding investment value and reducing investment and enterprise risk.

| State Retirement Systems Oversight ¹ | | |
|---|---|--|
| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| Alabama | The State Examiner of Public Accounts | <ul style="list-style-type: none"> Perform an annual audit, report any expenditures or contracts that violate law to the Governor and Legislative Committee on Public Accounts. |
| | Legislative House Ways and Means Committee and the Senate Finance and Taxation Committee | <ul style="list-style-type: none"> Oversight of public pension related matters |
| Alaska | The Governor and the Legislature have oversight responsibility for the Retirement Management Board. ² The Legislature provides oversight of the Alaska Permanent Fund. | <ul style="list-style-type: none"> THE ARMB submits reports to governor, the Alaska Legislature, the Legislative Budget and Audit Committee by first day of each legislative session |
| Arizona | The Governor as well as several Legislative Committees ³ have continuing oversight responsibility for the retirement system. | <ul style="list-style-type: none"> Each fiscal year an annual report must be submitted which must include, but is not limited to, the actuarial valuation of assets and liabilities, investment information, and statistical and financial data necessary to understand the operation and status of the retirement system (Arizona Revised Statute § 38-714). |
| Arkansas | Legislative Joint Committee on Public Retirement and Social Security and the Legislative Council and its Rules and Regulations Subcommittee. | <ul style="list-style-type: none"> Preparation of fiscal notes for each retirement bill setting forth the estimated cost or fiscal impact. |
| | Department of Finance and Administration | <ul style="list-style-type: none"> Contracting, procurement, and compensation approval |
| California | The California State Controller | <ul style="list-style-type: none"> State and local public retirement systems submit audited reports to the State Controller within six months of the end of their respective fiscal years. |

¹ The data set forth in this table is for informational purposes only; it is based on our best knowledge derived from conducting state-by-state INTERNET research as well as third party publications, including the Biennial Report of the Texas Pension Review Board, “Protecting Retirees’ Money, 5th edition, prepared by Cynthia L. Moore, Washington Council, National Council on Teacher Retirement, and data from the National Conference of State Legislators website. Information regarding other entities with pension oversight responsibility in a particular state may not be reflected in the table because the information was not readily discoverable from the INTERNET search. Information regarding compensation, staffing, and costs are provided where it is available. Interim/Temporary entities that have expired are included for informational purposes.

² The Public Employees’ Retirement Board and the Teachers’ Retirement Board were abolished effective July 1, 2005. Their duties and responsibilities were transferred to the Department of Revenue. These Boards, along with the Investment Board, were replaced with the nine-member Alaska Retirement Management Board (ARMB). The ARMB is responsible for the supervision of the state retirement systems and the state’s new defined contribution plan.

³ The Senate Finance Committee, the Joint Legislative Budget Committee, the Senate and House Appropriations Committees, the Public Institutions and Retirement Committee, and the Joint Legislative Audit Committee.



| State Retirement Systems Oversight ¹ | | |
|---|--|--|
| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | <ul style="list-style-type: none"> The State Controller is required to review the triennial valuation of each public retirement system and consider the actuarial assumptions used. |
| | California State Assembly Public Employees, Retirement and Social Security Committee | This Committee has primary jurisdiction over retirement issues in the California Assembly. Oversight ability in pension issues is limited. For example, the Committee does not have access to an independent actuarial analysis of legislation and it depends upon the actuarial analysis provided by the system's actuary. |
| Colorado | Legislative Audit Committee | <ul style="list-style-type: none"> Reviews funding status and investment performance |
| | House and Senate Finance Committee | <ul style="list-style-type: none"> Meets with State retirement system annually. |
| Florida | The Florida Division of Retirement - Bureau of Local Retirement Systems | <ul style="list-style-type: none"> Monitors the actuarial soundness of local retirement systems; Reviews the actuarial impact of any proposed changes to the systems; Approves the distribution of insurance premium tax revenues to qualified municipal police officer and firefighter pension plans; and Issues an annual report to the Legislature detailing its activities, findings, and recommendations concerning all local government retirement systems |
| Georgia | Governor and General Assembly | <ul style="list-style-type: none"> Receives annual report from retirement system reflecting the condition of the system, the financial transactions conducted during the preceding year, a summary of actuarial valuation |
| Idaho | Governor and State Legislature | <ul style="list-style-type: none"> Review annual report of activities, including financial report |
| Indiana | The Indiana Pension Management Oversight Commission | <p>The Commission oversees public retirement funds in Indiana.⁴ Its oversight duties include, but are not limited to the following:</p> <ul style="list-style-type: none"> Study the investment and management practices of the boards of the public retirement funds; Determine what constitutes adequate wage replacement levels at retirement (including benefits from public retirement funds and social security) for public employees; Study the impact of federal law and proposals concerning pensions, annuities, and retirement benefits; Study the retirement funds established in IC 36-8 (public safety code); Study methods and levels of funding for public retirement funds; Study the funding status for police and fire pension funds; Review the state's deferred compensation program; and Study other topics as assigned by the Legislative Council or as directed by the Commission's chairman. |

⁴ IC 2-5-12



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | COMPOSITION: The Commission is composed of 12 members: four Representatives, four Senators, and 4 lay members. EXPERTISE: The four lay members must be experts in the areas of finance, investments, or pension fund management. The chair of the Legislative Council appoints the chair of the Commission. STAFFING: The Commission is provided staff support by the legislative service agency, and is authorized to employ consultants. COSTS: The legislative services agency provides staff support to the Commission. |
| Illinois | Commission on Government Forecasting and Accountability (previously the Pension Law Commission) ⁵ | In addition to its other functions, the Commission is charged with reviewing the laws and practices relating to public pensions, retirement and disability benefits for people serving in State or local government and their survivors and dependents. The Commission evaluates existing laws and practices and makes recommendations on proposed changes to the Illinois Pension Code and annually issues a Report on the Financial Condition of the Illinois public pension systems. COMPOSITION The Commission consists of 12 members as mandated by the Legislative Commission Reorganization Act of 1984. The four legislative leaders each appoint three members. STAFF: 13 |
| | Illinois Division of Insurance | In addition to its other functions, the entity provides an oversight role as the repository for the retirement systems' investment policy statements and investment managers' contracts, which must be filed with the Division. |
| | The Senate Pensions and Investment Committee | Has jurisdiction over the state retirement systems |
| Iowa | The Governor and the Legislature | The Legislative Appropriations Committee reviews the retirement system's budget; the Joint State Government Committee reviews legislation concerning plan design; and interim study committees are used to review the pension funds, including actuarial reports, proposed benefit changes, research developments in other states and the private sector, and recommendations regarding system reform (e.g., 2003, 2001, 2000, and 1997). |
| Kansas | Governor and Legislature | An annual report regarding the retirement system's operations is submitted to the Governor, the Chair of the Legislative Coordinating Council, the Secretary of the Senate, and the Clerk of the House of Representatives. ⁶ |
| Kentucky | Governor and Legislature | Legislation affecting the retirement system is subject to the jurisdiction of the Appropriations and Revenue Committees and the Education Committees. The retirement system's annual report is required by law to set forth the fiscal transactions of the preceding year, the amount of accumulated cash and securities, a balance sheet showing the financial condition of the system, and a summary of the actuarial report. |

⁵ Effective February 1, 2004, the responsibilities of the Pension Laws Commission (a bipartisan entity comprised of 16 members appointed by the four leaders of the General Assembly, which was responsible for conducting studies of the laws and practices pertaining to pensions and related retirement and disability benefits) were absorbed by the Commission on Government Forecasting and Accountability (renamed from the Illinois Economic and Fiscal Commission).

⁶ GFOA has recognized the Kansas PERS report for its comprehensiveness numerous times.



| State Retirement Systems Oversight ¹ | | |
|---|--|---|
| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | Copies must be provided to the Governor, the State Auditor, the Chairs of the Appropriations and Revenue Committees and the Education Committees of both Houses of the Legislature. |
| Louisiana | Louisiana Commission on Public Retirement (created in 1991 and reconstituted in 2003) | The 11-member Commission is charged with studying retirement issues and reviewing and prioritizing proposed legislation prior to the session. Notwithstanding the Commission, in practice, the House and Senate retirement committees take the lead in pension policy decisionmaking. The Commission's responsibility is to review the administration, benefits, investments and funding of the public retirement systems in Louisiana. It is responsible for making recommendations and annual reports to the Joint Legislative Retirement Committee on those issues. It is also responsible for reviewing the efficiency and accountability of the various systems, differences in benefits within individual systems, issuance of bonds, and the need for retirement legislation. It includes legislators, the state treasurer, actuaries, attorneys with experience in public pension design and management and the president of the public affairs research council. COMPOSITION: The Commission is composed of the Chair of the Senate Retirement Committee (or his designee); the Chair of the House Retirement Committee (or his designee); the State Treasurer (or his designee) the Legislative Actuary; an actuary designated by the state systems; an actuary designated by the statewide systems; two attorneys with experience in public pension fund design and management chosen by the Chair of the House and Senate Retirement Committee (from a list of thirteen names recommended. by the state and statewide systems); one person chosen by the Chair of the House and Senate Retirement Committee from a list of four names recommended by LMA and Police Jury Association of LA; and the President of PAR (or his designee). |
| Maine | Legislative joint Standing Committee on Labor and the Joint Standing Committee on Appropriations and Financial Affairs | Consideration of the purpose of legislation affecting the retirement system, whether or not its impact is equitable treatment of the members, the funding of the costs of benefits, consistency of proposed legislation with other provisions applicable to the retirement system, etc. |
| Maryland | General Assembly's Special Joint Committee on Pensions (functioning since 1985) | The Committee is responsible for the review of issues affecting the state pension systems. COMPOSITION: 15 member committee, composed of the Senate Chair, the House Chair, six members appointed by the Senate President, and seven members appointed by the House Speaker. STAFF: two people. |
| Massachusetts | The Massachusetts Public Employee Retirement Administration Commission ((PERAC) was created in 1996) | PERAC was created for and is dedicated to the oversight, guidance, monitoring, and regulation of each of 106 public pension systems within Massachusetts. PERAC has six units: <ul style="list-style-type: none"> • The Investment Unit - responsible for (a) the annual report on the investment activity of the retirement boards; (b) promulgation of regulations governing investment of system assets; (c) approval of requests from boards for expansion of investment authority; and (d) audits of investment activities of the boards; • The Actuarial Unit - responsible for (a)actuarially valuating the retirement systems; (b)analyzing costs associated with legislative initiatives; (c)approving funding schedules adopted by retirement |



| State Retirement Systems Oversight ¹ | | |
|---|--------------------------|--|
| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | <p>boards which are designed to eliminate unfunded liabilities and transition systems from "pay as you go" funding to actuarial based funding; (d) establishing annual appropriations owed to the retirement systems by governmental units; and (e) approving individual benefit calculation;</p> <ul style="list-style-type: none"> • The Disability Unit - responsible for (a) medical panel appointments as part of the disability review process; and (b) post retirement examination and rehabilitation evaluation of disability retirees; • The Fraud Unit - responsible for Pension Fraud Program; • The Legal Unit - responsible for all litigation; issuance of legal opinions and memoranda; legislative and regulatory analysis; drafting of legislative and regulatory proposals; and advising the Commission and retirement boards on legal issues; and • The Communications Unit - responsible for maximization of communication potential of the internet; media relations; organization of educational seminars for retirement board members and staff; develop educational materials for retirement board members and staff; and produce retirement guides for employees, retirees and beneficiaries. <p>COMPOSITION: Seven members - three of whom shall be appointed by the governor, three of whom shall be appointed by the state auditor, and one of whom shall be chosen by the first six members and who shall be chairman. Of the three persons appointed by the governor, one shall be the governor or his designee, one shall be a representative of a public safety union, and one shall be qualified by having training and experience in the investment of funds as a result of having been principally employed in such occupation for a period of at least ten years. Of the three persons appointed by the state auditor, one shall be the state auditor or his designee, the president of the Massachusetts AFL-CIO or his designee, and one shall be a representative of the Massachusetts Municipal Association.</p> <p>STAFF: 50 employees: 11 in administration; three within the actuarial unit; six within the investment unit; six within the disability unit; four assigned to the legal unit; two in the fraud unit; 10 in audit; five in information system; and three in communications.</p> <p>COSTS: The Commission's budget is funded from the investment income account of the state employees and state teachers' system.</p> |
| Michigan | Governor and Legislature | Annual summary of the financial and actuarial condition of the system must be submitted to the Governor and the Legislature. The House and Senate committees (including but not limited to Appropriations, Education, Health Policy, Higher Education) have authority to review and approve legislation affecting the retirement systems. |



| State Retirement Systems Oversight ¹ | | |
|---|--|--|
| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | Governor formed the Michigan Commission on Public Pension and Retiree Health Benefits (November 16, 1999) – <i>Expired Temporary Commission</i> | Nine-member commission ⁷ responsible for examining various issues involving the oversight, funding, management, and fiscal integrity of the public pension and retiree health benefit systems within Michigan, including reviewing state laws affecting retirement systems; assessing the adequacy of funding; and making recommendations, where appropriate, for changing state laws affecting retirement systems. STAFF: Staffed by personnel within the Department of Treasury to be designated by the State Treasurer. The Report of the Commission was issued February 20, 2001 and the Commission was disbanded. |
| Minnesota | The Minnesota Legislative Commission on Pension and Retirement Commission (MLCPR) (initially created as an interim commission, established as a permanent entity in 1967) ⁸ ; | A ten member Commission, the MLCPR's duties include but are not limited to -- <ul style="list-style-type: none"> • Reviewing and making recommendations on pending proposed public pension legislation, with particular reference to analysis of their cost, actuarial soundness, and adherence to sound pension policy, and reporting its findings to the legislature;⁹ • conducting ongoing research on pension policy issues; • providing legislative oversight for Minnesota's system of public employee pension plans; • arranging for the preparation of regular actuarial valuations and periodic experience studies of the statewide and major local public pension plans; • assessing the sufficiency of current public pension plan funding and recommends required modifications;¹⁰ • filing a report at least biennially to each session of the legislature; and • creating and maintaining a library for reference concerning pension and retirement matters, including information about laws and systems in other states. COMPOSITION: Five members of the House of Representatives (appointed by the Speaker of the House) and five members of the Senate (appointed by the Subcommittee on Committees of the Senate Rules Committee). STAFF: 3.5 permanent staff positions. ¹¹ The Commission retains a consulting actuarial firm for the performance of regular actuarial valuations and related actuarial work (selected by periodic competitive bid process. COSTS: Approximately two-thirds of the pension commission's budget for actuarial services is recouped from the statewide and major local public pension plans ¹² and redeposited in the State's General Fund. |

⁷ Established pursuant to Executive Order No. 1999-13 (rescinding Executive Order 1999-8, effective July 29, 1999). Members are appointed by the Governor and serve at the pleasure of the Governor.

⁸ Laws 1967, Chapter 549; Coded as Minnesota Statutes, Section 3.85

⁹ In recommending proposed pension legislation, the Pension Commission rules require bicameral support for any proposal, necessitating affirmative support from a majority of both House and Senate Commission members.

¹⁰ The general practice of the committees of the Minnesota Legislature with jurisdiction over public pension issues is to informally refer proposed public pension legislation to the Pension Commission for its review and recommendation before further action on those initiatives.



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| Mississippi | Senate Finance Committee and the House Appropriations Committee | The retirement system is required to prepare an annual report that includes detailed financial information, a summary of all investments, a statement of income and expenditures and a balance sheet showing the financial condition of the system by means of an actuarial valuation. The annual report is distributed to all employers. |
| Missouri | The Missouri Joint Committee on Public Employee Retirement (created in 1983); | <p>The 12 member committee is a joint agency of the Minnesota Legislature. The MJCPER is responsible for –</p> <ul style="list-style-type: none"> • Make a continuing study and analysis of all state and local government retirement systems; • Devise a standard reporting system to obtain data on each public employee retirement system that will provide information on each system's financial and actuarial status at least biennially; • Determine from its study and analysis the need for changes in statutory law; and • Make any other recommendations to the General Assembly necessary to provide adequate retirement benefits to state and local government employees within the ability of taxpayers to support their future costs. <p>The Committee compiles a comprehensive report of its activities for the General Assembly each year in which the General Assembly convenes in regular session. The report addresses (1) status of membership, (2) funding status, including a comparison of the progress or lack of progress in the plan's funding process from year to year, (3) statutory and regulatory compliance, (4) statutory investment requirements, (5) federal issues impacting the systems, and (6) state issues. The Committee uses a computerized database to accumulate information regarding benefits levels, assets, liabilities, membership, investment allocation, advisors, custodial and broker fees. The systems under the jurisdiction of the Commission are required to complete survey questionnaires and file actuarial valuations and financial statements each year. The survey questionnaire is designed to be in compliance with the reporting requirements of GASB 25.</p> <p>COMPOSITION: The Committee consists of six senators appointed by the President Pro Tem of the Senate and six members of the House of Representatives, appointed by the Speaker of the House.</p> |
| Montana | Governor and Legislature | Retirement System and the Board of Investments are required by law to submit an annual report to the Governor and Legislature. The content of the reports is prescribed by law. The Retirement System report which details (1) the fiscal transactions for the two preceding fiscal years, (2) the amounts of accumulated cash and securities of the retirement system, and (3) the last fiscal year's balance sheet showing the system's assets and liabilities. The Investment Board report must disclose investment performance for the past fiscal year, summarize in-state investment activities, and provide public access to audited financial statements. |

¹¹ The Pension Commission staff is also available to assist other legislative committees and non-Commission legislators on pension-related topics and issues.

¹² Over 700 public employee pension plans.



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | Committee on Public Employees Retirement Systems (CPERS) - interim committee - repealed in 1999. | Established in 1993 for the purpose of adopting policy principles and report and make recommendations to the legislature to provide a framework whereby the Legislature could establish fair, consistent, and fiscally sound retirement policy |
| | State Administration, Public Retirement Systems, and Veterans' Affairs Interim Committee | Replaced CEPRS, charged with the responsibility for monitoring public retirement issues. Issued report November 2000 setting forth pre-session consideration of retirement plan proposals. |
| Nebraska | Governor, State Treasurer, and the Legislature (specifically the Appropriations Committee and the Nebraska Legislative Retirement Committee) | In addition to a fiscal note, an actuarial study is a prerequisite for any legislation that enhances benefits. Audit Reports conducted by the State's Auditor must be submitted to the Legislature. A periodic compliance audit must be conducted to determine compliance with state and federal laws. The State Investment Officer files very detailed monthly reports with the Governor and the State Treasurer. |
| Nevada | Governor, Legislature, Interim Retirement and Benefits Committee (when the Legislature is not in session) | Annual report filed with the Governor and Legislature. The annual report includes a description of the plans, the actuarial valuations for each plan, significant legislative changes, the investment policy for each plan, a statement of receipts, disbursements, material lease commitments and contingent liabilities. |
| New Hampshire | Secretary of State and the Legislature | Comprehensive annual financial report (which includes the audit and actuarial reports) is filed with the Secretary of State; a biennial report on the status of the retirement system is filed with the legislature. |
| New Jersey | Legislature, the Treasurer, and the Investment Council | The retirement systems prepare annual financial reports, annual actuarial reports, triennial experience studies, and undergo annual audit. The Division of Investments prepares a monthly report of all investment transactions, including commissions paid; the Division is also audited annually, and prepares an annual report. |
| New Mexico | Legislature (Legislative Finance Committee) ¹³ | Annual report, including fiscal transactions, accumulated costs, securities held, and the overall financial status of the retirement system is provided to the Legislature. |
| New York | Legislature and the Insurance Department | The retirement systems must issue an annual report setting forth schedules of assets, liabilities, litigation, and costs. The Insurance Department reviews and issues a report and makes recommendations regarding the retirement systems operations and has the authority to establish standards with respect to actuarial assumptions, accounting practices, administrative efficiency, investment policy, financial soundness, and fiduciary responsibilities. Legislation must contain a fiscal note setting forth the annual cost. |

¹³ This year, the Governor vetoed legislation that would have created the "State Investment and Retirement Systems Oversight Committee" as a joint interim legislative committee. It would have included five voting members from each legislative house and five nonvoting members; one each from the State Investment Office, PERA, Secretary of Finance and Administration, State Treasurer's office and the Educational Retirement Board. The committee would have been responsible for creating a plan for oversight of the retirement fund activities of the organizations represented by the five nonvoting members, and analyzing the financial status of those funds and develop recommendations for improved investment practices to ensure the financial soundness of those funds. All future legislation affecting state investment practices, the permanent funds or the retirement funds would have to be presented to the committee for review and analysis prior to the session in which such legislation was introduced.



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| North Carolina | Legislature | Actuarial notes are required for legislation with potential fiscal impact. An annual report is required that sets forth the fiscal transactions of the prior year and the amount of cash and securities, as well as an accounting of the financial condition of the retirement system. |
| North Dakota | Governor and Legislature | Annual report, including the annual audit and the actuarial valuation is submitted to the Governor. The Legislative Committee on Employee Benefits reviews the annual actuarial valuation and issues an actuarial cost report on any legislation that may affect a retirement system. The Legislative Audit and Fiscal Review Committee as well as the Legislative Budget Committee also has oversight authority over the retirement systems. |
| Oklahoma | The Oklahoma State Pension Commission | Responsible for oversight of the state's seven pension systems. Formed to provide guidance to public officials, legislators, and administrators in developing public retirement system objectives and principles, identifying problems and areas of abuse, projecting costs of existing systems and modifications to those systems, and recommending pension reform programs. No member of the governing body of a state retirement system is eligible for appointment to the Commission. In 2003 the requirement that the Commission's review retirement-related legislation was repealed. ¹⁴ COSTS: The administrative support costs of the Commission are apportioned by the State Auditor and Inspector among the six statewide pension systems in proportion to their total assets for the preceding fiscal year. EXPERTISE: The Commission is directed by statute to hire one or more pension fund management consultants to assist the Commission in accomplishing its objectives. Statutes also direct that the State Auditor and Inspector provide the administrative support required by the Commission. |
| Oregon | Governor and Legislature | <ul style="list-style-type: none"> The Retirement System must also provide for an annual audit of the retirement fund and an annual report to the Legislative Assembly and to all members of, retirees of, and all employers participating in, the system. The annual report must contain financial statements prepared in accordance with generally accepted accounting principles. The financial statements must include the report of any independent auditor. The report distributed to the employer and employee members of the system must also contain a summary of investments of moneys in the fund, investment earnings, significant legislative or administrative changes in the system and other pertinent information on the operation of the system for the preceding year. The Oregon Investment Council must report on the investment program to the Governor and to the Legislative Assembly. The Treasurer reports monthly to the Oregon Investment Council. |
| Pennsylvania | The Pennsylvania Public Employee Retirement Commission (created in 1981) | The Commission is responsible for <ul style="list-style-type: none"> issuing actuarial notes on proposed pension legislation and for studying public employee retirement system policy.; |

¹⁴ HB 1067



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | <ul style="list-style-type: none"> • administering the actuarial valuation reporting program for municipal retirement systems, which entails monitoring and enforcing compliance with the statutorily mandated actuarial funding standard; • Certifying annual municipal pension cost data used in allocating the General Municipal Pension System State Aid money of over \$129 million; and • administering the Financially Distressed Municipal Pension Recovery Program. |
| | Governor and the Legislature ¹⁵ | Comprehensive Annual Financial Report ¹⁶ must be provided to the Governor. Actuarial and fiscal notes are required for legislative consideration. |
| Rhode Island | Governor and General Assembly | An annual report must be submitted to the Governor for transmittal to the general assembly, on or about the first day of December in each year. The annual report must contain, among other things, a financial balance sheet, a statement of income and expenditures, a valuation balance sheet as prepared by the actuary, a detailed statement of investments acquired and disposed of during the year, and such other statistical data as are deemed necessary for a proper interpretation of the condition of the system and the results of its operations. A financial statement summarizing the results of the retirement system's operations for the year must be published for distribution among the members of the retirement system. |
| South Carolina | Governor and Legislature ¹⁷ | The retirement systems must file annual reports showing the fiscal transactions of the system for the preceding year, the amount of the accumulated cash and securities of the system and the last balance sheet showing the financial condition of the system by means of an actuarial valuation of the contingent assets and liabilities of the system. |
| South Dakota | Governor and Legislature, specifically the Retirement Laws Committee in the House and in the Senate (has oversight when the Legislature is not in session and reviews proposed legislation when the legislature is in session) | The Standing Laws Committee is charged with (1) making continuing study of the pension and annuity benefits laws, (2) reviewing all proposed legislation affecting the retirement system and reporting to the Legislature. The retirement system files an annual financial report with the Governor, the State Auditor, and the Retirement Laws Committees. If investment performance is below average, a report must be provided to the Governor and the Legislature reviewing the performance and setting forth any changes necessary to improve the negative performance. |
| Tennessee | The Tennessee Council on Pensions and Insurance | Legislative oversight body, composed of 14 members – seven state representatives and seven state senators ¹⁸ plus, on an <i>ex officio</i> basis, the comptroller of the treasury, the state treasurer, the commissioners of Personnel and Finance and Administration, and the director of the retirement system. |

¹⁵ The Appropriations Committee, the House Committee on State Government, the Senate Finance Committee

¹⁶ GFOA awarded the Certificate of Achievement for Excellence in Financial Report to both Pennsylvania SERS and PSERS for the year ending December 31, 2004

¹⁷ House Ways and Means and Senate Finance Committee

¹⁸ The membership includes officers of the House and Senate Finance, Ways and Means Committees; three members appointed by the chairman from each finance committee; and two members, each appointed by the speaker of the respective houses.



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | The Council is responsible for – <ul style="list-style-type: none"> • developing and recommending standards and policy relating to pensions and insurance for the state and local governments within Tennessee; • conducting surveys and studies; • recommending changes in state law as deemed necessary; and • Reviewing and recommending actions on legislation presented to the General Assembly that impacts pension and insurance matters. |
| Texas | The Texas State Pension Review Board (established in 1979) | The Board is responsible for – <ul style="list-style-type: none"> • Conducting a continuing review of all public retirement systems within the state, compiling and comparing information about benefit structures, financing, and administration of systems; • Conducting intensive studies of existing or potential problems that weaken the actuarial soundness of public retirement systems; • Insuring the equitable distribution of promised benefits to member of public retirement systems while maximizing the efficient use of tax dollars; • Providing information and technical assistance to public retirement systems, their members, the political entities which sponsor them, and the public; • Recommending policies, practices, and legislation to public retirement systems and their sponsoring governments; • Examining all legislation for potential effect on Texas' public retirement systems, overseeing the actuarial analysis process, and providing actuarial review when required by law; • Administering the registration and reporting requirements under Chapter 802, Government Code; and • Reporting Board activities to the Governor and Legislature in November of each even-numbered year. <p>Composition: Nine member Board – two members from the legislature (appointed by the Lieutenant Governor) and the remaining seven members are appointed by the Governor subject to the required qualifications experience. EXPERTISE: Three members of the nine member board are required to have experience in the fields of securities investment, pension administration, or pension law and may not be members or retirees of public retirement systems within the State of Texas, one actuary, one person with experience in governmental finance, and one active member (contributing to a public retirement system) and one retired (receiving benefits from a public retirement system). FUNDING COSTS: The Texas PRB costs are funded from the Texas General Fund rather than the pension funds subject to its purview or the Legislature. Previously the PRB was funded through voluntary contributions from the retirement systems. STAFF SIZE: Seven</p> |



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| Utah | Governor and Legislature (Retirement and Independent Entities Committee) | The board must report annually to the Governor, the Legislature, the contribution rates, premium rates, and any adjustments necessary to maintain the retirement systems on a financially and actuarially sound basis, and at least biennially the executive director must make an actuarial investigation into the mortality, service, and other experience of the members, participants, beneficiaries, and covered individuals of each retirement system and actuarially value the assets and liabilities of each retirement system. |
| Vermont | Governor and Legislature | The annual report must show the fiscal transactions conducted during the year and the financial condition of the system. A financial summary must also be provided to members of the system, including a statement of changes in the fund balance as well as a comparative balance sheet. Legislative oversight is subject to the Government Operations and the Appropriations Committee of both houses of the Legislature. |
| Virginia | The Virginia Joint Legislative Audit and Review Commission (JLARC) | JLARC is primarily responsible for policy oversight. JLARC publishes periodic status reports, investment performance reports, and a Legislator's Guide to the retirement system. COST: The Virginia Retirement System is responsible for paying reasonable and necessary expenses to the JLARC for the program |
| Washington | Joint Select Committee on Pension Policy | 20 member Committee is comprised of eight legislators, stakeholder representatives, employer representatives and the directors of the Department of Retirement Systems and the Office of Financial Management. The Select Committee will study pension issues, the retirement systems' funding status, and actuarial assumptions. Based on its findings, the Committee is responsible for then making recommendations to the Legislature. ¹⁹ |
| West Virginia | Governor and Legislature (House Pensions and Retirement Committee and the Senate Pension Committee) | Fiscal notes are required for any bill that affects the retirement systems. The Consolidated Board is required an annual report showing the condition of the plans and certifying the amount of accumulated cash. The report is distributed to the Governor and members of the Legislature. Actuarial valuations (of the defined benefits plans) are also required. |
| Wisconsin | Wisconsin Joint Survey Committee on Retirement Systems | The 10-member committee includes majority and minority party representation from each legislative house. The Committee makes recommendations on all legislation that affects retirement and pension plans for public officers and employees. Neither house of the Legislature may consider a pension bill until the Committee submits a written report that describes the proposal's purpose, probable costs, actuarial effect, and desirability as a matter of public policy. The staff of the Legislative Council is responsible for legal and research staff services for the Joint Survey Committee and must prepare fiscal estimates on bills referred to the Joint Survey Committee. The staff of the Legislative Council is also now ²⁰ responsible for preparation of the comparative study of major public employee retirement systems in the country. |

¹⁹ In 2003, this Committee replaced the Joint Committee on Pension Policy (Chapter 295, Law of 2003).

²⁰ As a result of Act 316 of the 2005 Session (SB 527), the functions of the office of retirement research director were transferred to the Legislative Council staff and the Retirement Research Committee was eliminated. The Legislative Council is a nonpartisan legislative service agency. The Council is composed of 22 members of the Legislature.



| State Retirement Systems Oversight ¹ | | |
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| State | Oversight Entities | Role and Responsibilities of Entities and/or Information Required |
| | | STAFF: The staff of the Legislative Council consists of approximately 30 employees. |
| Wyoming | Governor and Legislature | The retirement system must file with the legislative service office (1) all actuarial reports, (2) an annual audit report showing the financial status of the retirement system, as part of the annual report, (3) a statement of any proposed benefit changes and the projected cost of the changes to the system. The retirement system's budget request to the Department of Administration and Information (DAI) shall be accompanied by a written, comprehensive report of the programs, objectives, activities and conditions covering the previous fiscal period. The report shall be in a format developed by DAI, in conjunction with the retirement system and the legislative service office. Notice of the format requirements shall be forwarded to retirement system no later than July 15 of each year. The report shall detail the fiscal affairs of the retirement system including receipts and expenditures and make recommendations for improving the retirement system's programs. The report shall include an annual performance report which provides a means of evaluation of the outcomes included in the retirement system's strategic plan. |

