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FIDUCIARY REVIEW

OHIO BUREAU OF WORKERS' COMPENSATION

June 30, 2006

Prepared for the Ohio Inspector General

by

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Executive Summary and Recommendations

Introduction

Evaluation Associates was engaged by the Office of the Ohio Inspector General to conduct a Fiduciary Review of the investment program of the Ohio Bureau of Workers' Compensation (BWC). This review was prompted by the well documented problems at the Bureau that have resulted in a nearly complete turnover of personnel and wholesale changes in the investment program. The primary goals of the review were as follows:

- Identify the fiduciary standards and principles that apply to the BWC investment fund(s).
- Document the weaknesses in BWC investment policies, procedures and practices that allowed problems to develop.
- Recommend appropriate changes and methods of monitoring compliance.

Specifically, this report will include our comments and recommendations regarding the issues below:

- Sources of fiduciary standards and principles which govern BWC investment operations,
- The various fiduciaries and their roles and responsibilities in the investment process,
- The investment policy and any other governing documents,
- BWC processes and controls for implementation of the investment policy,
- Due diligence procedures for selection and monitoring of investment managers,
- Role of consultants in the BWC investment process,
- The structure of the internal investment department, including competencies necessary to manage the BWC portfolio,
- The trust and custody arrangements, including the role of the BWC investment accounting and internal audit departments,
- Brokerage and trading operations.
- Recommendations on changes to HR 66.

In the process of completing this review we collected information by reviewing files, reports and other documents and by interviewing key individuals who are currently involved in the management of the assets of the bureau, including BWC staff, members of the Investment Committee, members of the Management Review Team and certain service providers. We also conducted a survey of state workers' compensation organizations to confirm best practices. The recommendations contained herein represent our independent judgment on the matters listed above.

The report is subject to several caveats First, many of the subjects are judgmental and subject to debate. We have made every effort to present reasonable and defensible conclusions, but they are, in the final analysis, our opinions. Second, we relied on information provided to us, including written and oral representations. Our conclusions, therefore, are based on the information we considered at the time we performed the work. Finally, although the report considers various matters that could be described as legal in nature, it does not purport to be legal advice or to supplant the need for professional legal advice on such matters.

Recent History

In April of 2005 the Office of the Ohio Inspector General began an investigation into alleged wrongful acts associated with the investment practices of the state Bureau of Workers' Compensation. This investigation was prompted by concerns expressed as to the Bureau's investment in rare coins.

The ensuing scandal, commonly known as "Coingate," has attracted the attention of federal and state law enforcement officials and has resulted in resignations, terminations and, recently, indictments of key individuals involved with BWC investments. More importantly, the close scrutiny of BWC activities which Coingate has drawn has exposed countless failures in the process of managing, controlling, supervising and monitoring the investment of BWC assets.

In June of 2005 the legislature passed HB 66, which mandated numerous changes to the Bureau. A copy of the analysis of the BWC-related portion of this bill, prepared by the Ohio Legislative Service Commission, is attached to this report in Appendix 1.

In October of 2005 Governor Taft took a number of corrective steps, including the appointment of a Management Review Team (MRT) to review the investment portfolio and investment policy, procedures and controls at the BWC. The three-person MRT, comprised of the Director of the Ohio Lottery, the then Executive Director of the Ohio Public Employee Retirement System and the Treasurer of The Ohio State University, completed a comprehensive review of the BWC investment portfolio, using the services of an independent investment consulting firm (Ennis Knupp + Associates). The MRT made 40 recommendations, including the reorganization of BWC investment staff, policy and procedure changes and, perhaps most visible, the termination of the entire complement of outside investment managers. The full MRT report is attached in Appendix 2.

As of this writing, virtually all of the recommendations of the MRT have been either completed or are in the process of consideration for completion. Key changes include the following:

- A new Administrator is in place, along with a new Chief of Staff and Chief Investment Officer.
- All of the stock and bond managers have been terminated and the portfolios they managed have been liquidated. These assets are currently invested in a passively-managed fixed income portfolio, structured to track the results of the Lehman Aggregate Bond Index.
- The in-house trading operation has been shut down and all trading activity is now in the hands of the outside investment manager(s).
- The in-house cash management operation has been shut down and this function is now being performed by the investment arm of the custodian bank.
- An RFP has been issued to hire a firm to carry out the liquidation of the private equity portfolio.
- All of the outside investment consultants that were employed by BWC have either been terminated or have had their contracts expire without renewal. A new consultant is now on retainer.
- The Oversight Commission now has an active, four-person Investment Committee and an active, three-person Audit Committee.

In May of 2005, the Auditor of State's Office initiated a special audit of the BWC, focused specifically on Coingate issues and issues surrounding MDL Capital Management, another BWC investment venture that resulted in large losses and significant publicity. The Auditor of State hired two outside auditing firms, one to conduct a forensic audit of coin-related issues and the other to review MDL-related issues, with a particular focus on policies, procedures and practices surrounding the establishment and management of BWC investment funds. In addition, a nationally recognized auction house was engaged to value the coins and other items that were part of the Coingate investment.

The Auditor of State issued a report in February of 2006. The conclusions presented in that report included the following and are consistent with our findings

- BWC did not have adequate policies to govern its private equity investments, and where policies did exist they were not consistently applied and enforced.

- The investment process did not contain adequate internal controls to prevent management overrides.
- BWC did not exercise sufficient oversight of fund managers.
- BWC could not provide evidence that proposals were objectively evaluated prior to the selection of outside investment managers.
- While policies were in place that require a systematic review of the various investments in the BWC portfolio, there is no evidence that such reviews occurred.

The Auditor's report also included 22 specific recommendations, most of which are sound in our opinion. We will comment on them in greater detail later in this report.

The investment department, including Committee members, staff and their outside consultant, have paid close attention to the recommendations presented by the Auditor in her report. Each of them has been addressed and, in most cases, implementation has already occurred. Many of the recommendations have been incorporated into the new Investment Policy Statement, which is attached to this report in Appendix 3.

Recommendations

Overall Recommendation

- All of the important decisions made with respect to the investment of BWC assets must be made in the sunshine, figuratively speaking, and the only way for this to be assured is for these decisions to be made by the Oversight Commission, functioning as a Board of Trustees. All decisions of the Commission and its Investment Committee must be made in open meetings, and all documents related to these decisions must be available for public scrutiny.

The Oversight Commission

The Oversight Commission needs to be restructured and strengthened to function as a Board of Trustees. Its powers are limited, but its responsibility is not. This should be the primary decision-making body, with day-to-day functions delegated to staff.

- Investment experts should have full voting privilege.
- Additional experts in accounting and actuarial science should be added.
- An independent legal advisor should be retained to eliminate the conflict inherent in the AG serving as legal advisor while at the same time having the statutory requirement to bring civil charges against the BWC.

- The Administrator should be accountable to, and serve at the pleasure of, the Commission. A (less desirable) alternative would be to adopt the recommendation of the MRT that legislation be drafted to form an independent Investment Board, with the CIO and investment staff accountable to that Board. This alternative is less desirable because it would create dual accountability for the CIO.

The Governor

The Governor has too much power in the current configuration.

- Appoints all five voting Commissioners

- Selects the Chairperson of the Commission

- Appoints the Administrator

So long as nearly absolute power is vested with the Governor, the potential for the abuse of this power exists. The only way to assure that power will not be abused is to spread it among a variety of persons.

- While it is appropriate for the Governor to play an important role in the governance of the BWC, in our opinion the Governor's power should be limited to the appointment of Commissioners. Furthermore, the Governor should not be able to appoint all of the voting members of the Commission. Rather, we would recommend that the Governor's appointees be equal in number to those appointed by other bodies, including the legislature (with assurance of participation from both parties), the Auditor of State and the Attorney General.
- While we would prefer that the Commission select its own chairperson, so long as the appointment power of the Governor is limited in the manner described above, we are comfortable with the Chairperson being selected by the Governor.
- As spelled out later in this report, we believe the Administrator should be hired by the Commission and serve at the pleasure of the Commission.

BWC Staff

The BWC is neither a mutual nor a stockholder-owned company. It is a state agency. Its definition of fiduciary responsibility and its interpretation of the duty of loyalty must be aligned accordingly. Similarly, the Bureau should not operate like a private corporation. Presently there is too much power vested with staff and not enough with Commissioners and Committees.

- The job description of the Administrator and the CIO need to be addressed. Some of the duties of the Administrator should be the purview of the Investment and other Committees.

- The Administrator, supported by his/her staff, should be more of an Executive Director than a CEO. The primary function of this office must be to implement the decisions of the Oversight Commission.
- A full-time credentialed actuary should be hired to provide needed internal actuarial expertise

Reporting/Review Procedures

- A periodic independent actuarial review (audit) should be conducted by an outside firm other than the retained actuarial consultant. This review should take place, at minimum, every three years. HB 66 requires that actuarial audits be conducted on an annual basis. Our recommendation is that a firm other than the one engaged to do this annual audit be engaged to review the retained actuarial consultant's work.
- The BWC should have the ability to select its own custodian. See Section XV below
- Performance reporting should include an independent report from the outside investment consultant and include a statement of reconciliation between the custodian and the investment managers. Each report should be reconciled to strict tolerances.
- The selection of investment managers should be an open, transparent process. The problems with manager selection in the past have been well documented. The Oversight Commission, it appears, rubber-stamped the list of "approved managers" and then the staff had the ability to allocate funds to those managers. This is not the appropriate way for the process to unfold. See Section XI below
- Brokerage and trading operations should be totally outsourced. The manager's fiduciary responsibility needs to be best execution.
- Consideration should be given to giving the Ohio Retirement Study Council responsibility for oversight of the Bureau of Workers' Compensation in much the same way it provides oversight to the pension systems. The general purpose of the Retirement Study Council is to advise and inform the state legislature on all matters relating to the benefits, funding, investment, and administration of the five statewide retirement systems in Ohio. This purpose could easily be expanded to include the BWC. If the Retirement Study Council is not deemed to be the appropriate agency for the exercise of legislative oversight, some other vehicle should be created in its place. Whatever the means, the legislature should provide consistent, periodic oversight. The annual report to the President of the Senate, the Speaker of the House and the Governor, currently required, is not sufficient oversight in our view.

- The provision in HB 66 requiring criminal background checks of every individual involved with the investment of BWC assets should be reconsidered. The current law strikes us as an overreaction to the events surrounding "Coingate" and creates some unwieldy requirements that will materially diminish the Bureau's ability to contract with outside investment management firms.

In addition to these recommendations, the Auditor of State issued a report with 22 specific recommendations. Our opinions with respect to those recommendations are as follows:

1. OBWC should establish written criteria for the selection of managers as part of its RFP process, including a scoring or evaluation system. Written documentation regarding the evaluation and selection of managers should be retained.
    - o We agree completely. Our sense at this point in time is that the changes to the leadership of the Investment Department will result in full compliance with this recommendation going forward. It will be necessary to monitor progress as the process of reconstructing the manager structure of the Fund unfolds.

2. OBWC staff should approve and execute all transactions of the managers and affirm, settle, and reconcile all transactions and balances.
    - o This recommendation is moot, at this point, since the trading function is no longer in-house. We agree that trades should not be executed by BWC staff.

3. OBWC staff should obtain the authorization of the Oversight Commission for additional funding of an investment manager.
    - o This recommendation is consistent with our view that the Commission should be involved in all decisions regarding the funding of managers. However, the Commission should be able to delegate to staff the authority to rebalance assets among managers within approved ranges.

4. OBWC should implement a formal process to perform and document the quarterly performance evaluation of each manager as required by its investment policy
    - o We agree, and found that this formal process has already been put in place.

5. OBWC should implement a formal process to ensure that annual meetings with managers are performed and documented.
   - This process is mandated in the new Investment Policy Statement and is likely to be carried out. It will be important to monitor progress going forward.

6 Oversight Commission should include an individual with a background in finance and/or investing.
   - This is inadequate, in our opinion. The Oversight Commission now includes three such individuals (two that are named as investment experts and one additional individual who also has that expertise).

7. Oversight Commission should increase its monitoring of investments as required by policy and the ORC by establishing procedures that assure review of the activities and strategies of each manager.
   - It is too early to tell if this is actually being carried out. It is clear that it is the intent of the Investment Department to facilitate the Oversight Commission to do this, and the new Investment Policy Statement mandates it.

8. Oversight Commission should adopt policies that assure the Oversight Commission is notified of any changes in funding levels with a manager.
   - This can easily be accomplished by requiring regular reports from the staff and including it in the internal audit process.

9. Oversight Commission should receive quarterly reports that contain adequate detail to assess the performance of each manager including information on private equity investment transactions.
   - This has been implemented through quarterly reporting from the investment consultant. Since the process of liquidation of the private equity portfolios is on the immediate horizon, that portion of the recommendation will soon become moot.

10. OBWC should implement controls for monitoring investment managers consistent with the adopted investment policy and reporting the results of that monitoring to management and the Oversight Commission on a regular basis.
   - This appears to be a redundant recommendation. We are not clear how this differs from item 4 above.

11. CIO and others designated to review proposals from fund managers should establish specific procedures to document their evaluation of proposals prior to acceptance.
   - This appears to be a restatement of recommendation 1 above. Again, we agree

12. CIO should adhere to the policy of quarterly consultations with managers and an annual meeting to discuss the status of the investment. These meetings should be documented with formalized agendas and meeting minutes or other types of written documentation.
    - o We agree completely, and feel that it is the clear intent of the Investment Department to fully implement this recommendation.

13. OBWC should evaluate the need for the continued use of investment consultants. If OBWC continues to use investment consultants, procedures should be implemented which ensure the consultants are providing adequate information for management and the Oversight Commission to evaluate the performance of all individual managers. This would include requiring each consultant to make a judgment regarding the manager's performance.
    - o We feel that outside consultants will play a critical role in the management of the investment program of the BWC going forward. We will elaborate further on this subject later in this report.

14. OBWC should implement a process which documents the utilization and review of the consultants' reports by management and the Oversight Commission.
    - o We agree. See item 13 above.

15. The Administrator and CIO must obtain any change in a manager's strategy in writing and seek Oversight Commission approval prior to a change in asset allocation.
    - o Any outside manager's strategy should be outlined in detail in the contract between that manager and the BWC. Specific, written permission for any change in strategy should be sought prior to its implementation. We agree that the Oversight Commission should approve any such change in strategy, though we would prefer to see this done at the Investment Committee level and then reported up to the full Commission. This really has nothing to do with asset allocation, as the term is normally defined.

16. OBWC should never enter into an agreement for an investment that is not permissible under its current Investment Policy Statement.
    - o We agree. Anything not specifically permitted by the Policy should be considered to be prohibited.

17. Internal audit reports related to investment managers are to be responded to by the CIO and reported to the Oversight Commission.
    - Should the internal auditor discover anything related to investment managers that merits reporting, it should be reported to the CIO and the Oversight Commission. Again, we would prefer to have this interaction go directly to the Investment Committee and then get reported up to the full Commission.

18. All private equity managers should be required to submit audited financial statements annually and a process should be implemented to review each audit report and discuss any audit issues with the investment manager.
    - We agree, though the private equity portfolio is in the process of being liquidated.

19. All agreements with private equity investment managers should be reviewed by internal and/or external legal counsel prior to execution.
    - No future private equity assignments are anticipated.

20. OBWC should implement procedures to strengthen its monitoring of its private equity investments as well as a process to document its monitoring activities.
    - The new investment consultant has this function as part of its mandate.

21. OBWC should review its current private equity investments to determine if they are consistent with its investment strategies and objectives.
    - This has already been done. An RFP has been drafted and will soon be issued to select a firm to liquidate the private equity holdings.

22. When OBWC enters into private equity investments, the level of risk should be disclosed to the Oversight Commission prior to its approval.
    - No future private equity investments are anticipated.

I. Background

State Workers' Compensation Funds

The following statement, outlining the history and operations of State Workers' Compensation Funds is largely extracted from the website of the American Association of State Compensation Insurance Funds (AASCIF) Bolding is added for emphasis.

> The role of state funds is as longstanding as workers' compensation systems. With enactment of state workers' compensation laws requiring that employers compensate injured workers, the need for workers' compensation insurance created its own set of problems. Employers feared they would be forced out of business if refused coverage by insurance companies. They were also fearful that insurance carriers might impose excessive premium rates that would be a financial burden. High premium rates could negatively affect a state's economy and ultimately limit opportunities for employment. Another fear was that insurance rates might soar, enabling insurers to reap unfair profits. Legislators addressed these concerns by establishing state workers' compensation insurance funds. ***These funds were created to provide a stable source of insurance coverage, thus protecting employers from underwriting uncertainties by making it possible to have continuing availability of coverage.***
>
> Since state funds were designed to be nonprofit, premiums could be kept at the lowest possible cost for employers consistent with financial solvency. In addition, the funds were established solely to provide one type of insurance: workers' compensation. This specialization allowed the funds to concentrate resources, knowledge and expertise in this field of insurance. Since the early 1900s, availability, affordability, and service have been the key benefits of state funds.
>
> While state funds operate exclusively or on a competitive level, depending on the laws under which they were created, they share basic concepts and principles Naturally, there are certain points in which these two types of operation differ.
>
> States with exclusive funds require all employers to procure their workers' compensation insurance from the state fund, or, in some jurisdictions, to self-insure. Exclusive state funds develop their own rates and experience by using the services of in-house actuaries or actuarial firms. Administrative costs are low because they do not issue renewal policies and typically have no marketing programs.

Competitive funds provide a ready market to employers for this insurance. Depending on the state, employers may insure with the state fund, a private carrier, or be self-insured. Competitive state funds offer an available market that is not dependent on the size of the employer's premium, nature of business, or loss history. Most competitive funds pay dividends to policyholders. Overhead expense ratios of both exclusive and competitive funds should be consistently lower than expense factors for private carriers.

Washington was the first state to adopt the state fund approach in 1911; Michigan followed in 1912. By the end of 1916, six states had established exclusive state funds and seven states had established competitive state funds.

At present, state funds exist in the following states:

- Exclusively by state fund: North Dakota and Wyoming.
- By either state fund or authorized self-insurance: Ohio, Washington, and West Virginia.
- By private insurance, state fund, or authorized self-insurance: Arizona, California, Colorado, Hawaii, Idaho, Kentucky, Louisiana, Maine, Maryland, Minnesota, Missouri, Montana, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas and Utah.

State funds are, by law, designed to be self-supporting from their premium and investment revenue. As nonprofit departments of the state, or as independent nonprofit companies, they are able to return dividends or safety refunds to their policyholders. This reduces the overall cost of workers' compensation insurance. ***Numerous court decisions have determined that the assets, reserves, and surplus of the funds are not public funds, but are the property of employers who are insured by the funds or are in the nature of a trust to be held for the benefit of insured employers and their injured workers.*** Most state funds created in the last 20 years have been organized as mutual insurance companies

State funds, for the most part, are subject to the same regulatory requirements as private companies, in terms of surplus and reserves. Major independent accounting and actuarial firms validate the funds' financial position and reserves.

All of the knowledge and information generated by state funds is available to other funds. Their organization, known as the American Association of State Compensation Insurance Funds meets to distribute and share information, techniques, ideas, and knowledge. This collaboration aids them in the perfection of their handling of problems in the system

State funds also serve as a yardstick for measuring the cost of workers' compensation insurance against which other insurers' performance can be measured. This factor played a significant role in the legislative decisions to establish the newest funds in Missouri, Kentucky, and Hawaii. State funds' history of a low expense ratio and control of net premium cost for employers was an important determining influence in the legislative process.

Existing state funds around the country serve as an available resource for states seeking to have a positive effect on their economy and offer solutions to workers' compensation problems. The eight state funds created in the early 1990s quickly became the market leaders in their respective states while effectively depopulating their assigned risk pools of those small-premium-size employers that the private sector was not willing to service.

State funds have traditionally set standards of performance for reducing net premium costs through rate discounts and dividends. Some state funds have further reduced costs through institution of downward deviations from standard rates for premium by significant amounts. Such low costs and service afforded by the nonprofit state funds over the long haul have been and remain positive influences, as well as directly delivering a good insurance value in their respective jurisdictions.

State funds continue to fulfill the mission for which they were created: to provide readily available workers' compensation insurance and benefits to the employer and the worker at the lowest possible cost, and to return the injured worker to full employment at the earliest possible opportunity.

The Ohio Bureau of Workers' Compensation

The BWC website provides the following description:

> Since 1912, Ohio's workers' compensation system has helped employers and employees cope with workplace injuries by providing medical and compensation

benefits for work-related injuries, diseases and deaths. BWC has a central office in Columbus and 16 customer service offices located across the state.
BWC provides insurance to about two-thirds of Ohio's work force. The remaining workers receive coverage directly through their employers. These companies are part of a self-insurance program for large and financially stable employers who meet strict qualifications set by BWC.

BWC is the largest exclusive state-fund workers' compensation system in the United States and the second largest underwriter of workers' compensation insurance in the country.

Ohio's workers' compensation system is made up of two parts: BWC, which is the administrative and insurance arm of the system, and the Industrial Commission of Ohio (IC), which is the claims adjudicative arm. The IC hears and decides contested workers' compensation claims and issues. The Governor appoints the three-member Industrial Commission and the Ohio Senate confirms those appointments. One member represents labor, one represents employers and one represents the public

The Ohio Workers' Compensation Oversight Commission is responsible for reviewing BWC's investments and investment policy, the administrator also seeks advise and consent from the commission in regard to administrative rules. The five-member commission is comprised of two representatives of Ohio's workforce, two representatives of employers, and another member who represents the public.

II. Fiduciary Standards

The Ohio Constitution and various relevant sections of the Code have established that the various Workers' Compensation funds are, in fact, trust funds and that those responsible for the investment of the assets of the funds are fiduciaries, under the normally accepted definition of the term. The statutes governing the BWC are literally full of references to fiduciary standards, and any careful reading leaves no doubt that the highest standard of conduct – that of a fiduciary – must apply.

While the BWC funds are not pension funds and, thus, are clearly not directly subject to the laws that govern ERISA plans, ERISA fiduciary standards should apply, since these well documented standards represent the clear intent of the laws that govern BWC activities. As has been pointed out by the Bureau's Fiduciary Counsel, the legislative rules that govern the BWC are derived almost verbatim from the federal Employee Retirement Income Security Act of 1974 (ERISA).

With respect to fiduciary standards, several facts are clear and unambiguous:

- The voting members of the Oversight Commission are fiduciaries
- The Administrator is a fiduciary
- The Chief Investment Officer is a fiduciary
- Other individuals (employees, for example) or entities (outside consultants and investment managers, for example) who may be delegated certain fiduciary duties are also fiduciaries, insofar as these individuals or entities
  - Exercise discretionary control over BWC assets
  - Exercise discretionary control over Fund management
  - Exercise discretionary control over Fund administration
  - Give investment advice for a fee

Many of the duties of these individuals and entities are straightforward. The ***duty of prudence***, for example, is often interpreted in speeches and writings*. The prudent fiduciary must:

1. Have the necessary knowledge and skills to carry out his or her role
2. Establish and follow written procedures
3. Keep written records of all actions taken
4. Review published information on what other professionals in similar circumstances are doing

* John P McMorrow, Esq , ERISA Fiduciaries and their Duties, 2005 AASCIF Workshop, September 12, 2005

We believe that this duty requires that the members of the Oversight Commission be carefully and broadly chosen, and that the workings of the Commission be clearly and publicly documented on an ongoing basis It also suggests that the commissioners, along with their staff and outside advisors, be intentional in their efforts to communicate with other institutional investors, both within the state workers' compensation fund arena and within the well established network of public retirement systems

The ***duty to diversify assets*** is also well documented and non-controversial. As spelled out in ERISA, the fiduciaries must "diversify investments to reduce risk of large losses, unless under certain circumstances it is clearly prudent not to do so." ERISA does not define standards of diversification.

This duty suggests that, when focusing on the asset allocation of the BWC funds, the Commission should be prepared to consider a variety of asset classes, blended to create a diversified portfolio

Neither so clear nor unambiguous, however, is the application of another important fiduciary duty, often called the ***"exclusive benefit" duty***. ERISA requires that a fiduciary act solely and exclusively to benefit "participants." The problem with this duty stems from the fact that there are two parties that could be defined as "participants," the injured workers whose benefits are provided by the BWC and employers who pay the premiums that make the insurance possible. If these two stakeholders, workers and employers, had interests that were always aligned, the standard of exclusive benefit would be relatively easy to apply. However, this is clearly not always the case. The fiduciaries responsible for the investment of BWC assets have a duty to both the needs of workers for assured payment of claims and the needs of employers for insurance at reasonable cost, and must balance these two in their decision-making process.

Another fiduciary duty that clearly applies to BWC is the ***duty to monitor*** those individuals or entities that have day-to-day responsibility for executing the decisions made by the fiduciaries. Policies and procedures must be carefully drafted so as to facilitate this monitoring process and, most importantly, must be followed closely. It would be difficult to overemphasize the importance of this duty to monitor. It is clearly a place where the BWC has fallen short in the past and suggests a critical need for a structure which facilitates, rather than stifles, monitoring of the activities of everyone who touches or influences the investment process.

The fiduciary standards and prohibitions governing the BWC are spelled out in Section 4121.127 of the Ohio Revised Code (ORC). They stipulate the following (bold added for emphasis):

(A) Except as provided in division (B) of this section, a fiduciary shall not cause the bureau of workers' compensation to engage in a transaction, if the fiduciary knows or should know that such transaction constitutes any of the following, whether directly or indirectly:

(1) The sale, exchange, or leasing of any property between the bureau and a party in interest,

(2) Lending of money or other extension of credit between the bureau and a party in interest,

(3) Furnishing of goods, services, or facilities between the bureau and a party in interest;

(4) Transfer to, or use by or for the benefit of a party in interest, of any assets of the bureau;

(5) Acquisition, on behalf of the bureau, of any employer security or employer real property.

(B) Nothing in this section shall prohibit any transaction between the bureau and any fiduciary or party in interest if both of the following occur:

(1) All the terms and conditions of the transaction are comparable to the terms and conditions that might reasonably be expected in a similar transaction between similar parties who are not parties in interest

(2) The transaction is consistent with fiduciary duties under this chapter and Chapters 4123., 4127., and 4131. of the Revised Code.

(C) A fiduciary shall not do any of the following:

(1) Deal with the assets of the bureau in the fiduciary's own interest or for the fiduciary's own account;

(2) In the fiduciary's individual capacity or in any other capacity, act in any transaction involving the bureau on behalf of a party, or represent a party, whose interests are adverse to the interests of the bureau or to the injured employees served by the bureau;

(3) Receive any consideration for the fiduciary's own personal account from any party dealing with the bureau in connection with a transaction involving the assets of the bureau.

(D) In addition to any liability that a fiduciary may have under any other provision, a fiduciary, with respect to bureau, shall be liable for a breach of fiduciary responsibility in any the following circumstances:

(1) If the fiduciary knowingly participates in or knowingly undertakes to conceal an act or omission of another fiduciary, knowing such act or omission is a breach;

(2) If, by the fiduciary's failure to comply with this chapter or Chapter 4123., 4127., or 4131. of the Revised Code, the fiduciary has enabled another fiduciary to commit a breach;

(3) If the fiduciary has knowledge of a breach by another fiduciary of that fiduciary's duties under this chapter and Chapters 4123., 4127., and 4131. of the Revised Code, unless the fiduciary makes reasonable efforts under the circumstances to remedy the breach.

(E) Every fiduciary of the bureau shall be bonded or insured for an amount of not less than one million dollars for loss by reason of acts of fraud or dishonesty.

(F) As used in this section, "fiduciary" means a person who does any of the following:

(1) Exercises discretionary authority or control with respect to the management of the bureau or with respect to the management or disposition of its assets

(2) Renders investment advice for a fee, directly or indirectly, with respect to money or property of the bureau;

(3) Has discretionary authority or responsibility in the administration of the bureau.

III. Role of the Oversight Commission

Under Ohio statute (ORC 4121.12), the Oversight Commission is constituted as follows (bolded emphasis added):

> There is hereby created the workers' compensation oversight commission consisting of ***eleven members***, of which members ***the governor shall appoint five with the advice and consent of the senate.*** Of the five members the governor appoints, two shall be individuals who, on account of their previous vocation, employment, or affiliations, can be classed as representative of employees, at least one of whom is representative of employees who are members of an employee organization; two shall be individuals who, on account of their previous vocation, employment, or affiliations, can be classed as representative of employers, one of whom represents self-insuring employers and one of whom has experience as an employer in compliance with section 4123.35 of the Revised Code other than a self-insuring employer, and one of those two representatives also shall represent employers whose employees are not members of an employee organization; and one shall represent the public and also be an individual who, on account of the individual's previous vocation, employment, or affiliations, cannot be classed as either predominantly representative of employees or of employers. ***The governor shall select the chairperson of the commission who shall serve as chairperson at the pleasure of the governor. No more than three members appointed by the governor shall belong to or be affiliated with the same political party.***
>
> ***Each of these five members shall have at least three years' experience in the field of insurance, finance, workers' compensation, law, accounting, actuarial, personnel, investments, or data processing, or in the management of an organization whose size is commensurate with that of the bureau of workers' compensation. At least one of these five members shall be an attorney licensed under Chapter 4705. of the Revised Code to practice law in this state.***
>
> (B) Of the initial appointments made to the commission, the governor shall appoint one member who represents employees to a term ending one year after September 1, 1995, one member who represents employers to a term ending two years after September 1, 1995, the member who represents the public to a term ending three years after September 1, 1995, one member who represents employees to a term ending four years after September 1, 1995, and one member who represents

employers to a term ending five years after September 1, 1995. Thereafter, terms of office shall be for three years, with each term ending on the same day of the same month as did the term that it succeeds. Each member shall hold office from the date of the member's appointment until the end of the term for which the member was appointed.

The governor shall not appoint any person to more than two full terms of office on the commission. This restriction does not prevent the governor from appointing a person to fill a vacancy caused by the death, resignation, or removal of a commission member and also appointing that person twice to full terms on the commission, or from appointing a person previously appointed to fill less than a full term twice to full terms on the commission. Any member appointed to fill a vacancy occurring prior to the expiration date of the term for which the member's predecessor was appointed shall hold office as a member for the remainder of that term. A member shall continue in office subsequent to the expiration date of the member's term until a successor takes office or until a period of sixty days has elapsed, whichever occurs first.

(C) In making appointments to the commission, ***the governor shall select the members from the list of names submitted by the workers' compensation oversight commission nominating committee pursuant to this division.*** Within fourteen days after the governor calls the initial meeting of the nominating committee pursuant to division (C) of section 4121.123 [4121.12.3] of the Revised Code, the nominating committee shall submit to the governor, for the initial appointments, a list containing four separate names for each of the members on the commission. Within fourteen days after the submission of the list, the governor shall appoint individuals from the list.

For the appointment of the member who is representative of employees who are members of an employee organization, both for initial appointments and for the filling of vacancies, the list of four names submitted by the nominating committee shall be comprised of four individuals who are members of the executive committee of the largest statewide labor federation

Thereafter, within sixty days after a vacancy occurring as a result of the expiration of a term and within thirty days after other vacancies occurring on the commission, the nominating committee shall submit a list containing four names for each vacancy. Within fourteen days after the submission of the list, the governor shall appoint individuals from the list. With respect to the filling of vacancies, the nominating committee shall provide the governor with a list of four individuals who are, in the judgment of the nominating committee, the most fully qualified to accede to membership on the commission. The nominating committee shall not include the name of an individual upon the list for the filling of vacancies if the appointment of that individual by the governor would result in more than three members of the commission belonging to or being affiliated with the same political party. The committee shall include on the list for the filling of vacancies only the names of attorneys admitted to practice law in this state if, to fulfill the requirement of division (A) of section 4121.12 of the Revised Code, the vacancy must be filled by an attorney.

In order for the name of an individual to be submitted to the governor under this division, the nominating committee shall approve the individual by an affirmative vote of a majority of its members.

(D) The commission shall also consist of two members, known as the investment expert members. One investment expert member shall be appointed by the treasurer of state and one investment expert member shall be jointly appointed by the speaker of the house of representatives and the president of the senate. Each investment expert member shall have the following qualifications:

(1) Be a resident of this state.

(2) Within the three years immediately preceding the appointment, not have been employed by the bureau of workers' compensation or by any person, partnership, or corporation that has provided to the bureau services of a financial or investment nature, including the management, analysis, supervision, or investment of assets.

(3) Have direct experience in the management, analysis, supervision, or investment of assets.

Terms of office of the investment expert members shall be for three years, with each term ending on the same day of the same month as did the term that it succeeds. Each member shall hold office for the date of the member's appointment until the end of the term for which the member was appointed. The president, speaker, and treasurer shall not appoint any person to more than two full terms of office on the commission This restriction does not prevent the president, speaker, and treasurer from appointing a person to fill a vacancy caused by the death, resignation, or removal of a commission member and also appointing that person twice to full terms on the commission, or from appointing a person previously appointed to fill less than a full term twice to full terms on the commission. Any investment expert member appointed to fill a vacancy occurring prior to the expiration of the term for which the member's predecessor was appointed shall hold office until the end of that term. The member shall continue in office subsequent to the expiration date of the member's term until the member's successor takes office or until a period of sixty days has elapsed, whichever occurs first.

The investment expert members of the oversight commission shall vote only on investment matters.

(E) The remaining four members of the commission shall be the chairperson and ranking minority member of the standing committees of the house of representatives and of the senate to which legislation concerning this chapter and Chapters 4123., 4127., and 4131. of the Revised Code normally are referred, or a designee of the chairperson or ranking minority member, provided that the designee is a member of the standing committee. Legislative members shall serve during the session of the general assembly to which they are elected and for as long as they are members of the general assembly. ***Legislative members shall serve in an advisory capacity to the commission and shall have no voting rights on matters coming before the commission.*** Membership on the commission by legislative members shall not be deemed as holding a public office.

The legislature's decision to add investment expertise to the membership of the Oversight Commission was well intentioned and sound. It falls short, however in two important areas:

First, restricting the two investment experts' voting power to "investment matters" is inappropriate. When boards function and make good decisions it is because intelligent persons from differing backgrounds learn to trust one another's special expertise but weigh in with their own opinions based on their own unique perspective. The investment experts should have the same ability to vote on all matters before the Commission as all of the other members. Clearly, restricting voting power to exclude those members who are not appointed by the Governor, which is precisely what the current practice does, raises questions about the independence of the Commission's decision-making process. As it currently stands, the Chairperson of the Audit Committee, who is one of the "investment experts" on the Commission, is unable to vote on audit matters. It is hard to believe that this was the intent of the legislation that added these two experts The legislation should be modified

Secondly, while the addition of investment experts is good, it is not enough Additional expertise should be added to the makeup of the Commission in the form of an expert in actuarial science and an expert in insurance company accounting.

The Code also spells out the duties of the Oversight Commission (ORC 4121.12). The text of the statute is below (emphasis added). It stipulates that the Commission shall:

(1) Review progress of the bureau in meeting its cost and quality objectives and in complying with this chapter and Chapters 4123., 4127., and 4131 of the Revised Code;

(2) Issue an annual report on the cost and quality objectives of the bureau to the president of the senate, the speaker of the house of representatives, and the governor;

(3) Review all independent financial audits of the bureau. The administrator shall provide access to records of the bureau to facilitate the review required under this division.

(4) Study issues as requested by the administrator or the governor.

(5) ***Contract with an independent actuarial firm*** to assist the commission in making recommendations to the administrator regarding premium rates;

(6) ***Establish objectives, policies, and criteria for the administration of the investment program that include asset allocation targets and ranges, risk factors, asset class benchmarks, time horizons, total return objectives, and performance evaluation guidelines, and monitor the administrator's progress in implementing the objectives, policies, and criteria on a quarterly basis.*** The commission shall review and publish the objectives, policies, and criteria no less than annually and shall make copies available to interested parties. The commission shall prohibit, on a prospective basis, any specific investment it finds to be contrary to its investment objectives, policies, and criteria.

The objectives, policies, and criteria adopted by the commission for the operation of the investment program shall ***prohibit investing assets of funds, directly or indirectly, in vehicles that target any of the following:***

(a) Coins
(b) Artwork
(c) Horses
(d) Jewelry or gems
(e) Stamps
(f) Antiques
(g) Artifacts
(h) Collectibles
(i) Memorabilia
(j) Similar unregulated investments that are not commonly part of an institutional portfolio, that lack liquidity, and that lack readily determinable valuation

(7) Specify in the objectives, policies, and criteria for the investment program that ***the administrator is permitted to invest in an investment class only if the commission, by a majority vote, opens that class.*** After the commission opens a class but prior to the administrator investing in that class, the commission shall adopt rules establishing due diligence standards for employees of the bureau to follow when investing in that class and shall establish policies and procedures to review and monitor the performance and value of each investment class. The commission shall submit a report annually on the performance and value of each investment class to the governor, the president and minority leader of the senate, and the speaker and minority leader of the house of representatives. The commission may vote to close any investment class.

(8) Advise and consent on all of the following:

(a) Administrative rules the administrator submits to it pursuant to division (B)(5) of section 4121.121 [4121.12.1] of the Revised Code for the classification of occupations or industries, for premium rates and

contributions, for the amount to be credited to the surplus fund, for rules and systems of rating, rate revisions, and merit rating;

(b) The overall policy of the bureau of workers' compensation as set by the administrator;

(c) The duties and authority conferred upon the administrator pursuant to section 4121.37 of the Revised Code;

(d) Rules the administrator adopts for the health partnership program and the qualified health plan system, as provided in sections 4121.44, 4121.441 [4121.44.1], and 4121.442 [4121.44.2] of the Revised Code.

(e) Rules the administrator submits to it pursuant to Chapter 4167. of the Revised Code regarding the public employment risk reduction program and the protection of public health care workers from exposure incidents.

(9) Perform all duties required under section 4121.125 [4121.12.5] of the Revised Code.

We believe that it is a mistake for the Administrator to be vested with the power to set the overall policy of the BWC (section 8b above). Without defining what "overall policy" means, the code suggests it means setting all policy, thus relegating the Oversight Commission to the role of providing "advice and consent."

The term "advice and consent" is a term of art. It appears in the United States Constitution in Article II, Section 2.2, referring to the Senate's role in the signing and ratification of treaties in the United States. The clause uses the same language to describe the Senate's role in the appointment of public officials. The Founding Fathers of the United States included the language as part of a delicate compromise concerning the balance of power in the federal government. Many delegates preferred to develop a strong executive control vested in the President, while others, worried about authoritarian control, preferred to strengthen the Congress. Requiring the President to gain advice and the consent of the Senate achieved both goals without hindering the business of government. President George Washington firmly believed that the role of the Senate was to advise the President *after* the nomination had been made by the President. This notion has developed into the subordination of the "advice" portion of the power through the consolidation of American democracy to the "consent" portion, although several Presidents have consulted informally with Senators over nominations and treaties.

Obviously, there is no way to know whether the Administrator will abuse his or her power in the future Moreover, our concern has nothing to do with the current Administrator. What we do know is that in the past, the Administrator exercised his power in inappropriate ways We would prefer a structure that prevents this from happening, and we feel that the Oversight Commission, employing a well developed committee structure, should be in the business of setting policy and the Administrator and his or her staff should be in the business of executing the policy on a daily basis

We disagree with any statutory prohibition of any investment class or sub-class (section 6 a-j above) The Oversight Commission and its Investment Committee should be charged with the responsibility of establishing portfolio restrictions, not the legislature. Even though prohibiting the items listed in section 6 seems appropriate, particularly given the recent experience with those very items, as a matter of principle, the Commission should be able to invest in any asset class that it deems to be prudent and then recognize that its actions will be scrutenized by the Legislature on a regular basis.

IV. Role of the Administrator

The powers and duties of the Administrator of the BWC are spelled out in the Code (ORC 4121.121) and include the following investment related duties (bolded emphasis added):

(A) There is hereby created the bureau of workers' compensation, which shall be administered by the administrator of workers' compensation. A person appointed to the position of administrator shall possess significant management experience in effectively managing an organization or organizations of substantial size and complexity. ***The governor shall appoint the administrator as provided in section 121.03 of the Revised Code, and the administrator shall serve at the pleasure of the governor.*** The governor shall fix the administrator's salary on the basis of the administrator's experience and the administrator's responsibilities and duties under this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code. The governor shall not appoint to the position of administrator any person who has, or whose spouse has, given a contribution to the campaign committee of the governor in an amount greater than one thousand dollars during the two-year period immediately preceding the date of the appointment of the administrator.

(B) The administrator is responsible for the management of the bureau of workers' compensation and for the discharge of all administrative duties imposed upon the administrator in this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code, and in the discharge thereof shall do all of the following:

(1) Establish the overall administrative policy of the bureau for the purposes of this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code, and perform all acts and exercise all authorities and powers, discretionary and otherwise that are required of or vested in the bureau or any of its employees in this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code, except the acts and the exercise of authority and power that is required of and vested in the oversight commission or the industrial commission pursuant to those chapters. The treasurer of state shall honor all warrants signed by the administrator, or by one or more of the administrator's employees, authorized by the administrator in writing, or bearing the facsimile signature of the administrator or such employee under sections 4123.42 and 4123.44 of the Revised Code.

(2) Employ, direct, and supervise all employees required in connection with the performance of the duties assigned to the bureau by this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code.

(7) Exercise the investment powers vested in the administrator by section 4123.44 of the Revised Code in accordance with the investment objectives, policies, and criteria established by the oversight commission pursuant to section 4121.12 of the Revised Code and in consultation with the chief investment officer of the bureau of workers' compensation. The administrator shall not engage in any prohibited investment activity specified by the oversight commission pursuant to division (G)(6) of section 4121.12 of the Revised Code and shall not invest in any type of investment specified in division (G)(6)(a) to (j) of that section. All business shall be transacted, all funds invested, all warrants for money drawn and payments made, and all cash and securities and other property held, in the name of the bureau, or in the name of its nominee, provided that nominees are authorized by the administrator solely for the purpose of facilitating the transfer of securities, and restricted to the administrator and designated employees.

It is our recommendation that the Legislature consider a significant revision in the role of the Administrator. Namely, we feel that the Administrator should <u>not</u> be appointed by the Governor nor should the Administrator "serve at the pleasure of the Governor." While we have high regard for the incumbent in the position of Administrator and feel that Mr. Mabe has discharged his duties in an admirable fashion, this does not change our strong opinion that the Administrator should be hired by, and serve at the pleasure of, the Oversight Commission.

This is the structure that is in place in all five of the Ohio retirement systems, and in most public funds around the country. The theoretical basis for it is straightforward. The primary fiduciaries are the members of the Oversight Commission. The buck, as it were, stops with them. If the members of the Oversight Commission are to be held fiduciarily responsible for everything that happens at the BWC, then they must have the power to exercise that responsibility. If the Administrator is accountable to anyone other than the Commission, the power of the Commission is significantly diminished.

It is also our recommendation that the Administrator not be vested with the ability to make policy. The language above (paragraph b 1) softens the policy-making statement somewhat by calling it "administrative policy," and it is totally appropriate for the Administrator to be responsible for practices and procedures. He or she must be able to run the Bureau on a day-to-day basis. We would, however, distinguish between the establishment of practices and procedures and the setting of policy. Our opinion is that policy-making is always the responsibility of the Oversight Commission, and that the responsibility of the Administrator and other staff of the Bureau is to carry out that policy.

In practice, there is not a bright-line rule separating policy from procedure. We feel, however, that the language of the statutes should be crystal clear in its emphasis that policy is the role of the multi-constituent Commission, never the role of a single individual. The normal practice of deliberation and disagreement that is imbedded in the process of policy formulation at the Commission level is what leads to good policy. This deliberative process also tends to diminish the likelihood of the kind of abuse of power that has caused so many problems at the BWC in the past.

V. Role of the Attorney General

Section 4121 12.8 of ORC 109.98 1 states that the attorney general shall be the legal adviser of the Workers' Compensation Oversight Commission.

On the other hand...

If a voting member of Workers' Compensation Oversight Commission breaches the member's fiduciary duty to the Bureau of Workers' Compensation, the Attorney General may maintain a civil action against the member for harm resulting from that breach. Notwithstanding section 4121 128 [4121.12.8] of the Revised Code, after being informed of an allegation that the entire Oversight Commission has breached its fiduciary duty, the Oversight Commission may retain independent legal counsel, including legal counsel provided by the Oversight Commission's fiduciary insurance carrier, to advise the Commission and to represent the Commissioners. The Attorney General may recover damages or be granted injunctive relief, which shall include the enjoinment of specified activities and the removal of the member from the board Any damages awarded shall be paid to the Bureau. The authority to maintain a civil action created by this section is in addition to any authority the Attorney General possesses under any other provision of the Revised Code.

This conflicted role of the Attorney General needs to be revised. It simply stands to reason that an attorney should not be able to bring action against his or her own client. The Oversight Commission must either be able to retain its own legal counsel or, if the Attorney General is to maintain that responsibility, the Attorney General's power to take legal action against the members of the Commission must be eliminated.

VI. Investment Policy Statement

The purpose of an Investment Policy Statement is to articulate and commit to writing the goals of the investment program, to underscore the fiduciary standards to which investment activity will be held and to lay out the board's investment objectives, risk tolerance, asset allocation targets and rebalancing policies. It should also articulate guidelines for the management of assets, including limits and restrictions. In addition, the Investment Policy Statement should define the board's standards with respect to performance evaluation and manager selection. Finally, the Investment Policy Statement should address the board's policies with respect to directed brokerage, soft dollars and proxy voting.

We reviewed eight revisions of the BWC's Investment Policy Statement, covering the period between 1993 and 2005. We also reviewed the most recent version, submitted to the Oversight Commission in draft form at its May, 2006 meeting.

The 1997 Policy Statement, in force when the December 8, 1997 RFP for Emerging Fund Managers was issued (and, in fact, appended to that RFP) is silent on the subject of alternative investments such as private equity, commodities and hedge funds. Yet, that RFP contained a section inviting submissions from Alternatives managers. This was the RFP that set in motion the process that eventually resulted in the BWC's investment in Capital Coin Fund Limited, which in turn opened the door for the "Coingate" scandal.

Since it is impossible, practically speaking, for an Investment Policy Statement to anticipate every possible asset category and address it on a prospective basis, a Policy Statement that is silent on a particular asset class is normally interpreted to restrict investments to those classes specifically permitted by their inclusion in the asset allocation and guideline sections of the document. Applying this standard, the RFP referenced above was issued in violation of the very investment policy that was included in the RFP documents.

The 1993 Investment Policy Statement, and all of the versions up to and including the version adopted in November of 2005, were in need of revision. More important, however, was the fact that the policy in force during that period, flawed though it was, was routinely ignored by the management of the Bureau and was not properly enforced by the members of the Oversight Commission. The Policy in and of itself was not the reason for the well documented problems that existed at the Bureau, resulting in the "Coingate" and MDL problems. The reason for these problems was the failure to follow the policy that was in place at the time.

The new Investment Policy Statement, presented to the Oversight Commission in May of 2006, is a significant improvement over the previous versions. Significant changes include the following:

- The policy clearly establishes the Oversight Commission at the top of the fiduciary responsibility ladder for all of the provisions of the Policy
- Section II B is new. It spells out the fiduciary standards that apply.
- Section III includes Numerous additions that were made to incorporate the requirements of HB 66 and the recommendations from the State Auditor's report.
- Staff and investment manager roles, responsibilities and reporting requirements were articulated to ensure that the Oversight Commission receives adequate information to fulfill its fiduciary duties.
- A section was added to denote the General Partners' responsibilities, consistent with the new legislation
- New asset allocation guidelines were articulated and moved to an Appendix of the document. The asset allocation targets for the State Insurance Fund were modified to reflect the current policy of investing the majority (97%) of the assets in fixed income securities. A 3% allocation to private equity remains pending a final decision on the potential liquidation of this asset class.
- Language that describes the intended investment structure of the fixed income portfolio was added, spelling out the desire to be better aligned with the Fund's liabilities in terms of duration and yield curve exposure.

In section IV, Under General Guidelines, the following changes were made:

- No one investment organization or general partner utilizing active strategies may manage more than 15% of the Funds' assets. (Passive managers may manage up to 100% of the Funds' assets when the fee benefit is believed to outweigh the organizational risk).
- The Funds' assets managed by any one firm, utilizing either active or passive investment strategies shall not exceed 5% of the total assets managed by that firm or general partner for all clients in that specific strategy.
- Fixed income investments:
    - Minimum average weighted credit quality shall be A.
    - Duration shall be maintained within +/- 5% of the fixed income benchmark.

  - Constraints have been established to minimize sector, credit and other spread risk exposure, both in the aggregate and on a specific-issue basis, within the fixed income portfolio. For example, below investment grade exposure is limited to 5% of total Fund assets and the maximum position in any below investment grade security shall be less than 0.25% of total Fund assets.

- U.S. and non-U.S. equity investments:
  - No single holding may represent more than 5% of the Funds' U.S. or non-U.S equity allocation.
  - No single holding shall account for more than 5% of the outstanding equity securities of any one corporation.
- Alternative Investments:
  - Articulated that future investments are not presently anticipated
- Other
  - A section describing securities lending activities was added.
  - A section that prohibits the use of derivatives other than collateralized mortgage obligations (CMOs) and asset-backed securities (ABS) was added
  - Commission recapture and directed brokerage programs shall not be used by the Funds.
  - Short selling, the use of leverage and investments in unregulated investments that are not commonly part of an institutional portfolio are prohibited.

In section V, the following additions were made to Performance Objectives:

- The total fund benchmark indices were modified to reflect the current investment philosophy of the Fund.
- Additional language was added for events that may lead to manager termination including the violation of any law or style drift.
- In the original Investment Policy Statement, language encouraging staff and investment managers to utilize Ohio-based and minority managers and brokers was disseminated throughout the policy. In the new policy, a dedicated section was added to articulate the BWC's philosophy with respect to these issues. Staff, consultants and investment managers will be encouraged to consider the use of Ohio-based and minority-owned firms, consistent with their fiduciary duty to the Fund. Specific allocation targets to these types of firms were

eliminated as part of the effort to remove potential conflicts of interest and focus on achieving a target objective.

Asset allocation policy is addressed, in a separate Appendix to the Policy Statement, for each of the BWC funds (The State Insurance Fund, the Coal Workers' Fund, the Marine Industry Fund, the Disabled Workers' Relief Fund, the Public Work-Relief Employees' Fund and the Self Insured Employers Guarantee Fund). Liabilities are addressed, along with the conclusion that the Commission has decided to invest the reserves primarily in fixed income securities.

For all of the Funds except the Self Insured Employers' Guarantee Fund (which is by definition a Bond Fund), the asset allocation policy in the current Policy Statement envisions future investment in equity, inflation-protected or "other" securities, but prohibits them at present by their exclusion from the target asset allocation configuration.

Generally accepted capital market theory suggests that a diversified portfolio, blending low-risk assets such as bonds with relatively small amounts of riskier assets such as stocks, can actually achieve overall results that have lower risk charactistics (volatility) than a portfolio of low-risk assets alone. This would suggest that the Commission should consider adopting an asset allocation policy that includes assets other than bonds. Including stocks and other non-bond investments in their portfolio will not place the Ohio BWC funds out of the mainstream with respect to other state workers' compensation funds. The most recent AASCIF Asset Allocation Survey (see Appendix 4) indicates that the (unweighted) average equity exposure among large (over $1 Billion) state workers' compensation funds is 14%, with a range of 0% (California and Maryland) to 32% (Puerto Rico).

The outside investment consultant to the BWC is in the process of conducting an asset/liability study (See Appendix 5). At the conclusion of this study, the asset allocation policy will need to be revised to be consistent with the conclusions adopted by the Commission

Generally speaking, the revised Investment Policy Statement is well thought out and carefully documented. Once it is completed, following the conclusion of the asset/liability study, it should provide the basis for appropriate fiduciary practice in the future. As we have addressed elsewhere in this report, in order for the Investment Policy to be useful, it must be carefully followed. We see no reason to conclude that this will not occur in the future, particularly if the recommendations in this report are implemented in such a way as to establish the Oversight Commission as the primary policy-setting and decision-making body with all of its decisions being made in an open and objective manner.

VII. Best Practices Survey of State Workers' Compensation Funds

Summary

In an effort to identify the best practices among state workers' compensation fund policies and procedures, Evaluation Associates surveyed several of the largest state workers' compensation funds (see Appendix 4). We gathered our information through informal telephone conversations, more formal email surveys, and by accessing information on the AASCIF website.

We found that the boards of the largest funds are made up of a minimum of five members to a maximum of 15 members. The typical board is made up of nine members. Across all the boards, the members are appointed by the Governor and frequently subject to confirmation by the Senate.

The funding for all of the state workers' compensation funds is through employer or policyholder premiums as well as investment income. The New York State Fund receives additional funding through a budget process in which the board recovers expended funds through an assessment levied on the state's covered employers. The Washington State Fund receives budgeted funding from earnings on investments to cover departmental operations.

Most funds have a separate investment committee. Typically the investment committee is a subset of the board. Most of the investment committees of surveyed funds contain four members. Three of the funds surveyed have their investments managed by the state treasurer as a subset of the state treasury's other fund responsibilities.

The frequency of meetings is mixed across state funds Board meetings range from monthly to quarterly. Investment committee meetings range from weekly to quarterly.

All of the funds have investment policies. The investment policies are reviewed typically on an as needed basis. Some of the funds considered their investment policies proprietary and would not share them with us. Of those that were willing to share, most of the investment policies contained specific objectives for the funds, investment manager guidelines, asset allocation targets, portfolio constraints and restrictions, and investment monitoring guidelines. In terms of monitoring investments, all funds monitor their assets versus specific benchmarks while the majority also monitor their managers versus peers.

The majority of funds have externally managed assets. Two of the states surveyed manage some of their fixed income assets internally; however, it is most typical to have the assets managed externally. All of the funds surveyed use an outside consultant to aid them in a variety of tasks The outside consultants provide assistance with investment strategy, investment policy design, asset allocation modeling, investment manager selection and monitoring, benchmark selection and investment manager guidelines.

The benchmark and asset allocation targets varied considerably across Funds. Three of the Funds reviewed had a 0% target for equities while the remainder allowed a modest allocation to equities. None of the Funds surveyed had any exposure to private equity while a few had exposure to real estate.

Conclusions

Based upon the responses we received, we feel that many of the funds adhere to what we would consider best practices.

- A board of eight to ten members is of sufficient size to provide a variety of oversight. If the board gets too large, in excess of 15 members, it becomes too cumbersome to manage the fund effectively.
- An investment committee of four to six members which is a subset of the board is sufficient to promote the investment issues and bring them to the board's attention.
- Meetings on a quarterly basis are typically most productive however if the fund is of a size that meetings are needed more frequently then monthly is acceptable.
- All of the funds have thorough investment policies that get reviewed and updated frequently. It is necessary to have a thorough investment policy and it should be reviewed at least on an annual basis.
- All of the funds monitor their investments versus a specified benchmark and most versus an applicable universe of peers. It is imperative that performance is monitored both versus an assigned benchmark and a comparative universe of peers.
- All of the funds utilize an outside consultant to varying degrees. We believe outside consultants are advantageous because they can provide strategic financial insight to a board. They can design investment policies and procedures, as well as guidelines and asset allocation strategies. Further, they can perform manager searches and provide the board with the necessary performance monitoring to ensure the investments are keeping pace with their targets.

At the time of our survey, the reorganization of BWC was underway. If the current initiatives documented elsewhere in this report (such as the asset/liability study) are concluded and our other recommendations are implemented, the Ohio BWC will be among those funds following the best practices in the industry.

VIII. Investment Committee

The Oversight Commission recently established an Investment Committee for the purpose of assisting the Commissioners in carrying out their fiduciary responsibilities in matters related to the investment of the assets of the various BWC funds. The concept of an Investment Committee is a good one, and its charter properly borrows and articulates some of the "prudent fiduciary" language from the Investment Policy Statement (and, ultimately, from ERISA).

The Investment Committee is composed of a minimum of four members, appointed by the Chairperson of the Oversight Commission. According to the Charter, it will meet at least quarterly and as needed and will be composed of:

- At least two members shall be "investment experts," as required by the Ohio Revised Code.
- At least two members shall be voting members of the Oversight Commission.

The Investment Committee is vested with numerous responsibilities. It has the **authority** to:

- Approve the strategic asset allocation and investment policy.
- Permit the Administrator to invest in an asset class, provided the entire Oversight Commission opens that class for investment.
- Close any investment class as it deems prudent.
- Approve the selection and termination of investment consultants.
- Approve the criteria for the selection of Investment Managers and General Partners and approve their final selection.
- Approve the investment style to be managed and the maximum percent of the Fund that may be allocated to each Investment Manager or General Partner.

It has the **responsibility** to:

- Monitor and review the investment performance of the Funds on a quarterly basis.
- Advise and consent to the Administrator's hiring of the Chief Investment Officer.
- Advise and consent to the employment of an internal auditor.
- Prohibit any specific investment that the Commission finds to be contrary to the Investment Objectives of the Funds.
- Submit an annual report on the performance and value of each investment class to various elected officials.

The establishment of the Investment Committee and the development of this charter moves the Bureau toward alignment with best practices The size of the Investment Committee is appropriate, in our view. All of its members, however, should be full voting members of the Oversight Commission, including the investment experts. This issue is addressed elsewhere in this report (see section III above).

IX. Organization of the Investment Department

As we have indicated in other places in this report, power, in the past, was concentrated in a few places – namely with the Governor, the Administrator and with key staff, including the Chief Financial Officer and the Chief Investment Officer. The problems with this structure have been well documented by others.

The Management Review Team's (MRT) Action Report of October 2005 made a number of recommendations with regard to the staff of the Investment Department. They recommended that:

1. Powers of attorney granted to members of the investment staff should be rescinded.
2. The organizational chart should be changed so that the Investment Department reports directly to the Administrator.
3. A separate, independent Investment Board should be created so that the CIO and investment staff report to that Board.
4. The BWC should immediately hire experienced and credentialed investment professionals to assist in the management of the portfolio.

We agree with number 1 and number 4 above. All powers of attorney have already been rescinded and, indeed, none of the individuals who had been granted these powers remain in the employment of the Bureau. We have high confidence that this practice will not be reinstated anytime in the foreseeable future. We have commented elsewhere in this report about our view of the appropriate balance of power between members of the Oversight Commission and senior staff of the Bureau. Our reactions to the other two MRT recommendations require further commentary (see below).

When we began our research in preparation for this report, the Bureau's Investment Department was staffed by one senior professional, the Interim Chief Investment Officer, two junior professionals, a former trader and a former cash manager/performance analyst, and by two administrative personnel. Everyone who has looked at the staffing of the Department agrees that the MRT's recommendation regarding the hiring of credentialed professionals should be implemented. We also agree with that assessment.

As of this writing, the staff of the Investment Department has grown to a total of six investment professionals, including the two junior professionals retained from the former staff. A new CIO is now in place, along with a Deputy CIO, and two additional professionals have been hired. All of the new hires are either Chartered Financial Analysts (CFAs) or CFA candidates, and both the CIO and the Deputy CIO are licensed under the new rules mandated by HB 66.

We interviewed the new CIO during the first week of his tenure He has excellent credentials and substantial (20+ years) experience in the investment of insurance assets. He appears to have particular expertise in the areas of risk management and accounting. We are optimistic about his prospects for success.

The new Deputy CIO has served as Interim CIO since April of 2005. She also has excellent credentials and holds the license required for a CIO under the new law. Our interviews with her lead us believe that she will continue to contribute positively to the enterprise.

These two senior individuals have the kind of background and credentials that should help to ensure that the Bureau's investments will be managed in line with sound fiduciary standards. Further assurance is needed, however, in the form of continuous oversight from members of the Oversight Commission.

In our view, the success of the Investment Department will rest not on the number of people occupying the offices on the 27th floor of the Green Building, nor for that matter on the number of letters following the names of the professionals in those offices.

While functionally it is important for the CIO to report to someone in senior management, to ensure accountability the person in this role must be selected by the Investment Committee of the Commission and must regularly report directly to this Committee. The MRT report recommended the establishment of a separate Investment Board, which we believe is a sub-optimal solution. Our preferred structure includes a strong, independent Oversight Commission that functions as a Board of Trustees, and an Investment Committee that includes individuals with recognized expertise in investments. This Investment Committee must be vested with real authority – which in our view means that the CIO, the outside investment consultant and the custodian bank must serve at the pleasure of this Committee – and through them at the pleasure of the Commission.

The following draft organizational chart reflects the "big picture" structure that we believe will help to ensure proper fiduciary oversight of the Bureau's investment activities. We recognize that the BWC is a large organization with many functional departments that are not reflected on this organizational chart. Our intent is to depict an organizational structure that reflects the following recommendations:

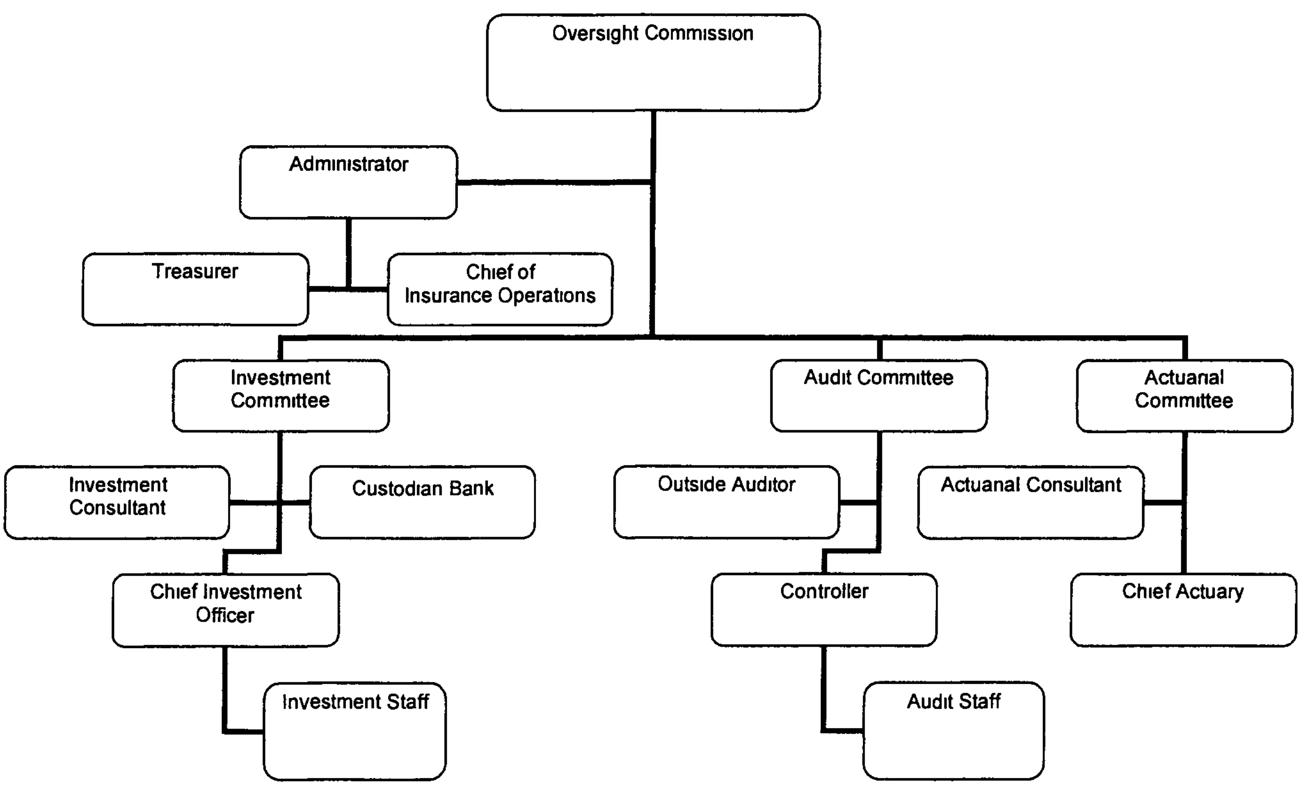
1. All of the important decisions made with respect to the investment of BWC assets must be made in the sunshine, figuratively speaking, and the only way for this to be assured is for these decisions to be made by the Oversight Commission, functioning as a Board of Trustees. All decisions of the Commission and its Investment Committee must be made in

open meetings, and all documents related to these decisions must be available for public scrutiny

2. The Administrator should operate as an Executive Director, not as a CEO. Our opinions with respect to this recommendation are spelled out elsewhere in this report (see Section IV above).
3. The Investment Committee should be vested with tangible authority (see section VIII above).
4. The Audit Committee should also be vested with tangible authority and should be responsible for selecting the outside Auditor and overseeing the internal auditing staff.
5. An Actuarial Committee should be established, again vested with tangible authority and responsible for selecting the Actuarial Consultant
6. A credentialed Chief Actuary should be hired, accountable to the Actuarial Committee.

In our view, this structure will mitigate the possibility of any recurrence of the abuse of power and influence that was at the root of the "Coingate" and other scandals recently uncovered at the BWC.

Draft Organizational Chart



X. Role of the Investment Consultant

It has become clear from conversations with BWC staff and with Michael Brubaker of Wilshire Associates, the current investment consultant to the Bureau, that problems exist that, if not corrected, will result in the less-than-optimal use of Wilshire resources.

In the past, investment consultants were poorly utilized Callan Associates, the Bureau's former lead consultant, had a limited performance measurement mandate with the Bureau, and as best as we could determine, Callan's performance reports were produced (pieced together might be a better description) using returns developed in-house by BWC investment staff. Callan, therefore, could not play the role of an independent third party with respect to the verification of investment results.

It is curious that the 1997 Emerging Fund Manager RFP included several attachments with the Callan Associates name printed on them. These attachments were manager information questionnaires and specifically included one for Alternatives Managers. The reason this is curious is because there is no evidence in the files, minutes or other documents we reviewed that suggests that Callan was involved in the evaluation of these candidates. A separate contract with Fiduciary Investment Solutions was established, and there is evidence that this firm assisted in the selection and monitoring of Emerging Fixed Income Managers. Additionally, a separate contract was established with Gray and Company, and there is evidence that this firm assisted in the selection and monitoring of Emerging Equity Managers. As best we can tell from the documents, no outside firm assisted in the selection of the Alternatives Managers, including the Capital Coin Fund.

If an investment consultant is charged with the responsibility of independently calculating investment results using raw data (market values, transactions, contributions and withdrawals), and as such is relied upon to verify a rate of return, the consultant must carry out that process as a completely independent third party. It is inappropriate, in this context, for the consultant to rely on internally calculated results (in this case, by past BWC staff), and then incorporate these results in such a way as to achieve a desired outcome.

This completely independent, arm's length, auditor-like role, while totally appropriate for the process of calculating and verifying investment results or manager performance, is not appropriate for many of the other roles which an investment consultant should play for the Bureau – or for that matter for any institutional investor. These roles include the strategic advice that surrounds asset/liability analysis and assistance with the selection of investment managers.

When calculating performance, the consultant operates as a completely independent entity – preparing and delivering a work product without the involvement of the client. When a consultant is engaged to conduct an asset/liability study, on the other hand, it is totally appropriate for the process to be collaborative and iterative – involving the client at every step along the way.

Asset/liability modeling, of necessity, involves the interaction of three parties, the investment consultant, the actuary and the client. The client must be clear about objectives, about the risks that matter most and about the strategic purpose which the study is attempting to accomplish. The actuary must provide the necessary projections of future cash flows and any assumptions that impact those cash flows. The investment consultant, finally, must provide the capital market assumptions that drive the projection of probable future outcomes and the expertise to bring these various pieces together into a whole.

If performance measurement is at one end of the spectrum and asset/liability modeling is at the other, assistance with the selection of investment managers – generally known as manager search – is somewhere in the middle.

One of the reason a fund typically hires and investment consultant is in order to benefit from that firm's ability to research and perform due diligence on prospective investment managers. In the public sector, many funds are required by statute to solicit bids for investment management in an open request-for-proposal (RFP) process. Whether an RFP is issued or the investment consulting firm is asked to conduct the search without an RFP, at some point in the process the consultant will be asked to analyze candidates and render an opinion as to the suitability of those candidates.

In the case of a search, the consultant's objectivity should not be compromised by pressure exerted from the client's board or staff. On the other hand, the consultant must have input from the client in order to develop the specifications for the search and the final decision regarding the choice of manager or fund must be the client's.

XI. Investment Manager Selection

In the past, BWC's outside investment managers were selected using a process which failed at a number of levels. The Chief Investment Officer (CIO) and his staff, with input from outside consultants, issued Requests for Proposals (RFPs) and then presented a long list of managers to the Oversight Commission who, after a superficial review, approved the list. Managers were then funded at the discretion of the CIO. This process gave far too much power to the CIO and resulted in many of the abuses that have been well documented and investigated.

Going forward, a systematic, objective process is essential. The process should include meaningful input from the Investment Committee, the outside investment consultant, the Chief Investment Officer and other relevant staff, but the ultimate decision to hire must rest with the Oversight Commission.

The initial steps taken in conducting a search should include a review of the assets to be allocated and the existing manager structure, and a clear determination of what is to be accomplished by initiating a manager search and selection process

To define the scope of the search, the following issues should be documented:

- Investment style
- Guidelines and objectives
- Other qualifications, restrictions, or concerns
- Minimum performance history
- Separate/commingled account restrictions
- Fee considerations

Armed with a clear definition of the search, the outside consultant and the Chief Investment Officer should then develop the criteria for potential investment managers, which may include:

- Years in business
- Stability of firm
- Quality of firm (process, strategy, people)
- Assets under management
- Number of clients
- Minimum account size

- Performance standards and benchmarks
- Client service requirements

These criteria form the basis for an RFP and are used to develop scoring tools to narrow the list of potential candidates in a particular asset class to a "short list" of candidates. Once four to six managers remain on the short list, manager interviews with the members of the Investment Committee is the next step in the process.

The preparation of search materials for Committee review, which includes performance spreadsheets, charts and graphs, risk/return analysis, qualitative reviews, and other exhibits, is the responsibility of the CIO, with assistance from the outside investment consultant.

In-person due diligence visits to the finalist candidates' offices may be included as part of the process. These visits provide the CIO and his staff with an opportunity to observe the investment operation and to meet with several of the firm's investment professionals. Outside consultants accompany internal staff on these visits

The goal in conducting investment manager searches, and ultimately selecting investment managers, is to find the most appropriate investment managers, not necessarily the top-performing manager over any prior period. Instead, the Committee should strive to find the manager who is most appropriate in meeting and blending with the BWC's policy, goals, objectives and culture. In addition, managers should be selected who have demonstrated an ability to achieve consistently above median performance within the BWC's risk tolerance.

These layers of input into the manager search process on the part of the members of the Investment Committee and the outside investment consultant are the part of the process that provides oversight and helps to assure objectivity.

Qualitative analysis typically should incorporate face-to-face meetings between BWC staff, members of the Investment Committee, the outside Consultants and the key investment professionals from each firm. Probing questions, focused on each firm's investment philosophy, and the implementation of that philosophy, as well as the firm's past performance, balances the quantitative analysis and aids in determining the manager's adherence to the style classification.

Quantitative analysis is also essential. This analysis should include an examination of key portfolio characteristics, which are analyzed for style definition and, over time, for consistency

As part of the due diligence on an investment management firm, the CIO and independent consultant should require that they meet with the senior investment and portfolio management personnel of each firm under consideration.

We believe that the emphasis, during the manager selection process, should be on the qualitative considerations described below. While it is considerably more time consuming to conduct a qualitative evaluation, we believe that this portion of the due diligence process adds greater value than the quantitative evaluation. We believe that an understanding of qualitative issues leads to better decisions about managers and increases the likelihood of the selected firm's adding value going forward.

Qualitative Criteria

The qualitative evaluation framework should consist of several primary categories, with appropriate metrics and questions within each. The categories include:

- Organization/Ownership/Compensation
- Investment Staff
- Investment Process
- Research
- Trading
- Performance/Risk Characteristics
- Current Outlook.

We have found that ownership and compensation are the two most important factors in keeping people in an organization, as well as resources to get the job done and lack of interference from a larger or non-related part of the organization. We recommend paying attention to assets under management for sustainability.

Quantitative Criteria

- Performance over various time periods, including annual, cumulative and rolling periods and over various market cycles.
- Performance compared to carefully defined peer groups. Although it is important to carefully track performance against appropriate market indices, it is performance against the appropriate peer group that is particularly telling when evaluating a manager. Comparative peer groups should be developed by the outside investment consultant.

- Performance compared to relevant benchmarks. For example, a value-style portfolio could be measured against the appropriate Russell Value Index or the Wilshire Value Index, e.g., the Russell 1000 Value Index, the Russell 2000 Value Index, the Wilshire Large Cap Value, the Wilshire Small Cap Value, or the Wilshire Mid-Cap Value Indices. Fortunately, there are literally hundreds of available indices, representing virtually every asset-class style that exists.

- Risk/return analysis to identify the level of risk (standard deviation) taken to achieve the performance return.

- Perform returns-based style analysis, in an attempt to clearly identify a manager's style over different time periods and determine if/how that style changes. In additional, this analysis provides key MPT statistics including alpha, beta, r-squared, Sharpe ratio, risk/return, up/down market analysis, etc.

Overall, quantitative analysis should be used to confirm the qualitative assessment of each investment management firm under consideration. When the qualitative and quantitative analysis do not match, more work needs to be performed in order to confirm or dispute the qualitative assessment of each firm.

XII. Performance Monitoring

As mentioned elsewhere in this report, the duty to monitor is one of the key fiduciary duties of the Oversight Commission. This duty is typically exercised through the regular review of investment reports prepared by outside consultants and internal staff.

The BWC Investment Policy Statement (any of the versions we reviewed, from 1997 through 2005) includes a section mandating investment monitoring. The Policy mandates "ongoing" monitoring by the Administrator and Chief Investment Officer, relative to an appropriate market index (benchmark) and relevant peer group. It also mandates, in the Performance Objectives section, a quarterly meeting between the Administrator, Chief Investment Officer and investment consultant to evaluate the performance of each approved manager, review each approved manager's adherence to the Investment Policy, analyze any material changes in each approved manager's organization, strategies or personnel, and review each approved manager's performance relative to appropriate indices and peer groups. We could find no records of any minutes of such meetings or any evidence that they occurred. If they did occur, they were never documented as such

We reviewed the monthly investment performance reports presented by staff to the Oversight Commission between 1993 and 2005. The majority of the reports' contents was focused on trading activity and brokerage, with only cursory attention paid to performance and no mention whatsoever of risk. From our review of the minutes of these Oversight Commission meetings, there was no evidence of any in-depth review of the activities of the outside investment managers, nor any evidence that these managers were subjected to normal industry-standard comparisons vs. benchmarks and peers.

We also reviewed the quarterly reports prepared by Callan Associates, the BWC's primary outside consultant during this period. As has been documented by other reviewers, the Callan reports "covered" only the top 30 outside managers. While these managers were subjected, by Callan Associates, to the normal return and risk comparisons vs. benchmark and peer group that one would expect in a performance report, there is no evidence that any of this comparative information was routinely shared with the members of the Oversight Commission.

Even though they did not monitor the results of many of the outside managers, Callan's reports included comparisons of the total fund's results to total fund benchmark returns. It is clear from our review of the files, however, that Callan did not calculate the total fund return. Rather, as noted in Callan's disclaimer, they simply "plugged" the number given to them by BWC investment staff into their reports in order to produce these comparisons.

We can only conclude from the evidence we reviewed that the staff of the BWC, in the past, paid lip service to the notion of monitoring investment manager results while never really engaging in what industry standards would consider to be a careful review. Moreover, there is no evidence that even the cursory review of manager performance conducted by staff was ever communicated to the Oversight Commission.

The report of the Management Review Team (MRT) recommended that the quarterly investment reporting process be modified to conform to current investment industry standards. The MRT also recommended that the quarterly performance reports be the responsibility of the independent investment Consultant and be reported directly to the Oversight Commission Investment Committee.

We concur completely with this MRT recommendation. We would emphasize that the independent investment consultant should independently calculate the performance of the total fund and of each of the investment portfolios that make up the total fund, reconciling the consultant's calculation, which is based on the custodian's records, on a monthly basis with the calculations of the outside investment managers. Their report should include a statement that documents this reconciliation process and explains any differences, due either to the custodian or the manager, between the consultant's calculation and that of the investment managers. This is also consistent with the recommendation of the MRT with respect to the calculation and reconciliation of investment results by the independent consultant

In November of 2005 the Oversight Commission selected Wilshire Consulting as its full-service independent investment consultant. Wilshire now performs an independent calculation of total fund and individual manager returns, in conformance with industry standards, and reconciles these results with the custodian bank and the managers. Wilshire presents its reports at the regular meetings of the new Oversight Commission Investment Committee. The reports are complete and thorough. Going forward, complete reporting and a full explanation of any deviations from benchmark results should be presented to the Investment Committee on a quarterly basis, ideally at the meeting one month after the end of the calendar quarter (May, August, November and February).

XIII. Securities Lending

Securities Lending transactions involve the loan of securities by a lender, who owns or controls the securities, to a borrower who needs these securities temporarily to support trading strategies and/or trade settlement obligations. Although there is a transfer of title, the lender retains all of the rights of ownership except voting rights.

Investors borrow securities for many reasons. For example, securities are borrowed in order to avoid settlement failures, to cover short-trading positions or to support derivative and arbitrage strategies. Lenders, on the other hand, are willing to lend their securities in order to generate additional, low-risk income.

The securities lending process typically involves three parties – the lender (in this case, BWC), the lending agent (normally the custodian bank) and the borrower (normally a broker/dealer). The lending agent evaluates the portfolio to determine how attractive the portfolio is currently, or might have been in the past, to borrowers lends the lender's securities to the borrower who in turn gives the lending agent collateral (typically 102% of the market value of the loaned securities). Collateral is typically in the form of cash, but may also be Treasury securities. The lending agent "marks to market" daily with the borrower, receiving or delivering collateral daily so that the lending agent always has 102% of the prior day's market value.

The cash collateral is then invested by the lending agent in short-term, money market instruments with maturities approximately matching those of the loans. The investor can further mitigate risk by restricting the quality of the securities in the short-term portfolio, but the higher the credit quality guidelines, the lower the earnings on investments. From the earnings of the short-term portfolio, a negotiated amount is rebated back to the borrower for the use of the cash collateral. Then the lending agent and the lender split the remainder of the earnings on the short-term portfolio, typically 65/35 (65% to the lender and 35% retained by the lending agent as a fee).

Before contracting to begin a securities lending program, the lender can have its portfolio submitted to the custodian bank's securities lending department and to third party lending agents, if appropriate, for an evaluation of how attractive the portfolio is likely to be for borrowers. The lending agents will estimate the revenue that could have been generated for the lender in the past. Lending revenue is based on volume of securities loaned throughout the year, the scarcity of the securities loaned (the scarcer the security, the lower the rebate leaving more of the earnings to be split with the lender), and the level of cash returns. To the extent the incremental return is large and the program meets best practices standards of care and experience, the lender usually decides it is worth the risk to do.

Securities lending programs offer the following features to institutional investors:

Positives

- Additional source of income for the investor, which can be used to offset custody fees (or other expenses).
- Requires virtually no Investment Department staff time, although some accounting/auditing time will be needed to review reports from the lending agent.

Concerns

- Occasionally securities are *not* returned on time, either at the end of the loan period or when they are needed because the securities have been sold. The lending agent will attempt to replace the securities by borrowing from other clients or broker/dealers. If unsuccessful, the agent will need to use the collateral to replace the securities - there could be a loss if the price has moved higher than the last mark-to-market.
- A loss (default) on the investment of cash collateral could occur, and while this rarely happens, if it did it would potentially cost more than earnings for several months or years; however, the loss would be less than the lender accepts by investing in equities. National banks are not permitted to indemnify against loss due to collateral default.
- Broker default can occur, but this is as unlikely as collateral loss assuming the lending agent's credit committee limits the amount of exposure to any one borrower, limits the names of borrowers to those judged creditworthy, and reviews its credit judgments frequently. Lenders usually are permitted to impose their own restrictions on the list of borrowers, which typically has little or no effect on the earnings. In many programs, the lending agent will indemnify the lender against this type of loss.

We recommend that the BWC investigate the establishment of a securities lending program. The investment consultant should be asked to assist in this investigation.

XIV. Brokerage and Trading

Directed brokerage played a central role in the BWC drama that has been unfolding, as reported by many Ohio newspapers as of this writing. The former CFO of the Bureau has been indicted; accused, among other things, of using directed brokerage to reward his friends, who in turn provided him with various gratuities. Brokers have also been indicted for participating in that same practice.

From documents we reviewed, it appears that an annual directed commission "budget" of over $11 million was divided among seven national brokerage firms, fourteen regional firms and nine minority firms (see handwritten Brokerage Commission Goals sheet In Appendix 6). In the past, this budget was fulfilled by a small staff of relatively inexperienced in-house traders that managers were required to use as a trading desk. Brokers were then selected by this desk.

This process of spreading large dollar amounts around according to an informal, and as best we can tell, previously undisclosed schedule and without any particular evidence of benefit for the fund appears to be a clear violation of normal fiduciary standards for the execution of trades on behalf of a trust fund and, as we now know, resulted in what appears to be wholesale abuse.

From a fiduciary perspective, directed brokerage must stand up to two relatively simple standards:

1. Commissions are the property of the trust and any direction of commission dollars must be done only to benefit the beneficiaries of the trust, and
2. When carrying out transactions on behalf of the trust, the fiduciary who directs the execution of any transaction must do so with the sole purpose of obtaining the best price and the most economical and efficient exchange of dollars for shares or shares for dollars (known as "best execution").

With these fiduciary standards in mind, it is possible to implement a prudent directed brokerage or commission recapture program. In a directed brokerage program, the fund sponsor directs managers to trade with certain brokerage firms with which it has established an agreement to share in a portion of the revenues generated by commissions or, in the case of fixed income, a portion of the spread. These revenues can be used either to pay for services that may legitimately be paid from the trust (typically investment consulting or research services), or to "recapture the commissions" in the form of a check back to the trust for the agreed upon shared portion (which then can simply represent earnings of the trust or can be used explicitly to pay for any services that may legitimately be paid from the trust).

Many large institutional investors engage in this practice for trading U.S and international equities, with the end result of reducing the overall cost of operating an investment program. Few institutions engage in this practice for trading fixed income securities as the costs are harder to measure. At the present time, the BWC Investment Policy Statement does not envision such a program for either equities or fixed income. All trading has been placed in the hands of the outside manager(s) of the fund, and commission recapture or directed brokerage programs are explicitly prohibited. The only other mention of trading in the Policy is a reference to the staff responsibility for monitoring the managers' trade execution.

If a directed brokerage program is reinstituted at some time in the future, the following outline briefly spells out what we believe to be best practices in this area:

1. What to look for/expect out of a Commission Recapture provider
    a. Proven track record and years of experience
    b. Offers a large stable of top-tier brokers covering various asset classes and markets
    c. Dedicated staff whose lone function is commission recapture
    d. Back office resources/technology to accurately capture trades and reconcile accounts
    e Ability to generate clear and concise reports on a regular basis; monthly or quarterly.
    f. No set-up charge, no fees, no volume requirements or time limits
    g. Rebates ranging from 65% to 75% of commissions - larger plans may have more bargaining power to receive higher rebates
2. How to establish a successful Commission Recapture Program
    a. Primary objective should always be best execution with commission recapture secondary - *All instruction letters should underscore the need for best execution*
    b Establish reasonable recapture targets across capitalization ranges and asset classes
    c. Determine common trading relationships across all managers and identify if any of the firms have a dedicated commission recapture business – may point to a natural candidate
3. Common missteps
    a. Focusing too much on hitting targets. Best execution should be primary objective
    b. Failure to establish a routine to monitor manager trade execution costs
4. Why consider a Commission Recapture Program/Benefits

a. Allows plan sponsor to unbundle commissions and pay only for execution

b. Removes investment manager's ability to charge research to the capital account (client's money) rather than to operating expenses (manager's money)

c. Reduces transaction costs, as funds are rebated directly to client in the form of cash or designated to pay plan expenses

d. Consistent with pension fund fiduciary obligations

> Per the U.S. Department of Labor, "commissions are pension assets and trustees have a fiduciary responsibility to monitor and control them"

e. Other plans have minimum annual spending targets. Commission recapture allows the fund to retain more capital to meet these goals

Given the abuses of the recent past, we would not recommend the reinstitution of a directed commission program at this time. After a new asset allocation is adopted and a new lineup of outside managers is in place, a careful study of this subject should be undertaken by the Bureau's investment consultant.

XV. Trust/Custody and Role of BWC Investment Accounting and Internal Audit Departments

The Management Review Team made the several recommendaitons with respect to the BWC custodian and Internal Audit Department. These recommendations, and our comments with regard to them, are listed below:

1. The BWC should be permitted to participate in the selection process for its custodial bank and granted right of refusal to prevent any bank that was terminated as an Investment Manager during the previous four years from serving as the BWC custodial bank.
   - We agree.
2. The BWC Internal Audit Department should be sufficiently staffed and include individuals with appropriate investment experience.
   - We agree.
3. BWC should increase the staff of the Internal Audit Department and increase its independence by having all reports sent directly to the Oversight Commission, Auditor of State and the Administrator.
   - We agree
4. BWC should create a separate Audit Committee with a charter and built-in independence with a dotted line reporting authority between the Internal Auditor and Audit Committee.
   - An Audit Committee has already been established.
   - We agree with the spirit of this recommendation but feel the reporting should be direct and not "dotted line."
5. The Audit Committee should periodically meet in private session with the internal and external auditors, and this Committee should have input into the internal auditor performance evaluation and any related personnel actions
   - Executive Sessions for the sole purpose of evaluating personnel are appropriate. Otherwise, all deliberations of the Committee must occur in the open.
6. Auditing staff should include staff dedicated and trained in investments.
   - We agree.

7. Best practices in the audit area should reflect the basic requirements of the Sarbanes Oxley Act.
    - We agree.
8. Internal Auditor must be given free and unfettered access to all Investment Managers to ensure that all managers are operating in a manner consistent with their contract and Generally Accepted Accounting Principles.
    - This recommendation is sound and has already been implemented.
9. The Oversight Commission needs to establish agreed-upon procedures with the Auditor of State external auditor for a deeper analysis of the Investment Department.
    - This recommendation is sound and has already been implemented.
10. The Internal Auditor should be given immediate access to the QED system and the Oracle financial system
    - This recommendation is sound and has already been implemented.

HB 66

BUREAU OF WORKERS' COMPENSATION

- Requires the Inspector General to have conducted by an independent firm, a fiduciary review of the investments of the assets of the funds specified in the Workers' Compensation Law.

- Requires the Workers' Compensation Oversight Commission ("Oversight Commission") to prohibit, in the objectives, policies, and criteria it adopts for the investment program of the Bureau of Workers' Compensation ("BWC"), investing assets of funds, directly or indirectly, in vehicles that target specified assets, and prohibits the Administrator of Workers' Compensation ("Administrator") from investing in specified investment classes.

- Requires the Oversight Commission to specify in the investment objectives, policies, and criteria it adopts that the Administrator is permitted to invest in an investment class only if the Oversight Commission, by a majority vote, opens that class and specifies requirements for investing in that class.

- Requires the Oversight Commission to adopt new objectives, policies, and criteria for the investment program that comply with the requirements specified above within 30 days after those provisions take effect.

- Requires the Administrator to make investments in consultation with the Chief Investment Officer of the BWC.

- Specifies that the voting members of the Oversight Commission, the Administrator, and the BWC Chief Investment Officer are the trustees of the state insurance fund.

- Requires the Oversight Commission to submit a list of all classes of investments and of all investments prohibited by the act in which the Administrator has invested and the value thereof, and a plan to divest itself, within six months after this provision's effective date, of the prohibited investments.

- Shortens terms of office for members of the Oversight Commission from five to three years.

- Increases the membership of the Oversight Commission from 9 to 11 by adding two investment expert members and specifies qualifications and appointment of, and terms of office for those members.

- Removes requirement that legislative members of the Oversight Commission receive $50 per meeting.

- Designates the Attorney General as the legal advisor of the Oversight Commission.

- Authorizes the Attorney General to maintain a civil action against a voting member of the Oversight Commission who breaches the member's fiduciary duty to the BWC for harm resulting from that breach.

- Allows the Oversight Commission to retain independent legal counsel if informed of an allegation that the entire Oversight Commission has breached its fiduciary duty to the BWC.

- Provides that the office of a member of the Oversight Commission who is convicted of or pleads guilty to a felony or other specified offense is deemed to be vacant, and that a member who receives a bill of indictment for any of the specified offenses is automatically suspended from the Oversight Commission pending resolution of the criminal matter.

- Specifies that a person who has pleaded guilty or been convicted of specified offenses is ineligible to be a member of the Oversight Commission.

- Requires the BWC, with the advice and consent of the Oversight Commission, to employ a person or designate an employee who is licensed as a Bureau of Workers' Compensation chief investment officer and who is a chartered financial analyst to be the BWC Chief Investment Officer.

- Specifies the BWC Chief Investment Officer's duties and establishes criteria to evaluate whether a chief investment officer has satisfied the officer's duty of reasonable supervision.

- Prohibits, effective 90 days after this provision's effective date, any person from acting as, and prohibits the BWC from employing a person as the BWC Chief Investment Officer unless the person is so licensed by the Division of Securities in the Department of Commerce in accordance with the act.

- Prohibits the BWC Chief Investment Officer from acting as a dealer, salesperson, investment advisor, or investment advisor representative, and specifies additional prohibitions for the BWC Chief Investment Officer.

- Requires the Division of Securities and the Commissioner of Securities to administer and enforce laws regulating the BWC Chief Investment Officer, including the authority to issue and revoke a BWC chief investment officer license.

- Permits the Director of Commerce, after consultation with the Attorney General, to ask a court of common pleas to order the BWC Chief Investment Officer that is subject to an injunction to make restitution to the BWC for damages caused by the officer's securities law violation.

- Increases from biennially to annually the frequency of the required audits of the workers' compensation state insurance fund.

- Requires the Oversight Commission to have an independent auditor, at least once every ten years, conduct a fiduciary performance audit of the investment program of the BWC.

- Requires the BWC, with the advice and consent of the Oversight Commission, to employ an internal auditor who reports directly to the Oversight Commission on investment matters.

- Establishes fiduciary requirements and conflict of interest prohibitions for members of the Oversight Commission and BWC employees.

- Requires the Administrator, prior to awarding a contract to an investment manager, to have a criminal records check conducted on the investment manager's employees who will be investing BWC funds.

- Requires an investment manager, prior to awarding an investment contract to a business entity, to obtain a list of the business entity's employees who will be investing BWC funds and requires the Administrator to have a criminal records check conducted on those employees.

- Requires the Superintendent of the Bureau of Criminal Identification and Investigation to conduct criminal records checks on these employees upon receiving a request from the Administrator.

- Prohibits the Administrator from entering into a contract with an investment manager if any employee of that manager who will be investing assets of BWC funds has been convicted of or pleaded guilty to a financial or investment crime.

- Prohibits an investment manager from entering into a contract with a business entity if any employee of that entity who will be investing assets of BWC funds has been convicted of or pleaded guilty to a financial or investment crime.

- Prohibits the Administrator and employees of the BWC from conducting any business with or awarding any contract, other than one awarded by competitive bidding, for goods or services costing more than $500 to individuals and specified types of entities who, within the two previous calendar years, have made one or more contributions totaling in excess of $1,000 to the campaign committees of the Governor or Lieutenant Governor or candidates for those offices.

- Requires the Administrator, the voting members of the Oversight Commission, and the Chief Investment Officer of BWC to file an annual financial disclosure statement with the Ohio Ethics Commission.

- Allows the appropriate ethics commission to share information concerning an investigation of a voting member of the Oversight Commission with the Attorney General and the Auditor of State.

Bureau of Workers' Compensation investments

Fiduciary review conducted by the Inspector General

(Section 502.03.01)

Under the act, in addition to the Inspector General's powers and duties specified under continuing law and notwithstanding the continuing law requirement that the Inspector General identify other state agencies that also are responsible for investigating, auditing, reviewing, or evaluating the management and operation of state agencies, and negotiate and enter into agreements with these agencies to share information and avoid duplication of effort (R.C. 121.42(F)), as part of the Inspector General's investigation of the investments of the assets of funds specified in the Workers' Compensation Law (R.C. Chapters 4121., 4123., 4127., and 4131., hereafter "BWC funds"), the Inspector General must have a fiduciary review of those investments conducted by an independent firm. The Inspector General must award a contract to an independent firm in the same manner as the Inspector General awards contracts to special investigators. The act requires the Inspector General to submit a copy of the fiduciary review to the Governor, Attorney General, Auditor of State, and the General Assembly.

Requirements and restrictions for investing

(R.C. 4121.12, 4121.121, and 4123.44; Sections 502.02 and 502.03)

Under law largely retained by the act, the Workers' Compensation Oversight Commission ("Oversight Commission") establishes objectives, policies, and criteria for the administration of the investment program for the investment of assets of BWC funds. The Administrator of Workers' Compensation ("Administrator") invests the surplus and reserve of the state insurance fund in accordance with those objectives, policies, and criteria.

The act requires that the objectives, policies, and criteria adopted by the Oversight Commission prohibit investing assets of funds, directly or indirectly, in vehicles that target any of the following: (1) coins, (2) artwork, (3) horses, (4) jewelry or gems, (5) stamps, (6) antiques, (7) artifacts, (8) collectibles, (9) memorabilia, or (10) similar unregulated investments that are not commonly part of an institutional portfolio, that lack liquidity, and that lack readily determinable valuation. Under the act the Administrator is specifically prohibited from investing in these classes of investments. The act also allows the Oversight Commission to prohibit, on a prospective basis, any specific investment, as opposed to specific investment activity as permitted under former law, that the Oversight Commission finds contrary to its objectives, policies, and criteria.

Under the act, the Oversight Commission must submit both of the following lists to the Governor, the President of the Senate, and the Speaker of the House of Representatives: (1) a list of all of the classes of investments in which assets of funds are invested at the time the act takes effect and in which assets of funds have been invested in the 12 months immediately preceding the effective date of this provision, and (2) a list of all investments that are prohibited by this act in which the Administrator has invested, and the value of each investment. The Oversight Commission must submit these lists within 30 days after the effective date of this provision. Also within that time frame, the Oversight Commission must submit to the Governor, the President of the Senate, and the Speaker of the House of Representatives, a plan to divest itself, within six months after the effective date of this provision, of any investments that are prohibited by the act.

Additionally, under the act, the Oversight Commission must specify in the objectives, policies, and criteria for the investment program that the Administrator is permitted to invest in an investment class only if the Oversight Commission, by a majority vote, opens that class. After the Oversight Commission opens a class but prior to the Administrator investing in that class, the Commission must adopt rules establishing due diligence standards for employees of the Bureau of Workers' Compensation ("BWC") to follow when investing in that class and must establish policies and procedures to review and monitor the performance and value of each investment class. The act requires the Oversight Commission to submit a report annually on the performance and value of each investment class to the Governor, the President and Minority Leader of the Senate, and the Speaker and Minority Leader of the House of Representatives. The act allows the Oversight Commission to vote to close any investment class. Under the act, the Oversight Commission must, within 30 days after these provisions take effect, adopt new objectives, criteria, and policies for the investment program of the BWC that complies with the requirements specified above. The Oversight Commission, under the act, must at least annually *review* and publish, as opposed to only *publish* under former law, the investment objectives, policies, and criteria it adopts.

The act names the voting members of the Oversight Commission, the Administrator, and the Chief Investment Officer of the BWC as the trustees of the State Insurance Fund. In addition to investing any of the surplus or reserve belonging to the state insurance fund in accordance with the investment objectives, policies, and criteria established by the Oversight Commission as required under continuing law, the act requires the Administrator to make those investments in accordance with fiduciary and conflict of interest requirements specified in the act (see "***Fiduciary requirements and conflict of interest***," below). The Administrator also must make those investments in consultation with the BWC Chief Investment Officer (see "***Chief Investment Officer***," below).

Changes to the Oversight Commission

(R.C. 109.981, 4121.12, and 4121.125; Section 502.01)

Under law retained in part by the act, the Oversight Commission consists of five members appointed by the Governor and four nonvoting legislative members. The act adds two investment expert members to the Oversight Commission, for a total of 11 members. Under the act, the Treasurer of State appoints one investment expert member and the Speaker of the House of Representatives and the President of the Senate jointly appoint the other investment expert member. Initial appointments must be made within 90 days of the effective date of that provision, and the act specifies the terms for those initial appointees. Each investment expert member must have the following qualifications:

(1) Be a resident of this state;

(2) Within the three years immediately preceding the appointment, not have been employed by the BWC or by any person, partnership, or corporation that has provided to the BWC services of a financial or investment nature, including the management, analysis, supervision, or investment of assets;

(3) Have direct experience in the management, analysis, supervision, or investment of assets.

The act specifies that investment expert members vote only on investment matters. Under former law, terms of office for the Governor's appointees were for five years; the act shortens terms of office to three years, and terms of office for the investment expert members are also for three years. The act specifies that nothing in the act affects the term of any member of the Oversight Commission serving on the effective date of the act. The investment expert members are subject to the same term of office requirements and vacancy provisions as the Governor's appointees.

Under former law, the legislative members of the Oversight Commission received $50 per meeting they attended. The act eliminates this payment. The act also specifies that an investment expert member of the Oversight Commission receives $2,000 per meeting the member attends, with a maximum of $18,000 per year regardless of whether the member attends more than nine meetings that year. This is the same salary arrangement that applies to the Governor's appointees. Under continuing law, all members receive their reasonable and necessary expenses.

Under the act, the office of a member of the Oversight Commission is deemed vacant if the member is convicted of or pleads guilty to a felony, a theft offense as defined under continuing law (R.C. 2913.01), or a violation of the duties and restrictions specified in the Ohio Ethics Law (R.C. Chapter 102. and R.C. 102.02, 102.03, and 102.04) or of the offenses of bribery (R.C. 2921.02), perjury (R.C. 2921.11), falsification and related offenses (R.C. 2921.13), obstructing official business (R.C. 2921.31), theft in office and related offenses (R.C. 2921.41), having an unlawful interest in a public contract (R.C. 2921.42), soliciting or receiving improper compensation (R.C. 2921.43), or dereliction of duty (R.C. 2921.44). The vacancy must be filled in the same manner as the original appointment. Under the act, a person who has pleaded guilty to or been convicted of an offense of that nature is ineligible to be a member of the Oversight Commission. A member who receives a bill of indictment for any of the offenses specified above is automatically suspended from the Oversight Commission pending resolution of the criminal matter.

The act designates the Attorney General as the legal advisor for the Oversight Commission. Additionally, if a voting member of the Oversight Commission breaches the member's fiduciary duty to the BWC, under the act the Attorney General may maintain a civil action against the board1[278] member for harm resulting from that breach. Notwithstanding the designation of the Attorney General as legal advisor for the Oversight Commission, after being informed of an allegation that the entire Oversight Commission has breached its fiduciary duty, the Oversight Commission may retain independent legal counsel, including legal counsel provided by the Oversight Commission's fiduciary insurance carrier, to advise the board and to represent the board. The Attorney General may recover damages or be granted injunctive relief, which includes the enjoinment of specified activities and the removal of the member from the board. Any damages awarded shall be paid to the BWC. The authority to maintain a civil action created by the act is in addition to any authority the Attorney General possesses under any other provision of the Revised Code.

Chief Investment Officer

(R.C. 4123.441)

The act requires the BWC, with the advice and consent of the Oversight Commission, to employ a person or designate an employee of the BWC who is designated as a chartered financial analyst by the CFA Institute and who is licensed by the Division of Securities in the Department of Commerce ("Division") as a BWC chief investment officer to be the BWC Chief Investment Officer. After 90 days after the effective date of this provision, the BWC may not employ a BWC chief investment officer who does not hold a valid BWC chief investment officer license issued by the Division. The Oversight Commission must notify the Division in writing of its designation and of any change in its designation within ten calendar days after the designation or change.

Under the act, the BWC Chief Investment Officer must reasonably supervise BWC employees who handle investment of assets of BWC funds with a view toward preventing violations of (1) the Ohio Securities Law (R.C. Chapter 1707.), (2) the Commodity Exchange Act (42 Stat. 998, 7 U.S.C. 1), (3) the Securities Act of 1933 (48 Stat. 74, 15 U.S.C. 77a), (4) the Securities Exchange Act of 1934 (48 Stat. 881, 15 U.S.C. 78a), and (5) the rules and regulations adopted under those statutes. The act specifies that this duty of reasonable supervision must include the adoption, implementation, and enforcement of written policies and procedures reasonably designed to prevent the BWC employees who handle investment of assets of the BWC funds from misusing material, nonpublic information in violation of those laws, rules, and regulations. The BWC Chief Investment Officer, under the act, is not considered to have failed to satisfy the officer's duty of reasonable supervision if the officer has done all of the following:

(1) Adopted and implemented written procedures, and a system for applying the procedures, that would reasonably be expected to prevent and detect, insofar as practicable, any violation by employees handling investments of assets of the BWC funds;

(2) Reasonably discharged the duties and obligations incumbent on the officer by reason of the established procedures and the system for applying the procedures when the officer had no reasonable cause to believe that there was a failure to comply with the procedures and systems;

(3) Reviewed, at least annually, the adequacy of the policies and procedures established pursuant to the act and the effectiveness of their implementation.

The act also requires the BWC Chief Investment Officer to establish and maintain a policy to monitor and evaluate the effectiveness of securities transactions executed on behalf of BWC.

Bureau of Workers' Compensation chief investment officer license

(R.C. 1707.01, 1707.164, 1707.165, 1707.17, 1707.19, 1707.20, 1707.22, 1707.23, 1707.25, 1707.261, 1707.431, 1707.44, and 1707.46)

The act provides for the Division to license the BWC Chief Investment Officer. Under the act, no person may act as a BWC chief investment officer unless the person is licensed and the BWC may not employ a BWC chief investment officer unless the officer holds a valid license. Conversely, the act prohibits the BWC Chief Investment Officer from acting as a dealer, salesperson, investment advisor, or investment advisor representative. It is unclear whether there is a criminal penalty for violating either prohibition.

"Bureau of Workers' Compensation chief investment officer" is defined by the act as an individual employed by BWC as a chief investment officer in a position that is substantially equivalent to chief investment officer.

The act requires that application for a BWC chief investment officer license be made by filing with the Division the information, materials, and forms specified in rules adopted by the Division. The Division is permitted to investigate any applicant for a license and may require any additional information as it considers necessary to determine the applicant's business repute and qualifications to act as a chief investment officer. If the application involves investigation outside of Ohio, the Division may require the applicant to advance sufficient funds to pay any of the actual expenses of the investigation. The Division is required to furnish the applicant with an itemized statement of the expenses the applicant is required to pay.

The Division must by rule require an applicant to pass an examination designated by the Division or achieve a specified professional designation unless the applicant acts as a BWC chief investment officer on the provision's effective date and has experience or equivalent education acceptable to the Division. If the Division finds that the applicant is of good business repute, appears to be qualified to act as a BWC chief investment officer, has complied with state law and rules governing the licensure of a BWC chief investment officer, and pays a $50 licensing fee, the Division must issue a BWC chief investment officer license to the applicant.

The act provides that a license expires on the last day of each June. The license may be renewed by filing a renewal application with the Division and paying a $50 renewal fee. The Division must give notice, without unreasonable delay, of its action on any renewal application.

The act permits the Division, under certain circumstances, to refuse to issue an initial license and to suspend, revoke, or refuse to renew an existing license. These actions may be taken under many of the same or similar circumstances for which the Division may take action under continuing law against a person seeking or holding a license the Division issues under continuing law. If the Division suspends the BWC Chief Investment Officer's license, it must notify BWC.

In addition to having the authority to refuse, suspend, or revoke a license under certain circumstances, under continuing law the Division is permitted to take certain actions whenever it appears to the Division that a person has engaged in, is engaged in, or is about to engage in an illegal practice or deceptive scheme in connection with the sale of securities or when acting as an investment adviser. The Division may also take action when it believes it to be in the best interests of the public and necessary for the protection of investors. The act allows the Division to take the same actions against the BWC Chief Investment Officer under the same circumstances.

Parallel to continuing law regarding state retirement system investment officers, if a court of common pleas grants an injunction against the BWC Chief Investment Officer, after consultation with the Attorney General, the Director of Commerce may ask the court to order the officer who is subject to the injunction to make restitution to the BWC damaged by the officer's Ohio Securities Law violation. The court may order the restitution if it is satisfied with the sufficiency of the Director's request and with the sufficiency of the proof of a substantial violation of that law, or of the use of any act, practice, or transaction declared to be illegal or prohibited or defined as fraudulent by that law, or Division rules adopted under that law, to the material prejudice of a state retirement system. A request for restitution may concern the same acts, practices, or transactions that were, or may later be, the subject of a Division action for a violation of the securities law.

The act prohibits the BWC Chief Investment Officer from doing any of the following:

(1) Employing any device, scheme, or artifice to defraud the workers' compensation system;

(2) Engaging in any act, practice, or course of business that operates or would operate as a fraud or deceit on the workers' compensation system;

(3) Engaging in any act, practice, or course of business that is fraudulent, deceptive, or manipulative;

(4) Knowingly failing to comply with any policy adopted regarding the officer established pursuant to the provisions described above under "***Chief Investment Officer***."

The penalty for violating any of these prohibitions depends on the value of the funds or securities involved in the offense or the loss to the victim, and ranges from a fifth-degree felony to a first-degree felony, plus specified fines (see R.C. 1707.99, not in the act).

Continuing law provides that no rule, form, or order may be made, amended, or rescinded unless the Division finds that the action is necessary or appropriate, in the public interest, or for the protection of investors, clients, or prospective clients, and consistent with the purposes fairly intended by the policy and provisions of state law governing the Division's licensure of securities professionals. The act provides that a rule, form, or order also may be made, amended, or rescinded if the Division finds the action necessary or appropriate for the protection of the workers' compensation system.

Audits

(R.C. 4121.125 and 4123.47)

Former law required the Administrator to cause actuarial audits of the state insurance fund at least once every two years. The act requires that the audits be done annually and that the audits cover all other workers compensation funds (e.g., public works relief compensation, marine industry compensation, and the coal workers' "black lung" compensation funds).

To the continuing law requirement that the audits be conducted by recognized insurance actuaries, the act adds a requirement that the actuaries certify their audit. The act also requires the Administrator to make copies of the audits available to the public at cost.

Continuing law unchanged by the act allows the Oversight Commission to contract with outside firms to have actuarials and audits of the Workers' Compensation system conducted to measure the performance of the system. The act requires the Oversight

Commission to have an independent auditor, at least once every ten years, conduct a fiduciary performance audit of the investment program of the BWC. That audit must include an audit of the investment policies of the Oversight Commission and investment procedures of the BWC. The Oversight Commission must submit a copy of that audit to the Auditor of State.

BWC, with the advice and consent of the Oversight Commission, also must employ an internal auditor under the act who reports directly to the Oversight Commission on investment matters. The Oversight Commission may request and review internal audits conducted by the internal auditor.

Fiduciary requirements and conflict of interest

(R.C. 4121.126 and 4121.127)

Except as otherwise provided in the Workers' Compensation Law, the act prohibits any member of the Oversight Commission or BWC employee from having any direct or indirect interest in the gains or profits of any investment made by the Administrator or from receiving directly or indirectly any pay or emolument for the member's or employee's services. The act also prohibits any member or person connected with the BWC directly or indirectly, for self or as an agent or partner of others, from borrowing any of its funds or deposits or in any manner use the funds or deposits except to make current and necessary payments that are authorized by the Administrator. Additionally, no member of the Oversight Commission and no BWC employee can become an indorser or surety or become in any manner an obligor for moneys loaned by or borrowed from the BWC.

The act also prohibits the Administrator from making any investments through or purchases from, or otherwise do any business with, any individual who is, or any partnership, association, or corporation that is owned or controlled by, a person who within the preceding three years was employed by the BWC, a board member of, or an officer of the Oversight Commission, or a person who within the preceding three years was employed by or was an officer holding a fiduciary, administrative, supervisory, or trust position, or any other position in which such person would be involved, on behalf of the person's employer, in decisions or recommendations affecting the investment policy of the BWC, and in which such person would benefit by any monetary gain.

The act defines a "fiduciary" as a person who does any of the following: (1) exercises discretionary authority or control with respect to the management of the BWC or with respect to the management or disposition of its assets, (2) renders investment advice for a fee, directly or indirectly, with respect to money or property of the BWC, or (3) has discretionary authority or responsibility in the administration of the BWC. The act requires every fiduciary of the BWC to be bonded or insured for an amount of not less than $1 million for loss by reason of acts of fraud or dishonesty. Except as provided below, under the act, a fiduciary must not cause the BWC to engage in a transaction, if the fiduciary knows or should know that such transaction constitutes any of the following, whether directly or indirectly:

(1) The sale, exchange, or leasing of any property between the BWC and a party in interest;

(2) Lending of money or other extension of credit between the bureau and a party in interest;

(3) Furnishing of goods, services, or facilities between the BWC and a party in interest;

(4) Transfer to, or use by or for the benefit of a party in interest, of any assets of the BWC;

(5) Acquisition, on behalf of the BWC, of any employer security or employer real property.

The act states that nothing in this provision prohibits any transaction between the BWC and any fiduciary or party in interest if all the terms and conditions of the transaction are comparable to the terms and conditions that might reasonably be expected in a similar transaction between similar parties who are not parties in interest, and the transaction is consistent with fiduciary duties under the Workers' Compensation Law.

Under the act a fiduciary must not do any of the following:

(1) Deal with the assets of the BWC in the fiduciary's own interest or for the fiduciary's own account;

(2) In the fiduciary's individual capacity or in any other capacity, act in any transaction involving the BWC on behalf of a party, or represent a party, whose interests are adverse to the interests of the BWC or to the injured employees served by the BWC;

(3) Receive any consideration for the fiduciary's own personal account from any party dealing with the BWC in connection with a transaction involving the assets of the BWC.

In addition to any liability that a fiduciary may have under any other provision, a fiduciary, with respect to BWC, is liable for a breach of fiduciary responsibility (1) if the fiduciary knowingly participates in or knowingly undertakes to conceal an act or omission of another fiduciary, knowing such act or omission is a breach, (2) if, by the fiduciary's failure to comply with the Workers' Compensation Law, the fiduciary has enabled another fiduciary to commit a breach, or (3) if the fiduciary has knowledge of a breach by another fiduciary of that fiduciary's duties under the Workers' Compensation Law, unless the fiduciary makes reasonable efforts under the circumstances to remedy the breach.

Criminal records checks

(R.C. 109.579, 4123.444, and 4123.445)

The act prohibits the Administrator from entering into a contract with an investment manager for the investment of assets of the BWC funds if any employee of that investment manager who will be investing assets of BWC funds has been convicted of or pleaded guilty to a financial or investment crime. Also, the act prohibits an investment manager who has entered into a contract with BWC for the investment of assets of BWC funds from contracting with a business entity for the investment of those assets if any employee of that business manager who will be investing assets of BWC funds has been convicted of or pleaded guilty to a financial or investment crime. If, after a contract has been awarded to an investment manager or business entity for the investment of assets of BWC funds, the investment manager or business entity discovers that an employee who is handling the investment of those assets has been convicted of or pleaded guilty to a financial or investment crime, the investment manager or business entity immediately must notify the Administrator. A financial or investment crime means any of the following offenses: (1) any criminal offense involving theft, (2) receiving stolen property, (3) embezzlement, (4) forgery, (5) fraud, (6) passing bad checks, (7) money laundering, (8) drug trafficking, or (9) any criminal offense involving money or securities, as set forth under the laws governing the following offenses:

(a) Arson and related offenses (R.C. Chapter 2909.);

(b) Robbery, burglary, trespass, and safecracking (R.C. Chapter 2911.);

(c) Theft and fraud (R.C. Chapter 2913.);

(d) Gambling (R.C. Chapter 2915.);

(e) Offenses against justice and public administration (R.C. Chapter 2921.);

(f) Conspiracy, attempt, complicity, weapons control, and corrupt activity (R.C. Chapter 2923.);

(g) Drug offenses (R.C. Chapter 2925.);

(h) Any other law of this state, or the laws of any other state or of the United States that are substantially equivalent to the offenses listed directly above.

Before entering into a contract with an investment manager to invest BWC funds, the act requires the Administrator to request from any investment manager with whom the Administrator wishes to contract for those investments a list of all employees who will be investing assets of BWC funds. Under the act, the Administrator is prohibited from entering into a contract with an investment manager who refuses to submit the list. The list must specify each employee's state of residence for the five years prior to the date of the Administrator's request. The Administrator also must request that the Superintendent of the Bureau of Criminal Identification and Investigation ("Superintendent") conduct a criminal records check as described below with respect to every employee the investment manager names in that list.

Similarly, after an investment manager enters into a contract with the Administrator to invest BWC funds and before an investment manager enters into a contract with a business entity to facilitate those investments, the act requires the investment manager to request from any business entity with whom the investment manager wishes to contract to make those investments a list of all employees who will be investing assets of the BWC funds. Under the act, an investment manager must not enter into a contract with a business entity who refuses to submit the list. The list must specify each employee's state of residence for the five years prior to the investment manager's request. The investment manager must forward to the Administrator the list received from the business entity. The Administrator must request that the Superintendent conduct a criminal records check as described below with respect to every employee the business entity names in that list. Upon receipt of the results of the criminal records check, the Administrator must forward a copy of those results to the investment manager.

If, after a contract has been entered into between the Administrator and an investment manager or between an investment manager and a business entity for the investment of assets of BWC funds, the investment manager or business entity wishes to have an employee who was not the subject of a criminal records check above invest assets of BWC funds, that employee also must be the subject of a criminal records check as described below prior to handling the investment of assets of those funds.

The act requires the Administrator to request that the Superintendent conduct a criminal records check through the Federal Bureau of Investigation ("FBI") as a part of the criminal records check for an employee if the employee has not been a resident of this state for the five-year period immediately prior to the time the criminal records check is requested or does not provide evidence that within that five-year period the Superintendent has requested information about the employee from the FBI in a criminal records check. The act permits, but does not require, the Administrator to make that request if the employee has been a resident of this state for at least that five-year period. If the Administrator requests information from the FBI, the act requires the Superintendent to request from the FBI any information it has with respect to the person who is the subject of the request. The Superintendent must review or cause to be reviewed any relevant information that the Superintendent receives from the FBI.

The Administrator must provide to an investment manager, for each employee for whom a criminal records check must be performed, a copy of the form and standard impression sheet prescribed by the Superintendent to obtain fingerprint impressions. The investment manager must obtain the completed form and impression sheet either directly from each employee or from a business entity and forward the completed form and sheet to the Administrator, who must forward these forms and sheets to the Superintendent. The act requires any employee who receives a copy of the form and the impression sheet and who is requested to complete the form and provide a set of fingerprint impressions to complete the form or provide all the information necessary to complete the form and to complete the impression sheets by having the person's fingerprint impressions made at a county sheriff's office, a municipal police department, or any other entity with the ability to make fingerprint impressions. The office, department, or entity may charge the person a reasonable fee for making the impressions. The standard impression sheets the Superintendent prescribes may be in a tangible or electronic format, or in both tangible and electronic formats.

If the Superintendent receives (1) a request from the Administrator, (2) a completed form prescribed by the Superintendent, and (3) a set of fingerprint impressions, the Superintendent must conduct a criminal records check on employees of investment managers and business entities who will be handling the investment of BWC funds. The Superintendent must conduct the criminal records check in the same manner as the Superintendent conducts criminal records checks under continuing law to determine whether any information exists that indicates that the person who is the subject of the request previously has been convicted of or pleaded guilty to a financial or investment crime.

The Superintendent must forward the results of a criminal records check to the Administrator. Under the act, a determination whether any information exists that indicates that a person previously has been convicted of or pleaded guilty to a financial or investment crime is valid for the person who is the subject of that criminal records check for a period of one year after the date the Superintendent makes that determination.

The act requires the Superintendent to prescribe and charge a reasonable fee for providing a criminal records check. For each criminal records check the Administrator requests, at the time the Administrator makes a request, the Administrator must pay the prescribed fee to the Superintendent. If another request for a criminal records check is made for a person for whom a valid determination is available, the Superintendent must provide the determination for a reduced fee.

Campaign contributions

(R.C. 3517.13 and 3517.151)

The act prohibits the Administrator and BWC employees from conducting any business with or awarding any contract, other than one awarded by competitive bidding, for the purchase of goods or services costing more than $500 to either of the following:

(1) Any individual, partnership, association, including, without limitation, a professional association organized under the Professional Associations Law (R.C. Chapter 1785.), estate, or trust if the individual has made, or the individual's spouse has made, or any partner, shareholder, administrator, executor, or trustee, or the spouses of any of those individuals has made, as an individual, within the two previous calendar years, one or more contributions totaling in excess of $1,000 to the campaign committee of the

Governor or Lieutenant Governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

(2) A corporation or business trust, except a professional association organized under the Professional Associations Law, if an owner of more than 20% of the corporation or business trust, or the spouse of the owner, has made, as an individual, within the two previous calendar years, taking into consideration only owners for all of such period, one or more contributions totaling in excess of $1,000 to the campaign committee of the Governor or Lieutenant Governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

The act specifies that these provisions apply to an act or failure to act on or after the effective date of the provision.

Ethics disclosures

(R.C. 102.02 and 102.06; Section 502.04)

Under the act, the Administrator, the voting members of the Oversight Commission, and the BWC Chief Investment Officer must file a disclosure statement with the appropriate ethics commission. The act states that nothing in the act must be construed to limit the Ohio Ethics Commission's authority, responsibility, and powers under the Ohio Ethics Law (R.C. Chapter 102.) as it existed immediately prior to the effective date of this provision as applied to members of the Oversight Commission and BWC employees. Any authority, power, or responsibilities of the Ohio Ethics Commission expressly created by the act are in addition to any authority, power, or responsibilities of the Commission in effect immediately prior to the effective date of this provision. Additionally, if the appropriate ethics commission is investigating a voting member of the Oversight Commission, the act permits the appropriate ethics commission to share information gathered in the course of the investigation with, or disclose the information to, the Attorney General and the Auditor of State.

Ohio Bureau of Workers' Compensation
Management Review Team

Action Report

October 31, 2005

Background

In response to the inadequate oversight and mismanagement of the investment division of the Ohio Bureau of Workers' Compensation (BWC), Governor Bob Taft has taken a series of steps to safeguard worker compensation funds and ensure that all investments are handled prudently and responsibly:

- **Appointed a new management team, including Interim Administrator Tina Kielmeyer, to run the BWC and oversee investments;**
- **Appointed a Special Liaison to the BWC to keep him informed on day-to-day developments;**
- **Assigned an executive search committee to find a new Administrator;**
- **Recommended a new governance structure to separate the investment function from the insurance function at the BWC; and,**
- **Appointed and empowered a Management Review Team (MRT) to review the investment portfolio and investment policy, procedures and controls at the BWC.**

Management Review Team

• **Tom Hayes, Team Leader** – Hayes has been director of the Ohio Lottery since January 2005 and previously served as director of the Ohio Department of Job and Family Services (ODJFS) from September 2001 through December 2004. Hayes is credited with making substantial management improvements during his tenure at ODJFS. Hayes is also a former Cuyahoga County administrator, holding that post from 1995 to 1997, and again from January 1999 through August 2001. He holds a bachelor's degree and master's degree in public administration from Cleveland State University.

• **Laurie Fiori Hacking** – Since January 2000 Hacking has served as executive director of the Ohio Public Employee Retirement System (OPERS). OPERS manages approximately $65 billion in retirement assets, making it the tenth largest statewide public retirement system in the country and 16th largest in the world. She previously served as director of the statewide Minnesota Public Employees Retirement System.

• **James Nichols** – Nichols has been treasurer of The Ohio State University (OSU) since 1981. He has also served OSU as interim chief executive officer of University Hospitals and as acting vice president for Business and Administration. Nichols oversees an investment portfolio of the university that exceeds $2.4 billion and includes endowment, trusts, employee benefit accounts, debt reserves, cash investments and real estate. He has a B.A. in finance from The Ohio State University.

Executive Summary

Governor Taft charged the MRT with completing a systematic review of the BWC investment portfolio, including internal audit and control systems; contracting with independent evaluators to assist with the investment review; assessing BWC investment management and audit staffing; all while consulting with the Workers' Compensation Oversight Commission (WCOC) and cooperating fully with all ongoing investigations and audits.

With help from Ennis Knupp, a nationally recognized management consulting firm, the MRT found that while the BWC's investment portfolio was solvent, true reform was needed in order to ensure the future stability of the BWC investments. And the MRT has taken action to realize this sweeping reform.

Governor Taft gave the MRT the authority to completely dissect the BWC's investment system and the leeway to identify all weaknesses. The MRT took its charge seriously and immediately began to publicly identify problems and work with BWC staff to execute necessary systems changes.

Key recommendations and accomplishments include:

- **Previously**, BWC investment staff reported through various levels of bureaucracy, and not to the Administrator. **Now**, the Investment Department reports directly to the Administrator.
- **Previously**, concerns about the Capital Coin investment voiced by the BWC internal auditor were not acted upon and never provided to the WCOC. **Now**, the Internal Audit Department will be sufficiently staffed and have appropriate independence, submitting reports on any investment directly to the WCOC and the newly created Audit Committee.
- **Previously**, investment staff provided the BWC Investment Consultant rates of return received from Investment Managers, and these rates of return were never independently verified. **Now**, rates of return must be independently verified, computed and reported in accordance with industry best practices.
- **Previously**, all large cap stock transactions were conducted in-house, leading to inefficiencies and increased costs. **Now**, Investment Managers are required to handle all trades, reducing the transaction price per share and assuming the timeliness of trades.
- **Previously**, the BWC had a very large number of external public market managers, increasing costs and making it difficult for investment staff to effectively monitor manager performance. **Now**, poorly performing managers have been terminated and the BWC is reviewing three MRT-suggested options for reducing the large number of managers.
- **Previously**, it was clear that the BWC investment staff was understaffed and not able to handle the responsibility of its large investment portfolio. **Now**, the BWC has a blueprint for properly staffing and managing its investment duties.

The MRT recommended 40 specific reforms (including those listed above) in governance and investment operations, and each of those recommendations and reforms are outlined in the following report. Of the 40 action items recommended by the MRT, 21 have been completed and 19 are in progress or slated for future action. The successful implementation of these recommendations will help safeguard the integrity of the BWC's funds for future generations of Ohioans.

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Acronyms

Bureau of Workers' Compensation .... BWC

Workers' Compensation Oversight Commission .... WCOC

Management Review Team .... MRT

Chief Investment Officer/Chief Financial Officer .... CIO/CFO

Request for Proposal .... RFP

Completed Action

1

Finding

Powers of attorney were granted to two members of the investment staff giving them complete authority to conduct transactions and to enter into contracts on behalf of BWC.

Recommendation

BWC should immediately rescind all powers of attorney granted to any member of the Investment Department.

Target date

September 2005

BWC action

All powers of attorney were rescinded by order of the Interim Administrator.

2

Finding

Investment staff was required to report through various levels of the administration before reaching the Administrator. This served to stifle staff from raising questions and concerns they may have had about the practices in the Investment Department.

Recommendation

BWC should change the organizational chart so the Investment Department reports directly to the Administrator. MRT has recommended that legislation be drafted to create an independent Investment Board with the CIO and investment staff reporting to that board.

Target date

September 2005

BWC action

The Investment Department now reports directly to the Administrator.

3

Finding The Investment Department did not follow the usual policies and procedures of BWC when entering into contracts.

Recommendation The Investment Department should be required to adhere to all BWC policies and procedures for procurement and contracting.

Target date September 2005

BWC action The Interim Administrator now requires the Investment Department to follow all existing procedures for contracting and procurement including a review by the Law Department. In addition, the Interim Administrator now signs all contracts and will develop long-term financial relationships through a competitive procurement process.

4

Finding The contracts with the Investment Managers did not contain a restriction on campaign contributions as required under ORC 3517.13. Beginning in 2001, RFPs contained the 3517.13 restrictions but they were only incorporated into the contract by reference.

Recommendation BWC should include a restriction on campaign contributions (ORC 3517.13) in all contracts with Investment Managers.

Target date September 2005

BWC action The Interim Administrator has directed staff to include the restrictions of ORC 3517.13 in all contracts regardless of the method of procurement.

5

Finding

The Ancillary Investment Portfolio is currently managed by an investment staff which lacks appropriate supervision and suffers from a lack of well-defined guidelines for the successful management of the assets in this fund.

Recommendation

BWC should follow the recommendation of Ennis Knupp and contract with an existing BWC fixed income manager to assume responsibility for the management of the $1.3 billion in assets in the Ancillary Fund. This arrangement should continue until BWC has the opportunity to competitively bid the service.

Target date

September 2005

BWC action

The Ancillary Investment Portfolio has been transferred to JPMorgan Chase.

6

Finding

The BWC Internal Audit Department is understaffed and is therefore required to rely on the work product of external Investment Consultants to audit fund manager performance and to audit the criteria and procedures for the selection of fund managers.

Recommendation

The BWC Internal Audit Department should be sufficiently staffed and include individuals with appropriate investment experience.

Target date

December 2005

BWC action

The Interim Administrator has approved a plan to increase the internal audit staff from 7 to 12 persons including one who is trained in investments.

7

Finding

The Internal Audit Department's reports were not shared with WCOC. As early as May 18, 2000, the manager of Internal Audit voiced significant concerns with the operations of the Capital Coin Fund, in a memorandum to the former CFO and CIO. Unfortunately, WCOC never saw this document.

Recommendation

BWC should increase the staff of the Internal Audit Department and increase its independence by having all reports sent directly to WCOC, Auditor of State and the Administrator. BWC should also create a separate Audit Committee with a charter and built-in independence with a dotted line reporting authority between the Internal Auditor and Audit Committee. The Audit Committee should periodically meet in private session with the internal and external auditors and the Committee should have input into the internal auditor performance evaluation and any related personnel actions. Auditing staff should include staff dedicated and trained in investments. Best practices in the audit area should reflect the basic requirements of the Sarbanes Oxley Act.

Target date

September 2005

BWC action

The Interim Administrator has directed that a copy of all internal audit reports be sent to WCOC upon completion.

8

Finding

The BWC Internal Auditor was discouraged from conducting a full audit of Capital Coin Fund. The former CFO and CIO, according to the Internal Auditor, did not want to place an undue burden on the fund manager and therefore would not allow the Internal Auditor direct access to the Capital Coin Fund Investment Manager. As an alternative, the Capital Coin Fund Investment Manager accepted a set of agreed-upon procedures for valuing the assets.

Recommendation

The Internal Auditor must be given free and unfettered access to all Investment Managers to ensure that all managers are operating in a manner consistent with their contract and Generally Accepted Accounting Principles. The WCOC needs to establish agreed-upon procedures with the Auditor of State external auditor for a deeper analysis of the Investment Department.

Target date

November 2005

BWC action

The Interim Administrator now allows the Internal Auditor to report findings to the appropriate parties outside of the BWC and has access to all Investment Managers.

9

Finding

The Internal Auditor was not given direct access to QED, the internal investment data and accounting system, due to the cost of physically running a line between floors. This prevented the Internal Auditor from having access to the tools necessary to perform a thorough, unconstrained review of the actions of the Investment Department.

Recommendation

The Internal Auditor should be given immediate and direct access to the QED system and the Oracle financial system.

Target date

September 2005

BWC action

The Internal Auditor now has direct access to the QED system.

10

Finding

The Investment Department generated the requests for the transfer of funds and was also the contact with Treasurer of State to have the funds transferred. Failure to have another party outside of the Investment Department act as the contact with the Treasurer of State may present control issues.

Recommendation

BWC should consider improving segregation of duties for the process of requesting fund transfers for investments. This would help ensure that all such requests are properly approved and that any related subscription agreements receive the proper review and approval from the Administrator, the CIO and any other appropriate members of BWC management.

Target date

September 2005

BWC action

Two parties must now approve any transfer of funds. One of the parties must be the Administrator.

11

Finding

The current funding process does not require more than one signature on requests for funding of investments. Currently, the CFO, CIO, and/or one of the Senior Investment Officers can execute these requests with no additional authorization. Permitting transfers of funds based on the signature of only one individual increases the potential for inappropriate activity.

Recommendation

BWC should modify internal procedures for funding Investment Managers to require two signatures on the requests for funding, one from the Administrator and one from the CIO.

Target date

October 2005

BWC action

The Administrator and the CIO will now sign off on all requests for funding.

12

Finding

The Quarterly Investment Reports did not include detailed reporting to WCOC and other members of BWC management regarding all Investment Managers, the nature of their respective investments, the cumulative amounts funded, current market values and cumulative performance for each manager. Instead, only summary information was presented by asset classification or type of investment. Failure to present the cumulative funding of the various managers, current market values, and total gains and losses for the individual Investment Managers decreased the ability to readily identify Investment Managers with significant losses.

Recommendation

The Quarterly Investment Reporting process should be modified to conform to current investment industry standards and should include a comprehensive listing of all investments, including: the nature of the investment, the primary investment manager, the cumulative amounts funded, current market values and the performance net of fees since inception of the manager. Quarterly performance reports should be the responsibility of the independent Investment Consultant and should be reported directly to the WCOC Investment Board.

Target date

October 2005

BWC action

The RFP for a new Investment Consultant required appropriate standards for the Quarterly Investment Reports.

13

Finding

BWC's custodial bank, JPMorgan Chase, also currently serves as an Investment Manager for BWC, running a mid cap domestic equity portfolio. One of the functions of the custodial bank is to participate in the valuation of the assets of BWC and therefore could place the custodial bank in the unusual position of evaluating its own performance.

Recommendation

WCOC should amend its investment policies to either restrict the custodial bank from also serving as an investment manager or develop an alternative, independent method of evaluating its performance.

Target date

November 2005

BWC action

Ennis Knupp completed an historic review of the investment performance for the last 10 years. The new Investment Consultant will be required to report on investment performance on a quarterly basis.

14

Finding

Investment staff provided the rates of return they received from the individual Investment Managers to Callan & Associates. Callan & Associates did not perform any independent verification of returns, making it impossible to provide an independent and unbiased evaluation as required by the Investment Policy.

Recommendation

BWC should not renew the contract with Callan & Associates and should seek proposals for a new Investment Consultant.

Target date

October 2005

BWC action

The Interim Administrator has decided not to extend the contract of Callan & Associates as the BWC Investment Consultant. A new investment consulting firm will be selected through an RFP process and will report to WCOC. The contract for the new Investment Consultant will specify how returns are to be computed and reported in accordance with industry best practices.

15

Finding

At the direction of the BWC Investment Department, Callan & Associates was required to conduct an asset liability study using the total return method only and not a liability-driven approach that would match asset allocation with future liabilities. The result of this action would provide BWC with an incomplete view of its future obligations and could result in an asset allocation plan that is inappropriate to meet the future liability needs of BWC.

Recommendation

Once BWC and WCOC have completed their RFP and selected a new Investment Consultant, that consultant should review the work completed by Callan & Associates and either confirm its recommendations or conduct a new study. After the asset liability study is completed, WCOC, with the help of its outside consultant, should review and amend its investment policies and include a clear delineation of investment roles and responsibilities of key parties.

Target date

October 2005

BWC action

Callan & Associates was requested to include the liability-driven approach when preparing their asset allocation study. The new Investment Consultant will review Callan's asset liability study.

16

Finding

Callan & Associates was restricted in its ability to fully evaluate the investment portfolio because the scope of its engagement was limited to the top 30-45 Investment Managers.

Recommendation

A new Investment Consultant should be retained to replace Callan & Associates. The new Investment Consultant should operate in a manner consistent with investment industry best practices and the investment policies of WCOC and offer an independent and unbiased evaluation of all the Investment Managers in the portfolio. The Investment Consultant should answer only to WCOC or an Investment Board or Committee as required.

Target date

October 2005

BWC action

BWC has included this function as a component of the RFP for a new Investment Consultant.

17

Finding

BWC staff did not have access to a fiduciary counsel to assist them in establishing appropriate investment policies, in making investment decisions and in helping them deal with Private Equity Investment Managers.

Recommendation

BWC should retain the services of an experienced fiduciary counsel.

Target date

September 2005

BWC action

BWC retained the services of Ian Lanoff of the Groom Law Group to advise BWC on all fiduciary and investment matters.

18

Finding

The BWC Statement of Investment Policy and Guidelines requires that all large cap stock transactions requested by Investment Managers be conducted through the BWC Trading Desk. This process is inefficient and could result in increased costs for brokerage fees and an opportunity cost for delaying a transaction and therefore not securing the best execution in trading.

Recommendation

BWC should require all Investment Managers to be responsible for their own trading on all classes of equities. The Investment Managers should be required to obtain best execution cost and strongly encouraged to conduct these transactions electronically whenever possible which will significantly reduce the transaction price per share.

Target date

September 2005

BWC action

Acting on a recommendation from the MRT and the Interim Administrator, WCOC terminated the BWC trading operation at the August meeting. Trades are being conducted through Investment Managers.

19

Finding

The BWC Investment Department receives soft dollars in the form of rebates and other incentives from brokers ($780,000 in 2004) to purchase unbudgeted goods and services. This is not an industry best practice. It blurs accountability for costs and could result in a competitive advantage for a broker who participates in the rebate scheme.

Recommendation

BWC should terminate the practice of accepting soft dollars from vendors doing business with the Investment Department to purchase goods and services. The operating expenses of the Investment Department should be transparent and reflect all costs of operating the investment function.

Target date

September 2005

BWC action

The BWC Interim CIO and CFO terminated this practice and now require all expenditures for goods and services be done using properly established purchasing procedures.

20

Finding

BWC has invested in 68 private equity partnerships. The large number of private equity investments makes it difficult for the limited investment staff to monitor and perform proper due diligence on these complex arrangements.

Recommendation

BWC should engage an independent Investment Consultant to evaluate the private partnerships and advise BWC whether to continue or restructure those partnerships.

Target date

October 2005

BWC action

BWC has engaged Ennis Knupp to evaluate the private equity partnerships.

21

Finding

Once a decision was made to terminate an Investment Manager, there was no appropriate place to temporarily place money until the appropriate investment decision could be made.

Recommendation

BWC should contract with a passive investment fund manager to invest all proceeds recovered from any terminated investment manager.

Target date

September 2005

BWC action

At the August WCOC meeting, the Interim Administrator received authority to contract with Barclay's Global Investors or State Street Global Advisors to serve as passive index fund managers for BWC.
A contract is being prepared to secure the services of State Street Global Advisors.

Pending Action

22

Finding

As it is currently constructed WCOC is not able to provide sufficient oversight to the Investment Staff.

Recommendation

Create a new, separate and independent Investment Board composed of seven members — five investment experts (two appointed by the Treasurer of State, one by the Governor and two by the General Assembly, one each appointed by the majority and minority leaderships) and two from WCOC. In the interim, WCOC should create an Investment Committee composed of the additional investment experts and one member of WCOC. The Recommendation Investment Committee should develop investment objectives and risk targets.

Target date

January 2006

BWC action

The Administration has advocated enactment of legislation to create a separate BWC Investment Board and a bill to do so has been introduced in the Ohio General Assembly. As an intermediate step, WCOC created an Investment Committee in September 2005.

23

Finding

The Investment Consultant, Callan & Associates, reported to the BWC Investment Department, not to WCOC, on investment performance and evaluation of managers. As a result, WCOC was denied independent advice and verification of investment performance.

Recommendation

A new Investment Consultant should be retained to replace Callan & Associates and should provide independent and unbiased reports directly to WCOC.

Target date

November 2005

BWC action

WCOC will direct the hiring of a new Investment Consultant who will report directly to the Commission providing it with better checks and balances on the performance of managers and the total portfolio.

24

Finding | The current staff of the BWC Investment Department is both understaffed and undertrained to carry out the mission of the Department.

Recommendation | BWC should immediately hire experienced and credentialed investment professionals to assist in the management of the portfolio.

Target date | December 2005

BWC action | BWC has reorganized the Investment Department and will hire additional investment experts.

25

Finding | Through a RFP process, Treasurer of State selects one of the six Ohio banks to serve as the custodial bank for BWC. Although input is sought by the Treasurer of State, BWC has no role in evaluating the RFPs or selecting the custodial bank.

Recommendation | BWC should be permitted to participate in the selection process for its custodial bank and granted right of refusal to prevent any bank that was terminated as an Investment Manager during the previous four years from serving as the BWC custodial bank.

Target date | June 2006

BWC action | BWC is holding a series of meetings with Treasurer of State to determine protocol.

26

Finding

The current investment policy requires WCOC approval of Investment Managers, but not of all investment funds. Since MDL Active Duration was a new fund with an existing manager, the existing control did not appear to require such approval based solely on the creation of the second fund.

Recommendation

The BWC Investment Policy should be modified to require WCOC (or Investment Board) review and approval of all investment funds, in addition to Fund Managers. This approval documentation should accompany all initial funding requests to provide evidence of proper approval. The Internal Auditor should be charged with responsibility for auditing compliance with this policy.

Target date

November 2005

BWC action

The WCOC Investment Committee is incorporating these recommendations into the new investment policy.

27

Finding

Returns on investments for BWC are not calculated by netting out the management fees. This gross-of-fee calculation method overstates rates of return, runs the risk of inattention to fee levels and does not conform to best practices and industry standards.

Recommendation

BWC should require the new Investment Consultant to calculate rates of return both gross of management fees and net of management fees and present them directly to WCOC or Investment Board once per quarter.

Target date

November 2005

BWC action

BWC and WCOC are currently hiring a full-service consultant and will require calculation of fees in accordance with recommendations.

28

Finding	**BWC investment staff was responsible for cash management and made investments without any standards, policies or supervision.**
Recommendation	**The BWC should transfer the cash management function to their custodial bank and establish a new policy to govern cash management.**
Target date	**November 2005**
BWC action	**Cash management function was moved to the BWC custodial bank and a new policy is being established.**

29

Finding	**The BWC Investment Department invested in hedge funds before it was authorized to do so by WCOC.**
Recommendation	**BWC should liquidate all hedge funds in the portfolio.**
Target date	**November 2005**
BWC action	**By order of the Interim Administrator all hedge funds are being liquidated and contracts terminated.**

30

Finding

BWC failed to use best practices in the calculation of the rate of return on the investment portfolio.

Recommendation

30 (a.) Rates of return should be calculated by BWC's custodial bank and/or by an Independent Consultant.

30 (b.) Rates of return should be calculated by all parties using generally accepted performance measurement methods.

30 (c.) Rates of return should be calculated and reported using both gross of management fees and net of management fees so that expenses are not hidden.

30 (d.) Records should be maintained by BWC that provide support for each rate of return calculation.

30 (e.) Rates of return among sources should be reconciled periodically.

Target date

November 2005

BWC action

BWC will require the new Investment Consultant to perform a rate of return calculation for each investment manager on a quarterly basis and will require the full-service Investment Consultant to implement all additional rates of return recommendations including responsibility of Custodial Bank.

31

Finding

The BWC Investment Department does not have the necessary support systems to operate a modern, successful investment operation.

Recommendation

Working with its Investment Consultant, the Investment Board should ensure that adequate staff, IT, accounting, custody, control systems and auditing structures are in place to support the Investment Department and allow proper oversight and accounting of assets.

Target date

January 2006

BWC action

BWC and WCOC are in the process of hiring a full-service Investment Consultant who will make recommendations regarding Investment Department internal staffing and systems.

32

Finding

Because the WCOC lacks a specialized committee structure, it is inefficient and ineffective. The current structure prohibits an in-depth review of the many complex issues confronting WCOC.

Recommendation

WCOC, with or without the aid of a consultant, should set up a committee structure to include an Investment Committee, an Audit Committee and an Actuary Committee. Each committee should have free and unfettered access to any staff and consultants employed by BWC in their respective areas.

Target date

January 2006

BWC action

WCOC has established an Investment Committee and plans to establish Audit and Actuary Committees.

33

Finding
BWC has 70 external public market managers. The large number of managers makes it difficult for investment staff to effectively monitor manager performance and creates a more costly fee structure.

Recommendation
BWC should significantly reduce the number of public market managers and index a sizable portion of those assets. MRT provided three options for reducing the number of managers. At a minimum, poorly performing managers need to be evaluated promptly.

Target date
Depends upon option selected.

BWC action
BWC has already taken action to terminate five poorly performing managers and will be reviewing the three options offered by MRT in the near future.

Future Action

34

Finding	In the case of Capital Coin Fund, a lack of audited financial statements reduced BWC's ability to identify and correct internal control, and other issues, in a timely manner.
Recommendation	BWC should require all private equity funds and other similar investments to provide annual audited financial statements, prepared in accordance with U.S. Generally Accepted Accounting Principles. In addition, based on discussions with the BWC CIO, BWC may also want to consider requiring SAS 70 reports for these funds.
Target date	January 2006
BWC action	The WCOC Investment Committee will review and implement private equity reporting requirements.

35

Finding	The manager for MDL did not have any experience managing a hedge fund, despite investment policy requirements that managers have such experience. Existing controls were not effective in ensuring that before the investment was funded someone outside of investments validated that the manager met all eligibility requirements.
Recommendation	When a new manager is approved for funding, documentation substantiating that the manager meets all required eligibility and experience requirements should be prepared.
Target date	January 2006
BWC action	BWC and WCOC Investment Committee will update investment policies to include verification of manager qualifications.

36

Finding

In both the MDL and Capital Coin Fund scenarios, BWC's investment represented 99%-100% of the total investment managed by the respective fund. The lack of other investors in investment funds increased risk to the agency.

Recommendation

BWC should consider establishing limits on the percentage BWC's investments can constitute of the total investment in a private equity or joint venture fund (e.g., 5%, 10% of the total investment). Having other investors involved will serve as an indirect mitigating control.

Target date

November 2005

BWC action

WCOC and Investment Committee will incorporate private equity recommendations into the new investment policy.

37

Finding

Policies and procedures governing WCOC operations are out of date and need to be revised and expanded.

Recommendation

WCOC should rewrite all of their policies and procedures to reflect the recent changes at BWC and to include a code of conduct and ethics policy.

Target date

March 2006

BWC action

WCOC will update all policies including incorporating fiduciary training.

38

Finding BWC does not conduct periodic reviews of its investment operations.

Recommendation BWC should commission a fiduciary performance audit within three years of completing the governance restructuring and at least every five years thereafter.

Target date January 2006

BWC action WCOC and BWC will require periodic fiduciary performance audits.

39

Finding BWC and WCOC do not conduct joint briefings with WCOC, the Actuary and Investment Consultant.

Recommendation BWC's Actuary should regularly report to the WCOC Investment Committee regarding the nature of BWC's liabilities and adequacy of its financial reserves. The Actuary should be involved in periodic asset liability studies.

Target date January 2006

BWC action WCOC will form an Actuary Committee to report regularly to the Investment Committee.

40

Finding	**WCOC never required direct reports from the Auditor of State.**
Recommendation	**The Auditor of State should report regularly to WCOC on investment-related audit activities and financial statements.**
Target date	**January 2006**
BWC action	**WCOC intends to form an Audit Committee to allow direct reporting.**

The Ohio Bureau of Workers' Compensation

Statement of Investment Policy and Guidelines

April 20, 2006

The Ohio Bureau of Workers' Compensation
Statement of Investment Policy and Guidelines

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The Ohio Bureau of Workers' Compensation
Statement of Investment Policy and Guidelines

I. INVESTMENT OBJECTIVES

The primary investment objective is to manage the reserve to preserve the ability of Funds to pay all disability benefits and expense obligations when due. Meeting this objective necessitates prudent risk-taking with the Funds' investments. An additional objective is to earn sufficient returns to grow the surplus over time and to keep premium payments as reasonable and predictable as possible for the benefit of the injured workers and employers of Ohio.

II. BACKGROUND

A. Purpose

This document establishes the investment policy (the "Investment Policy") for the Ohio Bureau of Workers' Compensation ("OBWC") State Insurance Fund and Ancillary Funds ("the Funds"). The Oversight Commission ("WCOC") adopts this policy in order to assist the Administrator, the Chief Financial Officer, the Chief Investment Officer and the OBWC staff in meeting investment objectives and monitoring the performance of the investment of the surplus and reserves of the Funds.

> *The WCOC is required to establish objectives, policies, and criteria for the administration of the investment program that include asset allocation targets and ranges, risk factors, asset class benchmarks, time horizons, total return objectives, and performance evaluation guidelines, and monitor the administrator's progress in implementing the objectives, policies, and criteria on a quarterly basis. (O.R.C. 4121.12(G))*

B. Fiduciary Standard

Under Ohio Revised Code Section 4123.44, the voting members of the WCOC, the Administrator of OBWC, and the Chief Investment Officer of the OBWC are trustees of the state insurance fund and fiduciaries of the Funds, which are held for the benefit of the injured workers and employers of Ohio.

> *All fiduciaries shall discharge their duties with respect to the Funds with the 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 with like aims, and by diversifying the investments of the assets of the funds so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so. (O.R.C. 4123.44)*

All investment activities undertaken by, or on behalf of, the OBWC, including any investment activities performed by outside Investment Managers and General Partners, will strictly adhere to the terms of this Investment Policy, the restrictions of the Ohio Revised Code Section 4123.44 and any other applicable statutory or administrative rules. A copy of the Ohio Revised Code Section 4123.44, as amended, is attached to this Investment Policy and all aspects of this Investment Policy shall be construed and interpreted in a manner consistent with Section 4123.44.

III. ROLES AND RESPONSIBILITIES

A. WCOC Responsibilities

The WCOC is the primary body charged with overseeing investment activities relating to the Funds. Its oversight functions include the duties specified below:

i. Approve the strategic asset allocation and investment policy for the Funds and periodically review such policy in light of any changes in actuarial variables, market conditions, or other evolving facts or situations relevant to the appropriate character of that policy.

ii. Permit the Administrator to invest in an investment class only after the WCOC, by majority vote, opens the class in question.

iii. Close any class of investments when it deems prudent.

iv. Monitor and review the investment performance of the Funds on a quarterly (February, May, August and November) basis to determine achievement of goals and compliance with this Investment Policy.

v. Advise and consent to the Administrator's hiring of the CIO.

vi. Advise and consent to the OBWC's employment of an internal auditor, who shall report directly to the WCOC on investment matters.

vii. Approve the selection and termination of all Investment Consultants.

viii. Approve the criteria and procedures for the selection of the Investment Managers and General Partners.

ix. Approve the final selection and funding and termination of all Investment Managers and General Partners.

x. Approve the asset class to be managed, investment style, scope of investment activities and maximum percent of the Fund that may be allocated to each Investment Manager and General Partner.

xi. Prohibit on a prospective basis any specific investment that the WCOC finds to be contrary to the Investment Objectives of the Funds. In the event that the WCOC determines that any activity undertaken or proposed to be undertaken pursuant to this Investment Policy is contrary to the Investment Objectives, the WCOC shall direct the Administrator to take the appropriate corrective action.

xii. Submit a report annually on the performance and the value of each investment class to the governor, the president and minority leader of the senate, and the speaker and the minority leader of the house of representatives.

The WCOC may appoint members to an Investment Committee for the express purpose of assisting the WCOC to carry out any of the responsibilities enumerated here.

B. OBWC Staff Responsibilities

The Chief Investment Officer shall be employed by the Administrator, with the advice and consent of the WCOC, and shall be a senior member of the OBWC staff with the primary responsibility for implementing the Investment Policy. Subject to the supervision and control of the Administrator, the Chief Investment Officer shall:

i. Consult with and receive approval from the WCOC regarding the appropriate strategic asset allocation and investment policy for the Funds and periodically review such policy in light of any changes in actuarial variables, market conditions, or other evolving relevant facts or situations.

ii. Recommend permissible asset classes for investment to the WCOC.

iii. Monitor and review the investment performance of the Funds on a monthly basis to determine achievement of goals and compliance with Investment Policy

iv. Consult with and receive approval from the WCOC on the selection and termination of all Investment Consultants.

v. Consult with and receive approval from the WCOC on the selection and termination of all Investment Managers and General Partners.

vi. Consult with and receive approval from the WCOC on the asset class to be managed, investment style, scope of investment activities and maximum percent of the Fund that may be allocated to each Investment Manager and General Partner.

vii. Implement the directives of the WCOC.

viii. Supervise the management of each Fund's assets in accordance with this Investment Policy and the objectives and guidelines set forth herein.

ix. Consult with and receive approval from the WCOC regarding criteria and procedures to be utilized to select Investment Managers and General Partners

x. Monitor all managed assets to insure compliance with the guidelines set forth in this Investment Policy.

xi. Monitor manager trade execution.

xii. Promptly vote all proxies and related actions in a manner consistent with the long-term interests and objectives of the Funds set forth herein. The CIO may retain a third party proxy voting service or direct investment managers to vote the proxies related to securities held in their respective portfolios.

xiii. Maintain detailed records of said voting of proxies and related actions and comply with all regulatory obligations related thereto.

xiv. Report to the WCOC on at least a quarterly basis regarding the performance of the portfolio and brokerage information for various time periods.

xv. Consult with the Funds' Investment Managers on at least a quarterly basis to discuss account performance and other material information.

xvi. Collect and review the current Form ADV of each Investment Manager and Investment Consultant on an annual basis and provide a summary report to the WCOC.

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C. Investments Managers' Responsibilities

Each Investment Manager shall:

i. Be a bank, insurance company, investment management company, or investment advisor as defined by the Investment Advisors Act of 1940.

ii. Manage the plan assets under its care, custody and/or control in accordance with the Investment Policy set forth herein and in compliance with applicable Ohio statutory requirements.

iii. Exercise full investment discretion over the assets in their care within the guidelines set forth herein, their Investment Management Agreement and the specific portfolio guidelines contained therein.

iv. Subject to any exceptions expressly set forth herein, Investment Managers shall be directly responsible for executing trades related to the portfolios they manage for the Funds. Investment Managers shall be responsible for seeking the best execution of trades. Any Broker used by any Investment Manager must be properly licensed.

v. Provide monthly performance evaluation reports that comply with the Global Performance Presentation Standards (GPPS) issued by the CFA Institute.

vi. Provide the CIO with firm's Brokerage, Soft Dollar and Trade Execution Policy on an annual basis.

vii. Provide the CIO with a report on at least monthly basis on the trading activities of the Funds, including, but not limited to, the volume of trades and related commissions executed by each Broker.

viii. Provide the CIO with the firm's Ethics Policy and quarterly confirmation of its compliance with said policy.

ix. Provide the CIO with the firm's most recent Form ADV on an annual basis.

x. Comply with the Campaign Contribution Policy and submit the Political Contribution Disclosure Statement, attached as Appendix XIII, on a quarterly basis.

xi. Promptly inform the CIO in writing of all changes of a material nature pertaining to the firm's organization and professional staff.

xii. If directed by the Administrator and/or the Chief Investment Officer, shall promptly vote all proxies and related actions in a manner consistent with the long-term interests and objectives of the Funds. Each manager designated to vote shall provide OBWC with firm's proxy voting policy on an annual basis, keep detailed records of said voting of proxies and related action and comply with all regulatory obligations related thereto.

xiii. Report to the CIO on at least a quarterly basis on the status of the portfolio and its performance for various time periods and meet with the staff at least semi-annually to report on the economic outlook and compliance with goals and objectives.

xiv. Acknowledge and agree in writing to their fiduciary responsibility to fully comply with the entire Investment Policy.

D. General Partners' Responsibilities

Each General Partner shall:

i. Manage the plan assets under its care, custody and/or control in accordance with the Investment Policy set forth herein and in compliance with applicable Ohio statutory requirements.

ii. Exercise full investment discretion over the assets in their care within the guidelines set forth herein, their Partnership and/or Subscription Agreement and the specific portfolio guidelines contained therein.

iii. Provide the CIO with quarterly financial statements and an audited annual financial statement for each partnership or fund to which the Ohio BWC has made a commitment.

iv. Provide the CIO with an annual Valuation Certification attesting to the value of the Ohio BWC's holdings in each partnership or fund.

v. Provide the CIO with the firm's Ethics Policy and annual confirmation of its compliance with said policy (for agreements entered into after January 1, 2006 only).

vi. Promptly provide the CIO with a detailed report of all capital calls and/or distributions for each partnership or fund.

vii. Comply with the Campaign Contribution Policy and submit the Political Contribution Disclosure Statement, attached as Appendix XIII, on an annual basis (for agreements entered into after January 1, 2006 only).

viii. Promptly inform the CIO in writing of all changes of a material nature pertaining to the firm's organization and professional staff.

E. Investment Consultants' Responsibilities

The Investment Consultant shall:

i. Provide independent and unbiased information to the WCOC, the Administrator and the CIO.

ii. Assist in the development and amendment of this Investment Policy.

iii. Assist in the establishment of strategic asset allocation targets.

iv. Assist in the development of performance measurement standards.

v. Report the monthly investment results and quarterly risk characteristics of the Funds to the WCOC.

vi. Monitor and evaluate Investment Manager performance on an ongoing basis.

vii. Conduct due diligence on the Funds' current and prospective Investment Managers.

viii. Establish a procedural due diligence search process.

ix. Assist in the development of criteria and procedures to be utilized for the selection of all Investment Managers.

x. Provide the CIO with the firm's most recent Form ADV on an annual basis.

xi. Provide any other advice or services that the WCOC or the Administrator and Chief Investment Officer determine from time to time is necessary, useful or appropriate to fulfill the objectives of this Investment Policy in accordance with the Investment Consulting Agreement.

IV. INVESTMENT POLICY GUIDELINES

A. Asset Allocation Guidelines

The Funds are part of the Ohio Workers' Compensation System, an exclusive state insurance fund system that is held for the sole benefit of the injured workers and employers of Ohio.

Asset allocation refers to the strategic deployment of assets among the major classes of investments such as fixed income, U.S. equity, non-U.S. equity, alternative investments and cash equivalents. The asset allocation decision reflects the Funds' return requirements as well as the Funds' tolerance for return variability (risk) within the context of the expected liabilities of the Funds. The liability considerations shall include, but not be limited to, current and expected future values of the benefits, premiums and total assets. These factors are important for identifying the investment horizon of the Funds and their cash flow requirements.

The WCOC has adopted a long-term asset allocation policy for each Fund that identifies the strategic target weights to each of the major asset classes. These policies are detailed in Appendix IX.

The Target Policy Weights in Appendix IX are effective January 1, 2006 and are based on an asset/liability analysis presented in September 2005. A formal asset/liability analysis for each Fund will be conducted annually, or more frequently if conditions warrant.

B. Rebalancing Policy

The asset allocation targets represent a long-term strategy. Short-term market activity will cause the asset mix to drift from the specific allocation targets. A **Rebalancing Policy** is designed to provide a disciplined approach to control the risk exposure of each Fund to the investment categories that have deviated from the established target policy weights. The WCOC has adopted a policy of range rebalancing. Under range rebalancing, asset rebalancing will be triggered only when actual weightings fall outside of the ranges specified above. The WCOC expects range rebalancing to produce a superior return/risk tradeoff as compared to time rebalancing because turnover occurs only when necessary.

The Funds' asset allocations are to be monitored quarterly, or more frequently if market conditions warrant. Should the actual asset allocations for a particular class of investments deviate from the indicated range for a particular asset class, the Administrator and Chief Investment Officer will make the necessary adjustments to satisfy the asset allocation guidelines established by this Investment Policy. In order to minimize turnover, Fund cash flows, such as premiums received or benefits paid, will be used to the fullest extent to achieve rebalancing objectives.

C. General Guidelines

The following represent the general guidelines that will apply to the management of Fund assets. In addition, each Investment Manager will have specific guidelines that are part of their Investment Management Agreement that will document the Funds' performance expectations and the Investment Manager's role in the overall portfolio. The Funds use these guidelines to establish, guide and control the strategy for each Investment Manager.

i. The following guidelines serve to diversify the organizational risk of Investment Management firms or General Partners providing services to the Funds and to minimize the dependence by the Funds on any one investment firm. The diversification guidelines are as follows:

- No one investment organization or General Partner, utilizing active investment strategies, should manage more than 15% of the Funds' assets at the time it is hired.
- An investment organization, utilizing passive investment strategies, may manage up to 100% of the Funds' assets at the time it is hired. This guideline has been established to allow the BWC to take full advantage of the benefits of low fees resulting from the economies of scale that exist with passive management. The WCOC, Staff and the Consultant will closely monitor this organizational risk to ensure the security of Fund assets. The maximum allocation under this guideline will only be utilized in circumstances where the fee benefit is believed to outweigh the organizational risk to the Funds.
- The Funds' assets managed by any one firm, utilizing either active or passive investment strategies, or General Partner should not exceed 5% of the total assets managed by the firm or General Partner for all clients in that specific strategy, style or partnership, at the time it is hired, unless unique circumstances – such as the need to hire a manager in a capacity-constrained asset class such as high yield or small cap U.S. equity - warrant an exception.

ii. Fixed Income Investments

The investment goal of the fixed income investments is to protect the Funds against adverse changes in the value of the Funds' assets relative to their liabilities. The WCOC has adopted a policy to invest each Fund's fixed income portfolio in a manner that will approximate the duration and yield curve characteristics of its liabilities in order to preserve the reserve, provide for stable premiums and grow the surplus.

Average Weighted Credit Quality
The minimum average weighted quality of the total fixed income portfolio shall be A, as measured by the lower of the Moody's or Standard & Poors (S&P) rating.

Duration
The duration of the fixed income portfolio in aggregate shall be maintained within a range of +/- 5% of each Fund's fixed income benchmark.

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Diversification

The fixed income portfolio shall be diversified as specified below[1] to minimize the risk of losses:

By Sector:

Sector Allocation	Max. % of Fund
U.S. Governments:	***100%***
Treasuries	100%
Agencies	100%
Mortgages	***40%***
Agencies	40%
Non-Agency	10%
Collateralized Mortgage Obligations (CMOs) (must be rated AA or better)	10%
Commercial Mortgage Backed Securities (CMBS) and Project Loans	10%
Floating Rate Mortgages	10%
Investment Grade Credit	***70%***
Finance	35%
Industrial	35%
Transportation	35%
Utilities	35%
Yankees	10%
Asset Backed Securities (ABS) (must be rated AA or better)	10%
Foreign Governments	***0%***
Below Investment Grade Credit	***5%***

[1] Percentages represent a maximum allocation and will not sum to 100%

By Credit Quality:

Credit Quality	Max. % of Fund	Individual Security Max %
Government	100%	N.A.
Aaa/AAA	50%	1.00%
Aa/AA	25%	1.00%
A/A	20%	0.75%
Baa/BBB	10%	0.50%
Ba/BB	5%	0.25%
B/B	2%	0.10%
CCC	1%	0.05%
Below CCC	0%	0.00%

Maximums refer to the allocation at the time of purchase. In the event that downgraded securities result in a violation of these constraints, the WCOC shall grant an exemption that would allow an Investment Manager to continue to hold the downgraded security or securities, at their discretion, for a period of up to three months. An Investment Manager shall immediately report any guideline violation resulting from a downgraded security in their portfolio to the WCOC. The Investment Manager shall also provide an action plan to bring the portfolio back in compliance with the guidelines in their next quarterly report to the WCOC.

The Funds may invest in Rule 144A and private placement securities subject to the sector and credit constraints specified above.

iii. U.S. Equity

The investment goal of the domestic equity investments is to offer the Funds a broad exposure to the return opportunities and investment characteristics associated with the U.S. domestic equity market.

Diversification
The U.S. Equity portfolio shall be diversified as specified below to minimize the risk of losses:

- Investments will be diversified by capitalization size and by style (growth and value) to approximate the overall market as measured by each Fund's U.S. Equity benchmark.
- No single holding shall account for more than 5% of each Fund's total U.S. equity portfolio at market.
- No single holding shall account for more than 5% of the outstanding equity securities of any one corporation

v. **Non-U.S. Equity**

The investment goal of the non-U.S. equity investments is to offer the Funds a broad exposure to the return opportunities, diversification effects and investment characteristics associated with the non-U.S. equity market.

Diversification
The Non-U.S. Equity portfolio shall be diversified as specified below to minimize the risk of losses:

- Investments will be diversified by capitalization size and by style (growth and value) to approximate the overall market as measured by each Fund's Non-U.S. Equity benchmark.
- Investments will be diversified by geographic region and sector, so as to optimize the relationship of expected return to expected risk after taking into consideration the asset allocation of each Fund.
- No single holding shall account for more than 5% of each Fund's total Non-U.S. equity portfolio at market.
- No single holding shall account for more than 5% of the outstanding equity securities of any one corporation

vi. **Alternative Investments**

The SIF has allocated a portion of its investment portfolio to private equity securities, limited partnerships and funds of funds subject to all applicable legal requirements and limits set forth in this Investment Policy. The purpose of investing in private equity securities, partnerships or funds is to enhance the overall investment returns of the Funds.

Future investments in Alternative Investments are not presently anticipated.

vii. **Cash Equivalents**

Cash equivalents may be held to meet each Fund's short term cash flow needs.

viii. **Securities Lending**

Securities lending has been permitted in the past and is presently being utilized within the Funds in accordance with the commingled trust fund (CTF) agreement between the BWC and State Street Global Advisors.

(The WCOC will be reviewing the appropriateness of the Funds' securities lending activities and expects to make a final decision on its continued use by June 2006.)

ix. **Derivatives**

A derivative is broadly defined as a contract whose value is based on the performance of an underlying financial asset, index or other investment. The most common forms of derivatives are futures, options, swaps and forwards.

The use of derivatives by the Funds or their Investment Managers is expressly prohibited, with the exception of collateralized mortgage obligations (CMOs) and asset backed securities (ABS) in accordance with the restrictions outlined below and in Section IV.C.iii above.

CMOs are mortgage-backed bonds that separate mortgage pools into different maturity classes. Issued by the Federal Home Loan Mortgage Corporation (Freddie Mac) and private issuers, CMOs are usually backed by government-guaranteed or other top-grade mortgages. To qualify for investment by the Funds, CMOs must be rated AA or better and not be levered. Interest-only (IOs) and principal-only (POs) instruments are prohibited.

ABS are bonds or notes backed by loan paper on accounts receivable originated by banks, credit card companies or other providers of credit and often "enhanced" by a bank letter of credit or by insurance coverage provided by an institution other than the issuer. To qualify for investment by the Funds, ABS must be rated AA or better.

x. **Commission Recapture / Directed Brokerage**

The Funds shall not engage in commission recapture or directed brokerage programs.

xi. **General Prohibitions**

The following activities or investments are expressly prohibited within the Funds:

a. Short selling in any form.
b. All forms of leverage, including, but not limited to, purchasing securities on margin, treasury rolls and reverse repurchase agreements.
c. Coins, artwork, horses, jewelry, gems, stamps, antiques, artifacts, collectibles, and memorabilia.
d. Direct or indirect investments in vehicles that target specified assets, which includes unregulated investments that are not commonly part of an institutional portfolio, that lack liquidity and that lack readily determinable valuation.

V. PERFORMANCE OBJECTIVES

A. Total Fund

The primary performance objective for each Fund is to achieve an aggregate rate of return that exceeds the return of each Fund's Performance Benchmark on a consistent basis. The Benchmark combines designated market and/or custom indexes for asset classes, weighted by asset-allocation targets. Currently, the indexes are:

Asset Class	Benchmark
Fixed Income:	Lehman Aggregate[2]
U.S. Equity	Wilshire 5000
Non-U.S. Equity	MSCI All Country World Index (ex-U.S.)
Alternative Investments	Wilshire 5000 + 5%
Cash Equivalents	T-Bill

B. Asset Class Composites

Each asset class shall be measured relative to its designated market and/or custom index. It is expected that any active management of individual asset classes will provide an investment return in excess of the index, net of expenses, on a consistent basis.

C. Investment Managers

On a timely basis, but not less that four times a year, the Chief Investment Officer will meet with the Investment Consultants to:

- Evaluate the performance of each Investment Manager.
- Review each Investment Manager's adherence to this Investment Policy.
- Analyze any material changes in the Investment Manager's organization, investment strategies or personnel.
- Review each Investment Manager's performance relative to appropriate indices and peer groups.

Each Investment Manager's performance shall be evaluated relative to an appropriate benchmark index and a relative peer group of managers as indicated below. They are expected to (1) rank above median versus their respective peer groups and (2) earn investment returns, net of expenses, that equal or exceed their respective benchmark index.

The performance of each Investment Manager will be monitored on an ongoing basis and the Administrator and the Chief Investment Office shall take any appropriate corrective action,

[2] The WCOC anticipates that this benchmark will be modified in the future to a custom benchmark that reflects the duration and yield curve characteristics of each Fund's liabilities as described in Appendix IX.

including, subject to approval by the WCOC, the termination and replacement of an Investment Manager. Factors that may lead to terminating a manager relationship include:

- Performance below median (50th percentile) of their peer group.
- Realization of investment returns, net of expenses, that lag their respective benchmark index.
- Failure to adhere to this Policy or the portfolio's Investment Guidelines.
- Failure to comply with the Ethics Policy of the firm or the WCOC.
- Violation of any law.
- Style drift.
- Organizational changes including:
  - Change in professional staff
  - Significant loss of clients
  - Significant growth of new business
  - Change in ownership

VI. COMMUNICATIONS

- Each Investment Manager will provide written reports at least monthly, including asset inventories, market commentary or anything else deemed significant at the time of reporting.
- Each Private Equity General Partner will provide written reports at least quarterly, including asset inventories, market commentary or anything else deemed significant at the time of reporting.
- Each Investment Manager will provide all reporting required under Section III. C. of this Policy.
- Each Investment Manager is expected to meet with the Administrator and/or the Chief Investment Officer at least annually at OBWC offices.
- Frequent and regular communication with the OBWC by all Investment Managers is encouraged.

VII. REVIEW PROCEDURES

The WCOC in conjunction with the Administrator, Chief Investment Officer and Investment Consultant will review this policy statement at least once a year, to determine if revisions are warranted and will publish the policy statement and any changes it adopts and make copies available to all interested parties.

It is not expected that this Investment Policy will change frequently; in particular short-term changes in the financial markets should generally not require an adjustment in this Investment Policy.

VIII. FAIR CONSIDERATION / PUBLIC INTEREST POLICY

The WCOC desires that Staff and the Investment Consultant identify, research and evaluate qualified Ohio managers, minority managers and women-owned managers and that Investment Managers give consideration to such managers and brokers in their efforts to fulfill the Funds' investment objectives, but only in compliance with their respective fiduciary duties to the Funds.

Qualified Ohio Managers - Criteria

As used in this Investment Policy, a qualified Ohio-qualified investment manager or broker is one that meets at least one of the following requirements:

- Has its corporate headquarters or principal place of business in Ohio
- Employs at least 500 individuals in Ohio
- Has a principal place of business in Ohio and employs at least 20 residents of the State

Minority Managers – Criteria

As used in this Investment Policy, a minority manager shall be defined as an investment manager or broker that is U.S. domiciled and is majority-owned by one, or any combination, of the following groups: African American, Native American, Hispanic American and Asian American.

Additionally, Investment Managers who are majority-owned by women are included in this Policy

In addition to the requirements above, any qualified Ohio manager, and any minority or women-owned Investment Manager must be a registered investment advisor under the Investment Advisors Act of 1940. Any Broker must be properly licensed.

It is the WCOC's intention to give such firms consideration in their efforts to fulfill the Funds' investment objective; however, the WCOC is not obligated to hire any qualified Ohio manager, minority or women-owned firm on behalf of the Funds if such hiring is inconsistent with its fiduciary duty to the Funds and their stakeholders.

Review of Regulations, Policies and Procedures:

Clark, Schaefer Recommendation	*How Addressed*
OBWC should establish written criteria for the selection of managers as part of its RFP process, including a scoring or evaluation system. Written documentation regarding the evaluation and selection of managers should be retained	IPS III. A. x.
OBWC staff should approve and execute all transactions of the managers and affirm, settle, and reconcile all transactions and balances.	IPS III. B. xi. (Note: trading is no longer conducted in-house. Staff is responsible for monitoring all manager trading activity as per IPS III. B. xi.)
OBWC staff should obtain the authorization of the OC for additional funding of an investment manager.	IPS III. A. ix.
OBWC should implement a formal process to perform and document the quarterly performance evaluation of each manager as required by its investment policy.	IPS III. A. iv.
OBWC should implement a formal process to ensure that annual meetings with managers are performed and documented.	IPS VI.
OC should include an individual with a background in finance and/or investing.	IC Charter
OC should increase its monitoring of investments as required by policy and the ORC by establishing procedures that assure review of the activities and strategies of each manager.	IPS III. A. iv.
OC should adopt policies that assure the OC is notified of any changes in funding levels with a manager.	IPS III. A. ix.
OC should receive quarterly reports that contain adequate detail to assess the performance of each manager including information on private equity investment transactions.	IPS III. A. iv.; IPS III. D. iii., iv., and vi.
OBWC should implement controls for monitoring investment managers consistent with the adopted investment policy and reporting the results of that monitoring to management and the OC on a regular basis.	IPS III. A. iv.; IPS V. C.
CIO and others designated to review proposals from fund managers should establish specific procedures to document their evaluation of proposals prior to acceptance.	IPS III. A. x.; IPS III. B. ix.
CIO should adhere to the policy of quarterly consultations with managers and an annual meeting to discuss the status of the investment. These meetings should be documented with formalized agendas and meeting minutes or other types of written documentation.	IPS III. B. xv.; IPS VI.
OBWC should evaluate the need for the continued use of investment consultants. If OBWC continues to use investment consultants, procedures should be implemented which ensure the consultants are providing adequate information for management and the OC to evaluate the performance of all individual managers. This would include requiring each consultant to make a judgment regarding the manager's performance.	IPS III. A. vii.; IPS III. E. v.
OBWC should implement a process which documents the utilization and review of the consultants' reports by management and the OC.	IPS III. E. v.
The Administrator and CIO must obtain any change in a manager's strategy in writing and seek OC approval prior to a change in asset allocation.	IPS III. A. ix. and xi.; IPS V. C.; IPS III. C. iii.

Investment Funds:

Clark, Schaefer Recommendation	*How Addressed*
OBWC should never enter into an agreement for an investment that is not permissible under its current IPS.	IPS III. A. xi.
Internal audit reports related to investment managers are responded to by the CIO and reported to the OC	IPS III. A. vi.
All private equity managers should be required to submit audited financial statements annually and a process should be implemented to review each audit report and discuss any audit issues with the investment manager.	IPS III D. iii.
All agreements with private equity investment managers should be reviewed by internal and/or external legal counsel prior to execution.	Not included – Procedural item that will be implemented. No future private equity investments are anticipated by the OC.
OBWC should implement procedures to strengthen its monitoring of its private equity investments as well as a process to document its monitoring activities.	IPS III. A. iv. – Wilshire has been hired to monitor existing private equity investments.
OBWC should review its current private equity investments to determine if they are consistent with its investment strategies and objectives.	EnnisKnupp report addressed this issue. Wilshire is currently reviewing the private equity investments to determine the appropriate course of action.
When OBWC enters into private equity investments, the level of risk should be disclosed to the OC prior to its approval.	Not included – Procedural item that will be implemented. No future private equity investments are anticipated by the OC.

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Appendix IX A: Target Asset Mixes and Ranges for the State Insurance Fund

The State Insurance Fund's ("the Fund's") liabilities consist of the following primary components:

- Indemnity cost: the compensation paid to injured workers for lost wages
- Medical cost: the cost of providing medical coverage to injured workers

These liabilities are long-term in nature, with an approximate duration of 10 years. Premiums are set each year at a level that is expected to cover the cost of future claims. Future claims are estimated based on actuarial methods that measure the expected indemnity and medical costs. These costs are discounted at a rate that is consistent with the guidelines as established by the GASB.

The actual liabilities of the Fund may vary from the expectations at the time premiums are set due to future changes in the discount rate, unanticipated medical inflation, and/or actual claim experience that differs from actuarial expectations. In order to protect the Fund against adverse changes in the Fund's assets relative to its liabilities, the WCOC has adopted a policy to invest the reserves primarily in a fixed income portfolio that will approximate the duration and yield curve characteristics of the liabilities[1] as measured by the Fund's actuary and Consultant on an annual basis, or more frequently if conditions warrant. A portion of the reserve and surplus may also be invested in equity, inflation-protected, or other securities in order to protect the reserve against unexpected medical inflation and adverse claims experience and/or for the purpose of growing the surplus.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	96%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	3	3
Cash Equivalents	0	1	5

[1] Expected to be implemented by December 31, 2006

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Appendix IX B: Target Asset Mixes and Ranges for the Coal Workers' Pneumoconiosis Fund

The Coal Workers' Pneumoconiosis Fund ("CWPF") provides benefits for injured workers under the Federal Coal Mine Health and Safety Act of 1969. The CWPF provides voluntary coverage to employers who have employees who are exposed to coal dust, as required by federal law.

These liabilities are long-term in nature, with an approximate duration of 11 years. Premiums are set each year at a level that is expected to cover the cost of future claims. These costs are discounted at a rate that is consistent with the guidelines as established by the GASB.

The actual liabilities of the Fund may vary from the expectations at the time premiums are set due to future changes in the discount rate, unanticipated medical inflation, and/or actual claim experience that differs from actuarial expectations. In order to protect the Fund against adverse changes in the Fund's assets relative to its liabilities, the WCOC has adopted a policy to invest the reserves primarily in a fixed income portfolio that will approximate the duration and yield curve characteristics of the liabilities[1] as measured by the Fund's actuary and Consultant on an annual basis, or more frequently if conditions warrant. A portion of the reserve and surplus may also be invested in equity, inflation-protected, or other securities in order to protect the reserve against unexpected medical inflation and adverse claims experience and/or for the purpose of growing the surplus.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	98%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	0	0
Cash Equivalents	0	2	5

[1] Expected to be implemented by December 31, 2006

Appendix IX C: Target Asset Mixes and Ranges for the Marine Industry Fund

The Marine Industry Fund ("MIF") provides voluntary coverage to employers who have employees who work on or about navigable waters as required by the Federal Longshoremen and Harbor Workers' Act.

These liabilities are intermediate-term in nature, with an approximate duration of 3-4 years. Premiums are set each year at a level that is expected to cover the cost of future claims. These costs are discounted at a rate that is consistent with the guidelines as established by the GASB.

The actual liabilities of the Fund may vary from the expectations at the time premiums are set due to future changes in the discount rate, unanticipated medical inflation, and/or actual claim experience that differs from actuarial expectations. In order to protect the Fund against adverse changes in the Fund's assets relative to its liabilities, the WCOC has adopted a policy to invest the reserves primarily in a fixed income portfolio that will approximate the duration and yield curve characteristics of the liabilities[1] as measured by the Fund's actuary and Consultant on an annual basis, or more frequently if conditions warrant. A portion of the reserve and surplus may also be invested in equity, inflation-protected, or other securities in order to protect the reserve against unexpected medical inflation and adverse claims experience and/or for the purpose of growing the surplus.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	98%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	0	0
Cash Equivalents	0	2	5

[1] Expected to be implemented by December 31, 2006

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Appendix IX D: Target Asset Mixes and Ranges for the Disabled Workers' Relief Fund

The Disabled Workers' Relief Fund ("DWRF") provides supplementary payments to workers whose combined Permanent and Total Disabled plus Social Security disability benefits are lower than the DWRF entitlement amount.

These liabilities are long-term in nature, with an approximate duration of 10 years. Premiums are set each year at a level that is expected to cover the cost of future claims. These costs are discounted at a rate that is consistent with the guidelines as established by the GASB.

The actual liabilities of the Fund may vary from the expectations at the time premiums are set due to future changes in the discount rate, unanticipated medical inflation, and/or actual claim experience that differs from actuarial expectations. In order to protect the Fund against adverse changes in the Fund's assets relative to its liabilities, the WCOC has adopted a policy to invest the reserves primarily in a fixed income portfolio that will approximate the duration and yield curve characteristics of the liabilities[1] as measured by the Fund's actuary and Consultant on an annual basis, or more frequently if conditions warrant. A portion of the reserve and surplus may also be invested in equity, inflation-protected, or other securities in order to protect the reserve against unexpected medical inflation and adverse claims experience and/or for the purpose of growing the surplus.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	98%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	0	0
Cash Equivalents	0	2	5

[1] Expected to be implemented by December 31, 2006

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Appendix IX E: Target Asset Mixes and Ranges for the Public Work-Relief Employees' Fund

The Public Work-Relief Employees' Fund ("PWRE") provides benefits for "work-relief employees" who are engaged in any public relief employment and receiving "work-relief" in the form of public funds or goods in exchange for any service or labor rendered in connection with any public relief employment.

These liabilities are intermediate-term in nature, with an approximate duration of 3-4 years. Premiums are set each year at a level that is expected to cover the cost of future claims. These costs are discounted at a rate that is consistent with the guidelines as established by the GASB.

The actual liabilities of the Fund may vary from the expectations at the time premiums are set due to future changes in the discount rate, unanticipated medical inflation, and/or actual claim experience that differs from actuarial expectations. In order to protect the Fund against adverse changes in the Fund's assets relative to its liabilities, the WCOC has adopted a policy to invest the reserves primarily in a fixed income portfolio that will approximate the duration and yield curve characteristics of the liabilities[1] as measured by the Fund's actuary and Consultant on an annual basis, or more frequently if conditions warrant. A portion of the reserve and surplus may also be invested in equity, inflation-protected, or other securities in order to protect the reserve against unexpected medical inflation and adverse claims experience and/or for the purpose of growing the surplus.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	98%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	0	0
Cash Equivalents	0	2	5

[1] Expected to be implemented by December 31, 2006

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Appendix IX F: Target Asset Mixes and Ranges for the Self Insured Employers Guarantee Fund ("SIEGF")/Surety Bond Fund ("SBF")

The Self Insured Employers Guarantee Fund ("SIEGF")/Surety Bond Fund ("SBF") provides for payment of compensation and benefits to injured workers of bankrupt self-insured employers.

The WCOC has adopted a long-term asset allocation policy that identifies the strategic target weights to each of the major asset classes.

The table below highlights the general asset classes approved for investment, the strategic target weights and the allowable ranges around the target weights:

Asset Class	Min.	Policy Target	Max.
Fixed Income:	94%	98%	100%
U.S. Equity	0	0	0
Non-U.S. Equity	0	0	0
Alternative Investments	0	0	0
Cash Equivalents	0	2	5

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ASSET ALLOCATION
AND LIABILITY STUDY
Prepared for
The Ohio Bureau of
Workers' Compensation
September 2005

Callan Associates Inc. (CAI), prepared the following statistical analysis utilizing secondary data from statements provided by the plan actuary, trustee, and/or custodian. CAI also used CAI computer software, selected information in CAI's database, and other computer software. CAI disclaims responsibility, financial or otherwise, for the accuracy or completeness of any secondary data used in preparing this report.

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Asset Allocation and Liability Study
September 2005

Executive Summary

An insurance fund's strategic asset allocation is the primary determinant of investment return on the assets, as well as a major determinant of the volatility of the fund's asset values. The objective of this asset allocation and liability study is to determine the appropriate asset allocation for the State Insurance Fund ('SIF') of the Ohio Bureau of Workers' Compensation ('BWC' or the 'Fund'). The appropriate asset allocation policy for the Fund will satisfy two basic criteria:

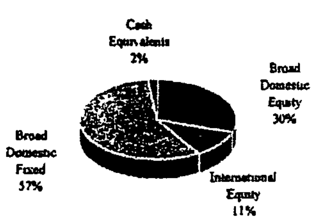
1) The asset mix will be *efficient*. Given an expected level of risk, the asset mix will generate the maximum level of expected return.

2) The appropriate asset mix will reflect BWC's level of risk tolerance, and include consideration of the liabilities and the expected interaction of the liabilities with potential asset performance.

In determining the asset allocation policy that best satisfies these two criteria, Callan employed two standard quantitative tools, Mean-Variance Optimization and Monte Carlo Simulation. Mean-Variance Optimization allows us to evaluate whether an asset mix is efficient. Monte Carlo Simulation allows us to understand how an asset mix might interact with liabilities across many possible capital market outcomes. Ultimately, the process was subjected to a formal review by our Client Policy Review Committee, a group comprised of senior Callan professionals, lending a qualitative overlay to the quantitative approach.

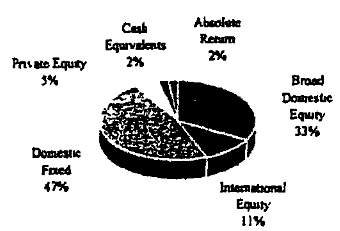
The charts below illustrate BWC's current asset allocation policy target for the State Insurance Fund, and two alternative asset allocation policies which, based on this analysis, appears to best satisfy the criteria above.

Current SIF Target Mix



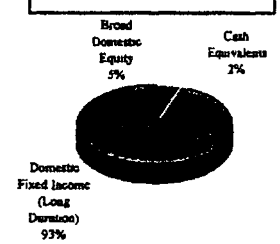
Return = 6.5%
Risk = 7.9%

Mix 2



Return = 7.0%
Risk = 9.5%

Immunized / Mix A



Return = 5.2%
Risk = 7.5%

The current SIF target mix and alternative Mix 2 reflect total return investment approaches, the objective of which is to maximize return for a given level of risk and grow surplus over the long term. Each alternative includes investments in five major asset classes: domestic fixed income, domestic and international equity, private equity and absolute return (2% fixed cash allocation). International equity and private equity were added as a result of an asset and liability study conducted in March 2000, while a small allocation to absolute return was added based on asset only reviews conducted in May and November, 2004. While the target mix does not reflect private equity or absolute return, the Fund's invested position does. The second portfolio alternative ("Immunized") is an example of a liability-matching approach for 93 percent of the assets (2% fixed cash), with the remaining 5 percent -the surplus- in equity investments for total return. This strategy reflects a lower tolerance for investment risk given BWC's current level of surplus, and is similar to those of other workers' compensation agencies and private companies. The two portfolio options represent two extremes, and this report demonstrates that there is wide range of choices between these two alternatives. The most appropriate portfolio strategy choice will be driven by the Oversight Commission's goals and risk tolerance, which can be ascertained after reviewing the information contained in this report.

The expected risk and return numbers shown for these mixes are determined using Callan's 2005 capital market assumptions (see Appendix A). The existing target mix has an expected nominal return of 6.5% and expected risk (standard deviation of return) of 7.9%. Alternative Mix 2 has a slightly higher expected return and risk. The "Immunized" portfolio has a significantly lower expected nominal return of 5.2% and only a small reduction in risk as measured by the standard deviation of returns.

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Objectives of the Analysis

BWC and the Oversight Commission have requested this asset allocation and liability study in order to assess the current asset allocation of the State Insurance Fund. No changes are contemplated for BWC's remaining assets.

One of the primary goals of the BWC is to ensure that sufficient assets are available to pay the promised benefits and expenses when due. BWC achieves this goal by managing three key policies that govern the insurance agency: the benefits (claims/expenses) policy, the funding (premiums/reserves) policy and the investment policy.

This study evaluates the interaction of these three key policies with the goal of establishing the best investment strategy for the Fund. A detailed projection model of the agency's audited financial statements, which incorporates measures of the three key policies, is used for the evaluation and analysis of alternative strategies.

Fund Overview

As of June 30, 2004, SIF's total surplus (net assets) amounted to $644 million, which represents the difference between total assets ($19.5 billion) and liabilities ($18.8 billion). Total surplus for BWC was $861 million. Industry standards measure surplus as a percentage of reserves or as a percentage of assets. Thus, SIF's surplus represents 4.2% of reserves and 3.3% of assets (BWC total is 5.3% and 5%, respectively).

The current level of surplus reflects a significant decline since the last full asset and liability study conducted in March 2000, when surplus for BWC was recorded at $5.2 billion (or approximately 37% of reserves and 27% of assets). The table below summarizes the development of surplus since the last study. The primary reason for the decline in surplus is attributable to significant premium reductions and refunds granted to employers over the ensuing years. Other secondary reasons for the surplus decline include negative equity returns and adverse experience. This study assumes no future premium reductions or refunds after fiscal year 2005.

Ohio Bureau of Workers' Compensation
as of June, 30th (In Millions of Dollars)

	1999	2000*	2001	2002	2003	2004
Premium Refunds	$758		$1,625	$1,474	$641	$415
Change in Reserves	476		474	776	1,093	286
Operating Profit (Loss)	(410)		(2,246)	(2,193)	(1,908)	(940)
Investment Returns	1,577		314	(430)	575	1,250
Net Income	1,138	1,211	(1,933)	(2,626)	(1,337)	308
Surplus	5,238	6,449	4,516	1,890	553	861

* 2000 Audited Statements not available.

Importance of Liabilities

A thorough understanding of the liabilities is a key component in determining an appropriate asset allocation strategy. The State Insurance Fund's liabilities consist primarily of actuarially determined reserves for unpaid losses and loss adjustment expenses for injuries sustained as of the measurement date. Reserves represent the amount of funds that an insurer must set aside to meet future claim obligations. This amount, together with future premiums and investment return (including interest and appreciation), must be adequate to pay the future benefits and expenses of the agency. Liability projections include all future claims and expenses, premiums, and reserves of BWC based on forecasts prepared by Mercer Oliver Wyman Actuarial Consulting Inc.

This study considers the nature of BWC's liabilities and their sensitivity to capital market uncertainty. Factors to consider include the type of agency and coverage, the amount and timing of future cash flows, the methodology for calculating reserves and the expected (and unexpected) growth rate of reserves, claims and premiums.

BWC is a monopoly (captive insurance) agency providing medical and wage-loss compensation to injured workers and their families. Medical claims and related expenses represent a higher proportion of BWC's obligations (over 60% and growing) than loss-replacement benefits. Both types are sensitive to the effects of inflation. Medical inflation has been much higher than general price inflation as measured by the CPI and is expected to grow at a faster rate over the future. Higher than expected inflation impacts reserves adversely.

The forecasts prepared by Mercer offset this inflation risk by assuming future premium income will increase from its 2004 level by actual inflation experienced (both wage and medical) by BWC. No underlying changes to the rate structure were considered in this study. However, we note that as of the last actuarial audit report (June 30, 2004), the actuary stated that both private and public employers premiums rates were deficient.

The average duration of BWC's liabilities is approximately 10.3 years as of June 30, 2004, which closely matches the duration of a US treasury bond with a maturity of 17 years. Technically, duration measures the weighted average time to maturity of BWC's future obligations. Another way of using duration is to measure reserve volatility or the percentage increase (reduction) in the reserves (10.3%) for a 1% decline (increase) in interest rates. BWC's discount rate methodology of using current long Treasury rates (although smoothed) introduces interest rate risk from one period to the next into the liabilities.

Defining Goals and Risk Tolerance

Critical to the asset allocation decision-making process is incorporating both the goals and risk tolerance of the Oversight Commission. There is a wide range of approaches to asset allocation employed by institutions. The ultimate strategy selected must be suitable to achieving its stated goals and within its defined risk posture.

At one end of the risk spectrum, the Oversight Commission could favor "liability-matching" approaches, such as cash flow matching or immunized strategies. Such approaches tend to significantly increase the allocation to fixed income, match near-term expected claim payouts and greatly extend the duration of the asset portfolio closer to that of the duration of the liabilities. The objective of these approaches is to reduce surplus volatility at the cost of potentially higher returns from riskier investments such as equity. At the other end of the risk spectrum is the "total return" approach where the objective is to maximize return for a given level of risk and requires a long-term time horizon. Associated with the potential for higher returns is higher volatility in surplus. BWC's current asset allocation strategy for the Fund is a total return approach.

A common approach taken by insurance companies is to have those assets supporting reserves in a liability-matching approach, while putting all or a portion of surplus assets in a total return approach. This approach is favored primarily because of the competitive nature of the insurance business, the desire to use surplus to grow the business, and a regulatory environment which enforces strict solvency rules. Other long term institutional investors such as large public pension plans tend to favor the total return approach for all assets, precisely because they do not have the same restrictions as the insurance companies.

Summary of Results

- Our "deterministic" projections of BWC's financial statements assuming no change in the underlying premium or benefit structures and no change in the actuarial assumptions (as of June 30, 2004) show required reserves are expected to grow 6.1% on average per year (higher if changes in the discount rate are factored in). The projections also show that premium and assessment income does not keep pace with total disbursements for at least the next 4-5 years, confirming the deficiency in premium rates as articulated by the Fund's actuary. This study will demonstrate that the Oversight Commission's ability to adjust the premium rates higher going forward will have a significant impact on the asset allocation decision.

- The investment strategy for the Fund is a total return approach. Our projections show that under the current premium forecasts, the SIF target mix can keep pace with the expected growth rate of the liabilities thereby maintaining surplus over the long-term.

- Callan undertook extensive discussions on the range of strategic approaches for the Fund with BWC in May 2005. At that time, BWC indicated a desire to maintain the total return approach for the Fund and to consider only a small portion of the efficient frontier. Furthermore, BWC indicated it did not want to contemplate higher levels of fixed income or liability-matching approaches. Under a total return approach, the asset portfolio is of market duration and on average less than half the duration of the liabilities. Hence, a total return approach requires BWC to accept volatility in its underlying surplus position from one year to the next in search of higher returns over the long term, and to withstand the potential for surplus to turn negative.

❑ It is Callan's understanding that BWC staff has expressed the risk tolerance of the Oversight Commission by confirming a total return approach for all assets supporting reserves. However, if in fact the Oversight Commissions' risk tolerance is lower and significant volatility of surplus (or negative surplus) over the short-term is unacceptable, then a liability-matching approach would be more suitable at least for assets supporting reserves. Given the Fund's current surplus level and where interest rates are today, a "liability-matching" approach for 93% of the assets will lock-in lower expected returns that are below that of BWC's expected liability growth rate. As a result, the BWC will lock-in negative surplus and higher premiums today. The tradeoff is to give up upside potential to grow surplus in order to protect the downside.

❑ For the total return approach, five efficient asset mix alternatives were analyzed as the basis from which to select an asset allocation target to take the Fund forward. Alternative Mix 1 brackets one end of the efficient frontier with an expected return of 6.5%. This portfolio reflects the growth rate of liabilities under the current premium and benefit structures, with an objective is to maintain (or modestly grow) surplus over the long term. Alternative Mix 5 brackets the other end of the efficient frontier and targets an expected return of 8.5%, with a primary objective of growing surplus. Higher return targets like 8% and 8.5% are similar to institutional investors such as Ohio's state sponsored retirement systems, but requires a higher risk tolerance.

❑ In addition to the total return approaches, Callan added several "liability-matching" portfolios to the analysis: an "all bonds" portfolio, and Mix A, B and C, specifically for the Oversight Commission's purpose of understanding the liability-matching approach. Each portfolio under the liability-matching approach has higher levels of fixed income and extends the duration of the bond portfolio closer to that of the liabilities.

❑ To understand how capital market uncertainty can impact BWC and to incorporate the interaction between assets and liabilities, Callan simulated BWC's ending surplus position over a 5-year planning horizon. When focusing on the Fund's ending projected surplus (in real terms after discounting for inflation), the risk and reward tradeoff analysis suggests an asset mix as aggressive as Mix 3 could be an optimal asset allocation (Mix 1 and Mix 2 also have favorable tradeoffs). This conclusion is based on two critical factors: premium rates are too low and will remain so going forward, and that greater risk-taking is in order to grow the surplus over the long term when premiums are deficient. The quantitative conclusions also assume that BWC is able and willing to withstand the short-term volatility in surplus associated with the total return approach.

❑ Alternative Mix 3 would result in a significant change in asset allocation policy and a large transition from the current Target Mix which the Oversight Commission may not prefer. Alternative Mix 1 is similar to the current strategy, while Mix 2 slightly increases risk and is similar to the current invested position of the Fund. Alternative Mix 2 is expected to slightly grow the surplus without increasing the Fund's risk level.

❑ The simulation analysis shows that surplus volatility can be significantly reduced by pursuing a liability-matching approach. However, a portfolio with significantly higher levels of fixed income is expected to lock-in negative surplus, requiring higher premiums today. The cost of downside risk reduction is the forgone opportunity for upside return potential to grow the surplus.

❑ Our analysis verifies the link between benefits, funding and the investment strategy. The ability to adjust premiums higher (or benefits lower) will influence how much liability-matching may be appropriate. If BWC has the flexibility to fully adjust the premiums to insure the solvency of the agency, then a liability-matching approach may be appropriate. On the other hand, if premiums are relatively inflexible, then our analysis suggests that the total return approach may be more appropriate. Nevertheless, surplus is not expected to be at a level sufficient to provide any future premium refunds over the projection period under the total return approach. A discussion of the flexibility (or inflexibility) in premium rates is essential to finalizing the most appropriate investment strategy.

- The Oversight Commission needs to evaluate the relative comfort they place in the fund's performance being similar to that of a peer group of workers' compensation funds or to that of other long-term institutional investors. Each peer group is significantly different in its asset allocation approaches. Relative to other workers' compensation agencies, the current SIF target mix has a relatively aggressive equity allocation. The workers' compensation peer group confirms the tendency to pursue the liability-matching approach, and we note that a majority of the group is in a competitive business environment. On the other hand, relative to other long-term institutional investors like public pension plans, the current target mix is less aggressive primarily due to BWC's lower return targets.
- The Oversight Commission's risk tolerance may also be defined as a function of how much of the surplus should be put at risk in the equity markets. On average, the peer comparison shows that other workers' compensation agencies place roughly half of their surplus in equity asset classes, while public pension plans put more than just surplus in equity. BWC's current surplus position of 5.3% of total reserves compares to a targeted equity allocation of 41%, thus appearing very aggressive relative to other workers' compensation funds.
- The most appropriate portfolio choice is a function of the Oversight Commission's goals and risk tolerance. Callan's objective in undertaking this study is to provide the Commission with sufficient information and knowledge to assess their risk tolerance, outlining the advantages and disadvantages of each alternative investment strategy. This report demonstrates that there is a wide range of portfolio options between the liability-matching and total return approaches. The most appropriate strategy choice will be driven by the Oversight Commission's providing a clear articulation of their tolerance for risk (and investment beliefs). Prior to completing this report, Callan distributed a questionnaire to the Oversight Commission intended to bring out the issues most critical to defining goals and risk tolerance. Of the responses we received, Callan observed a diverse range of opinions that our impression is there is not an immediate resolution. We believe the specific choice of strategy can be narrowed down, but the Commission must resolve its conflicting views. Consequently, we anticipate further refinement in the portfolio strategy may be necessary once there is resolution.

Overview of the Process
Optimization and Monte Carlo Simulation

Optimization and Monte Carlo Simulation

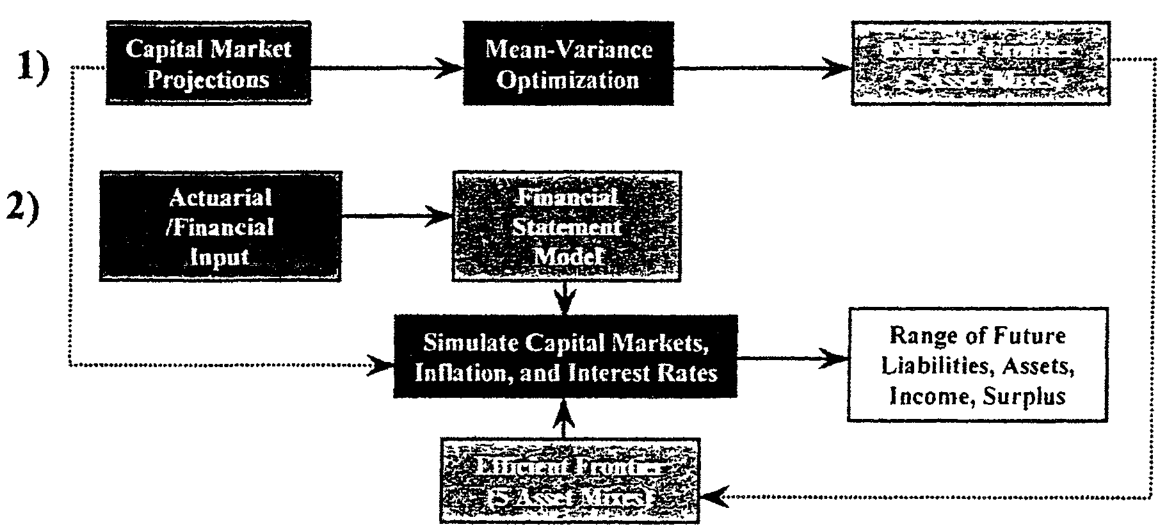
An insurance fund's strategic asset allocation is a primary determinant of the future growth and volatility of assets and its underlying surplus position. The objective of this asset allocation and liability study is to enhance the long term security of BWC by identifying an asset allocation policy for the State Insurance Fund that achieves two primary objectives:

1) The policy should generate the maximum expected rate-of-return given its expected level of risk.

2) The policy should generate the appropriate level of risk based on BWC's risk tolerance and given the fund's liability structure and expected cash-flows.

In order to identify the asset allocation policy that best achieves these two objectives, a two-step process is undertaken. In the first step, Mean-Variance Optimization is used to identify a series of asset mixes, ranging from lower risk to higher risk, that all satisfy the first objective. This series of asset mixes is commonly referred to as the efficient frontier. The mixes along the frontier are deemed efficient because they generate the maximum expected return for their expected level of risk. They do this by taking optimal advantage of low correlations between the performance behavior of the different asset classes of which they are composed.

In the second step, we use Monte Carlo Simulation to evaluate the expected behavior of each of these efficient mixes in the context of future assets, liabilities and surplus. To achieve this step, a model is constructed using the most recent audited financial statements. This model allows us to project all of the key dimensions of the agency (premium income, claims, expenses, reserves, assets, etc.) and determine their sensitivities to changes in future inflation, interest rates and market returns (the three primary drivers of surplus volatility). By then simulating hundreds of possible future capital market outcomes, and observing the interaction of assets and liabilities across all of these potential scenarios, we can begin to understand the effect that each asset mix might have on the financial status of the agency. This two step process is illustrated in the schematic diagram below.



The Monte Carlo simulations provide a substantial amount of data about the potential future of the Fund under each asset mix. The next challenge is to distill this data down into meaningful information that can be used to support an asset allocation decision. As with any large data set, there are countless perspectives that can be taken that will support almost any conclusion. After employing this tool for 20 years, Callan has developed an approach to interpreting the data that seems to resonate with fund sponsors, and generally results in very reasonable asset allocation policies.

In the pages that follow, detail will be provided to support the process that we undertook for this study. The report will provide a discussion of the asset allocation strategy and an interpretation of the output from the Monte Carlo analysis. We will complete our analysis by employing a methodology more qualitative in nature, in which we consider how other funds similar to BWC's are allocating their assets.

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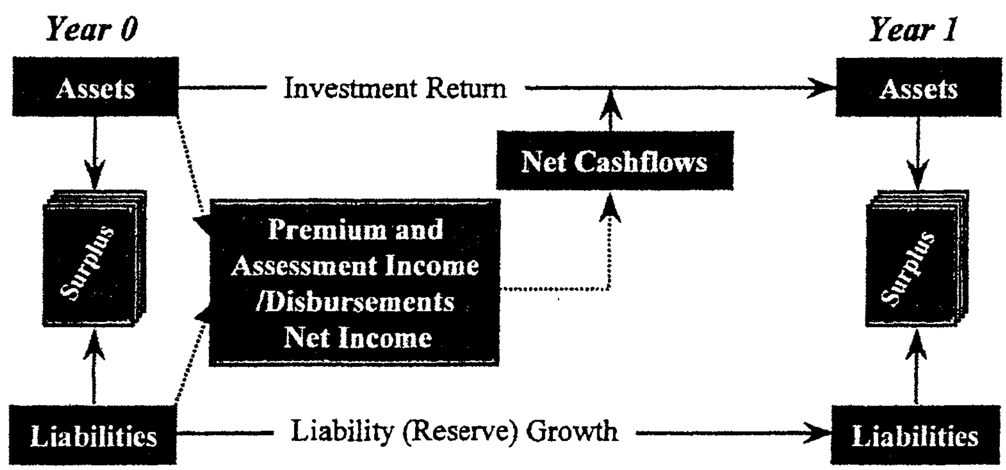
The Decision Variables

In order to determine which asset mix is most appropriate for a particular liability set, a set of decision-making criteria must be established. The first step in establishing these criteria is to determine the mission or primary goal for the fund. In general, the most important goal for any insurance program is to ensure that all future obligations will be met when due. BWC achieves this goal by managing three key policies that govern the agency: the benefits (claims/expenses) policy, the funding (premiums/reserves) policy and the investment policy. The purpose of the annual financial statement (including the actuarial audit of reserves and adequacy of premium rates) is to assess whether BWC is on target to meet this goal and to incorporate the interaction of the three key policies. To the extent that assets exceed liabilities, the Fund's surplus position will grow. To the extent that assets fall short of liabilities, surplus will contract.

The audited financial statements serve as a governor for enforcing the primary goal of the Fund. For example, the balance sheet compares assets to liabilities to determine surplus, while the income statement reconciles the increase (decrease) in surplus by computing the net earnings (losses) for the year. In addition, the cash flow statement determines the additions to (withdrawals from) invested assets or the annual liquidity required by the agency. The diagram below schematically illustrates this point by showing the interaction of the assets, liabilities, cash flows, and the financial statement analysis over a one year period.



In the above schematic, asset growth is driven by cash flows and market returns. Liability (i.e., reserves) growth is a function of the claims experience and premiums, in addition to inflation and interest rate experience. The audited financial statements link the development of assets and liabilities over time. Surplus (the difference between assets and liabilities) is the key measure of the progress (and success) of the insurance program. Hence, projected surplus offers a complete picture of the fund's sensitivity to the capital markets and can serve as a useful guide for making asset allocation decisions. We discount this measure for the future effects of inflation to determine a real value of surplus in today's dollars (called Real Surplus) to consider intergenerational neutrality.

Experience has shown that Real Surplus is a very reasonable decision variable for guiding an asset allocation decision. It takes into account the interaction of assets and liabilities over the evaluation period (typically five years). Investment policies that balance the decision variable over the widest range of future capital market behavior will protect the interests of the participants and the Fund.

The remainder of this report will provide the background information that will ultimately support the Real Surplus calculation. By accurately characterizing both asset and liability behavior (with particular emphasis on their interaction), the Monte Carlo Simulation process will provide us with the best possible estimate of the impact of a particular asset allocation policy.

Defining and Incorporating Goals and Risk Tolerance

Critical to the decision-making process is incorporating both the goals and risk tolerance of the BWC and the Oversight Commission. The asset allocation strategy ultimately adopted must be suitable to achieving its stated goals and within its defined risk posture. The Oversight Commission needs to set forth the underlying principles and beliefs that will form the basis for developing the investment policies and guidelines.

There is a wide range of approaches to asset allocation employed by institutions, with each point on the range suitable to a particular goal, investment belief and risk posture. As shown graphically below, the asset allocation decision involves a tradeoff between safety and opportunity. Safety usually implies preservation of capital and returns that only go up, while opportunity seeks to enhance returns by assuming investment risk at the potential cost of negative returns and lost capital.

Safety ⟶ *Opportunity*

Risk-Free:	***Dedicated:***	***Immunized:***	***Total Return:***
- objective is positive returns only - plan has no obligations/ liabilities - risk aversion.	- objective is to match the timing of future cash flow needs. - liability-matching strategy	- objective is to lock-in a return (or reduce funded status volatility) over the investment period. - portfolio is immunized against changes in market over the period. - liability-matching strategy	- objective is to maximize return for a given level of risk. - requires inputs for return, standard deviation of return and correlation. - little focus on cash flow matching or immunization.

At one end of the range, with a focus on safety, is the ***risk-free*** approach, which is represented by a portfolio of US Treasury bills. This type of approach is suitable for very short time horizons (generally less than one year) and risk adverse investors. Most institutional investors like insurance companies and retirement plans choose either a liability-matching approach or a total return approach because their time horizon (meaning the amount of time when a dollar in the fund today is needed in the future to meet a benefit payment) for investing is significantly longer and tolerance for risk higher.

Looking within the "safety" range, an investor can employ an investment program ***dedicated*** to matching the timing of future cash flow needs. Such an approach is considered safe because it is meant to ensure that sufficient cash is available when needed. The investor typically assembles a portfolio of fixed income securities, in which coupon income and the maturity of principle is tailored to match their future cash flow needs. This type of strategy is most appropriate when future cash flows are fixed and known in advance. Implementation of such a strategy is usually difficult if cash flows are unpredictable, or extend far out into the future. Adopting such a strategy in today's environment will yield a very low return for low risk.

At the other end of the "opportunity" range is the ***total return*** approach to investing, where the objective is to maximize return for a given level of risk. A return target is established, liabilities are examined, and the funded status (or net surplus) is monitored, but the investment program is not matched or dedicated. The portfolio partakes in the potentially higher returns available from riskier investments such as equity, at the cost of great volatility in returns (and hence, the underlying funded status of the entity). This tradeoff is the cornerstone of modern portfolio theory: higher returns cannot be achieved without taking on higher levels of risk. Risk can be diversified over time, but this requires a long-term horizon for investing.

Defining Risk Tolerance continued

In between "safety" and "opportunity" is the ***immunized*** or duration-matched approach. Similar to the dedicated approach, the investor typically assembles a portfolio of fixed income securities in which the duration of the asset portfolio (closely) matches the duration of the liabilities. The objective of this type of approach is to immunize the funded status of the entity from changes in the market and to mitigate its volatility. Duration extension is often used when short-term volatility is unwelcome. Adopting an immunized strategy in today's environment will also yield a low return for low risk.

A common approach taken by competitive workers' compensation state agencies and private companies is to have those assets supporting reserves in a liability-matching approach, while putting all or a portion of the surplus assets in a total return approach. The primary reasons for the low risk tolerance are the competitive nature of the insurance industry, the desire to use surplus to grow the business, and the regulatory environment which imposes strict penalties for insolvency. Other long-term institutional investors like public retirement systems tend to favor a total return approach, precisely because they have higher return targets and often do not have the same competitive, funded status or regulatory issues.

What is the appropriate asset allocation strategy for the State Insurance Fund? To answer this question, BWC and the Oversight Commission need to address several big picture questions, the answers too which will help reveal the appropriate tolerance for risk:

- **Does the BWC have any stated objectives, official or unofficial, that must be met?**
- **How much risk is necessary to generate the required return?** What equity allocation, if any, is necessary to have a reasonable probability of achieving the 5.5% discount rate assumption, or to keep pace with the growth rate of liabilities?
- **Does BWC wish to preserve current surplus, or is it preferable to assume risk to grow surplus?** How much of the surplus should be subject to riskier asset classes? How adequate are premium rates relative to projected costs and under different portfolio alternatives?
- **What is the time horizon in which to assume investment risk?** How soon will funds be needed to meet payments and expenses? What are the liquidity needs of the fund (based on projected net cash flows)? How does the nature of the agency (public sector, monopoly provider) influence the time horizon? Is intergenerational neutrality a factor to consider?
- **What is the Board's investment horizon?** How sensitive is the BWC to short-term volatility in surplus? What amount of surplus volatility is acceptable? What are the implications to BWC if surplus turns negative over the short term (for example, any one or two consecutive years)?
- **What is the nature of the liabilities, including their expected growth and their sensitivity to changes in the capital markets?** What is the duration of the underlying component reserves? Does the Board wish to hedge against future interest rate risk or inflation risk inherent in the liabilities?
- **Does the BWC wish to entertain any new asset classes or strategies in the investment program?** Are there investment strategies missing that could benefit BWC?
- **What are other workers' compensation agencies or other long-term institutional investors doing?** Which peer group is more suitable to BWC? What comfort does BWC place in their fund's performance being similar to a peer group of funds with similar liabilities or asset sizes?

Callan believes defining risk tolerance is a decision strictly for the Oversight Commission. Callan's objective in undertaking this study is to provide BWC and the Oversight Commission with sufficient information and knowledge to assess their risk tolerance, including outlining the advantages and disadvantages of each alternative investment strategy. Prior to completing this report we distributed a questionnaire intended to highlight the critical issues to defining the goals and risk tolerance of BWC, and a discussion of the responses is included at the end of this report.

Mean-Variance Optimization
Capital Market Projections

Capital Market Projections

Mean-Variance Optimization is a standard quantitative tool that is used to identify a series of efficient portfolios ranging from safety (i.e. conservative, low risk) to opportunity (i.e. higher risk and return). The mixes along this frontier are deemed efficient because they generate the maximum expected return for their expected level of risk. They do this by taking optimal advantage of low correlation between the performance behavior of the different asset classes of which they are composed.

Mean-Variance Optimization requires projections of expected return and expected standard deviation of return for each asset class being considered in the analysis. It also requires a projection of the correlation of returns between these asset classes. The tables below summarize the projections used in this study. The process that was used to develop these projections is detailed in Appendix A to this report.

Returns and Risks - The return and risk projections below describe Callan's estimation of asset class performance over the five year period from 2005-2009. For comparative purposes, we show the 1999-2003 projections that were used in the prior asset allocation and liability study.

The projected return is the expected median (50th percentile) annual return over a five-year period. The projected risk is the expected annual standard deviation of return, indicating the amount of variability around the median return that is likely to occur in any given year within the five year period.

Summary of 5-Year Capital Market Projections (2005-2009)

Currently In SIF Portfolio	Asset Class	Index	Projected Annual Return	Projected Standard Deviation (Risk)	Projected Yield	1999 Projections	
	Equities						
x	Broad Domestic Equity	Russell 3000	9 00%	16 90	2 10	9 40%	16 30
	Large Cap	S&P 500	8 85%	16 40	2 20	9 00%	15 00
	Small/Mid Cap	Russell 2500	9 85%	22 70	1 20	11 20%	25 30
x	International Equity	MSCI EAFE	9 25%	20 10	2 20	10 00%	21.50
	Emerging Markets Equity	MSCI EMF	9 80%	33 00	0 00		
	Fixed Income						
x	Broad Domestic Fixed	LB Aggregate	4.75%	4 50	4 75	5 60%	5 30
	Long Treasury Fixed	LB Long Treasury	5 00%	8 00	4 75		
	TIPS	LB TIPS	4.40%	6 00	4 40		
	High Yield	CSFB High Yield	6 75%	12.10	6 75		
	Non-US$ Fixed	Cit Non-US Gov't	4 65%	9 60	4 65	5 60%	11 00
	Other						
	Real Estate	Callan Real Estate	7 60%	16 50	7 00	8 00%	16 50
x	Private Equity	VE Post Venture Cap	12 00%	34 00	0 00	12 30%	36 00
x	Absolute Return	Callan Hedge FoF	6 50%	10 50	0 00		
x	Cash Equivalents	90-Day T-Bill	3 25%	0 80	3 25	4 40%	0 70
	Inflation	CPI-U	2 60%	1 40		3 00%	1 75

Correlation - The correlation estimates below describe the degree of co-movement between asset class returns. Correlation can range from +1.0 to -1.0. A correlation of +1.0 means that the returns of two asset classes move about their expected values in exactly the same manner or direction, while a correlation of -1.0 means that the returns of two asset classes move about their expected values in exactly opposite directions. Adding an asset class with a low or negative correlation to the existing asset classes in a portfolio can reduce overall portfolio risk.

	Broad	Lrg Cap	Sml Cap	Int'l Eq	Emerg	Dom Fix	Long Fix	TIPS	Hi Yield	NUS Fix	Real Est	Pvt Equity	Abs Ret	T-Bill
Broad Dom Eq	1 00													
Large Cap Eq	0 96	1 00												
Small Cap Eq	0 92	0 84	1 00											
Int'l Equity	0 73	0 73	0 61	1 00										
Emerging Mkts	0 50	0 50	0 44	0 43	1 00									
Broad Dom Fixed	0 25	0 27	0 19	0 21	0 15	1 00								
Long TSRY Fixed	0 02	0 02	0 01	0 01	0 00	0 39	1 00							
TIPS	0 01	0 01	-0 01	-0 09	-0 14	0 40	0 20	1 00						
High Yield	0 65	0 64	0 58	0 50	0 30	0 41	0 18	0 15	1 00					
Non $US Fixed	0 01	0 03	-0 03	0 22	-0 02	0 32	0 00	0 11	0 05	1 00				
Real Estate	0 62	0 63	0 52	0 47	0 35	0 20	0 01	0 00	0 53	0 03	1 00			
Private Equity	0 64	0 63	0 57	0 63	0 35	0 20	0 01	-0 03	0 45	0 10	0 45	1 00		
Absolute Return	0 65	0 64	0 60	0 58	0 33	0 45	-0 05	0 00	0 50	0 15	0 45	0 46	1 00	
T-Bills	-0 12	-0 10	-0 15	-0 25	-0 15	0 30	-0 33	0 29	0 07	-0 05	-0 06	0 07	0 50	1 00

The Efficient Frontier

We now consider the effect of our investment outlook upon the current target mix for the State Insurance Fund, as well as other alternative asset mixes. [Note: No changes in strategy are contemplated for the remaining assets of BWC]. The table below shows a broad range of portfolio alternatives for the Fund. This range includes the "all cash" risk-free portfolio, a range of liability-matching portfolios, and a range of total return portfolios bracketing the Fund's current position. To generate the total return portfolios, mean-variance optimization was employed using Callan's 2005 capital market projections and the Fund's current asset classes. Asset mixes 1 through 5 form an *efficient frontier*, i.e., each asset mix provides the maximum level of expected return, given its expected level of risk.

SIF assets only

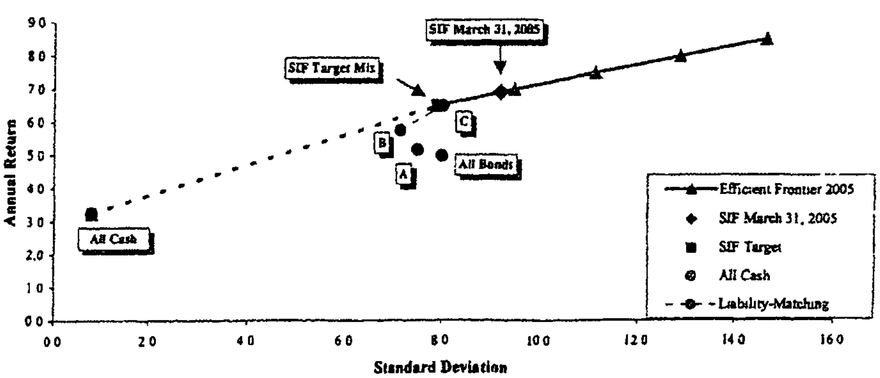
Portfolio Component	SIF March 31, 2005	SIF Target	Min	Max	Set Aside	ASSET MIX ALTERNATIVES — Risk Free: All Cash	Liability Matching (Long Duration Bonds): All Bonds	Mix A	Mix B	Mix C	Total Return (Market Duration Bonds): Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
Domestic Broad Equity	32	30	0	100	0	0	0	5	16	29	26	33	41	50	58
International Equity	14	11	0	100	0	0	0	0	4	9	9	11	14	17	20
Private Equity	2	0	0	5	0	0	0	0	0	0	3	5	5	5	5
Broad Domestic Fixed	47	57	0	100	0	0	0	0	0	0	58	47	36	24	13
Long Treasury Fixed	0	0	0	0	0	0	100	93	78	60	0	0	0	0	0
Absolute Return	4	0	0	0	2	0	0	0	0	0	2	2	2	2	2
Cash Equivalents	1	2	2	2	0	100	0	2	2	2	2	2	2	2	2
Total	100	100	0	0	0	100	100	100	100	100	100	100	100	100	100
	0	0	0	0	0	0	0				0	0	0	0	0
Annual Return	6.9	6.5				3.3	5.0	5.2	5.8	6.5	6.5	7.0	7.5	8.0	8.5
Standard Deviation	9.2	7.9				0.8	8.0	7.5	7.1	8.0	7.9	9.5	11.1	12.8	14.6
Total Equity (%)	48	41				0	0	5	20	38	38	49	60	72	83
Sharpe Ratio	0.399	0.410				0.000	0.219	0.255	0.351	0.406	0.412	0.397	0.382	0.370	0.360

Alternative mixes 1 through 5 were identified by BWC for consideration in this study. Each mix constrains the maximum investment to private equity at 5% and fixes absolute return at 2% (that is, the 2% allocation is "set aside" in each portfolio, with the remaining assets optimized for return and risk). No new asset classes were considered.

For this report, Callan added the "all cash" portfolio and a range of liability-matching portfolios to give the Oversight Commission a better picture of the range of alternatives. Each portfolio under the liability-matching approaches substitutes a long duration government bond portfolio for the current broad market bond portfolio in order to extend the duration of the asset portfolio closer to that of the liabilities.

The graph below depicts the asset mix alternatives shown in the table above. Each red diamond represents a total return asset mix, while the solid line between the points represents other asset mixes which are also efficient but are not shown in the table. The combination of the portfolios represented by the diamonds and the line constitutes an "*efficient frontier.*" The circles on the graph represent the "all cash" portfolio and the liability-matching portfolios, including the "all bonds" portfolio.

The three areas of interest on the graph are above the frontier, below the frontier and the frontier itself. All points above the line are return and risk combinations which are not attainable, given the asset classes under consideration. On the other hand, points below the efficient frontier are attainable but not necessarily desirable: an asset mix with a lower return for the same level of risk is not preferred in a total return approach. Our analysis focuses on the efficient frontier, that is, on the portfolios which have the highest attainable return for any given level of risk.



The Efficient Frontier continued

The efficient frontier graph confirms that both the SIF Target Mix and the Fund's invested position (March 31, 2005) are "efficient" portfolio allocations, maximizing return for a given level of risk. The SIF Target Mix is similar in return and risk as alternative Mix 1. The primary difference is that Mix 1 uses less public equity (domestic and international) in favor of slightly higher private equity (3%).

With the exception of the liability-matching portfolios, each alternative mix on the efficient frontier includes investments in five major asset classes: domestic fixed income, domestic and international equity, private equity and absolute return (a 2% cash allocation is fixed for each mix). International equity and private equity were added as a result of an asset allocation and liability study in March 2000, while a small allocation to absolute return was added based on asset only reviews conducted in May and November of 2004. While the Target Mix does not reflect absolute return and private equity, the Fund's invested position (as of March 31, 2005) reflects existing allocations to these asset classes.

Callan had extensive discussions with BWC on alternative investment strategies in May of 2005. These discussions factored in BWC's risk tolerance, Callan's 2005-2009 capital market assumptions, the 10-year "deterministic" projection of BWC's financial status (including reserves, premiums, claims and expenses and surplus position), and the peer group asset allocation comparisons. At that time, BWC indicated their risk tolerance was sufficient to maintain the total return approach as long term investors, and focus on only a small portion of the efficient frontier for this study (Mix 1 through Mix 5). BWC indicated they did not want to contemplate higher levels of fixed income or liability-matching approaches using dedication or immunization (duration-matched) that would lock-in lower returns but control surplus volatility. Under the total return approach, the asset portfolio is of market duration and on average less than half the duration of the liabilities. The preference is to have a broad fixed income index like the Lehman Brothers Aggregate Index (with its expected low volatility of return and shorter duration) serving the purpose of a return anchor to taking equity market risk.

Alternative Mix 1 brackets one end of the efficient frontier selected by BWC with an expected return of 6.5%. This portfolio reflects the growth rate of liabilities under the current premium rates, with an objective is to maintain (or modestly grow) surplus over the long term. Alternative Mix 5 brackets the other end of the efficient frontier and targets an expected return of 8.5%, with a primary objective of growing surplus. Higher return targets like 8% and 8.5% are common amongst institutional investors such as Ohio's state sponsored retirement systems, but require a higher risk tolerance to short-term volatility.

The financial projections are important for understanding how much risk is necessary to generate the required return. BWC currently has an explicit and implicit long-term nominal return target. The explicit target is currently 5.5 percent per year, based on the actuarial discount rate used to value the reserves as of June 30, 2004. The implicit return assumption is based on the expected growth rate of the actuarial reserves, which is approximately 6.1 percent per year (6.3 percent if lower discount rates are reflected using BWC reserve methodology). As shown on the prior page, the current asset allocation policy and alternative mix 1 both satisfy this minimum return assumption, but require total equity exposure of at least 38% of the portfolio.

It is Callan's understanding that BWC staff has expressed the risk tolerance of the Oversight Commission by confirming a total return approach. However, if the Oversight Commissions' risk tolerance is in fact lower and significant volatility of surplus (or negative surplus) over the short-term is unacceptable, then a liability-matching approach would be more suitable for the Fund. Consideration should be given for those assets supporting reserves as is common in the insurance industry. For this report, we have included in our efficient frontier analysis an "all bonds" portfolio, which is one example of a low-risk approach. This particular portfolio is duration-matched to the liabilities and fully invested in a high quality, long Treasury bonds as represented by the Lehman Brothers Long Treasury Index (as of June 30, 2004, the duration of the index was 10.6 years which is very close to the liability duration of 10.3). BWC assumes interest rate risk from one year to the next, based on the long duration of its liabilities and the discount rate methodology. This report demonstrates an "immunized" approach reduces short term volatility in surplus stemming from interest rate risk, but at the cost of potentially higher returns from riskier investments like equity. To address the gap between the "all bonds" portfolio and Mix 1, we added several liability-matching alternatives which place a majority of the investments in a long duration bond portfolio, but with some equity exposure for total return.

CAI

The Efficient Frontier continued

Based on Callan's capital market assumptions, the expected return of the "all bonds" portfolio is 5% while expected risk is 8%, and lies off the efficient frontier shown on the prior page. While it is not considered an efficient portfolio in the context of asset returns and risk (i.e. the standard deviation of asset return is 8.0% per year), it is an efficient portfolio in the context of surplus return and risk (i.e. the standard deviation of surplus is minimized for the given level of return when both assets and liabilities are considered). The tradeoff for minimizing surplus risk from one period to the next is a lower expected return.

This study also analyzed the impact of adding or changing allocations to the total return portfolio to improve diversification and enhance return (see Appendix C). Several new asset classes were considered for this analysis: non-US fixed income, real estate, emerging markets and global equity. Other changes contemplated to the investment portfolio included increasing the allocations to private equity and absolute return strategies, or bringing all of the equity together in a global portfolio. Mean-variance optimization is used to analyze the impact of these changes on the total portfolio's expected return and risk.

As shown in Appendix C, we used Mix 3 as a basis for comparison, and examined how the expected risk changed for a given level of return under different portfolio strategies. By keeping the expected return the same, the benefits of diversification into new strategies is demonstrated if the fund can achieve a lower level of risk (as measured by the standard deviation of return).

Overall, adding new strategies offered modest diversification benefits with a small reduction in overall portfolio risk for a given level of return. Of the new strategies examined, real estate offered the greatest reduction in risk.

This type of mean-variance optimization is by nature a purely quantitative process for asset allocation decisions and only one means to analyze the benefits of adding new asset classes or changing existing strategies. Callan believes that the Oversight Commission should also factor into their decision-making process qualitative factors, including an analysis of the advantages and disadvantages associated with investing in a particular asset class. For example, efficient-frontier analysis cannot capture qualitative risks such as the implementation risks associated with market cycles, high fees, capacity, and the availability of good managers. All of these qualitative factors can be explicit hurdles to realizing return objectives.

Finally, one further consideration on asset class strategies is the nature of the liabilities and their sensitivity to capital market uncertainty. As discussed in the next section, inherent in BWC's liabilities is long-term (unexpected) inflation risk. BWC and the Oversight Commission could choose to pass this inflation risk directly onto policy holders in the form of higher premiums. An alternative is to hedge some of this risk in the investment policy using inflation sensitive asset classes.

Under the total return approach, Callan believes BWC may be best served by including asset classes that can help protect the agency against inflation risk. Over the long run, equity and real estate are expected to provide better inflation hedges than nominal debt. Long duration nominal debt is likely to perform very poorly during unexpected inflationary periods; hence, the higher volatility of return for the long treasury market than the broad fixed income market. Real return debt (or Treasury Inflation Protected Securities, also called TIPS) is an alternative, but the size of the Fund and the necessary allocation would make implementation of a strategic allocation difficult. For example, a strategic 5% allocation of the portfolio to TIPS is $1 billion, in a market that is current only $300 billion with a float of roughly half that amount.

Appendix B provides a brief summary of alternative investment strategies, including a discussion of the advantages and disadvantages of each strategy.

CAI

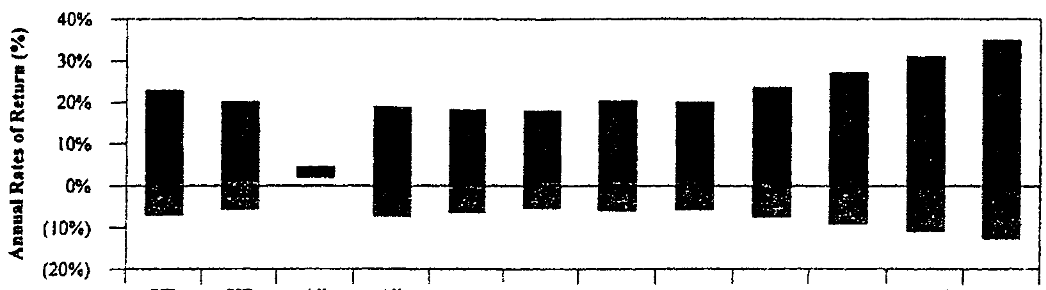
Ranges of Projected Rates of Return

The capital market assumptions indicate the breadth of possible returns and express the probability of their occurrences. They are not projections of an absolute specific return for each asset class. As a result of the risk or volatility associated with each asset mix, the actual performance can vary substantially in any one year. The following graphs illustrate the range of projected rates of return over one year and five years for the asset mixes shown on page 11.

It is not uncommon for an equity portfolio to produce a sizable negative return in a single year when the stock market has performed poorly. However, it is much less likely that the entire portfolio will have a sizable negative return over a longer period of time, such as a five-year period. The extremes of adverse investment results within a longer period will more likely be offset by improved performance earlier or later in that period. This effect, referred to as the benefit of *time diversification*, reduces the level of risk over the entire period. Generally an institutional investor can assume a long-term investment horizon; therefore, it can afford to take a higher level of risk than an investor with a short time horizon. The next two graphs show the range of returns that each asset mix could produce over a one-year holding period and a five-year holding period. Notice that over the longer time period the range of projected outcomes is reduced.

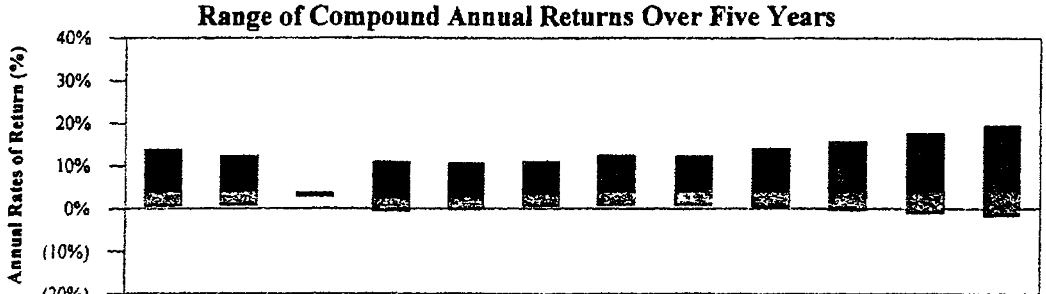
Our analysis concentrates on the expected performance of each asset mix, and on the potential outcome if the performance is less than expected. The expected returns are shown as the 50th percentile (median) values, the "best-case" returns are represented by the 5th percentile, and the "worst-case" returns by the 95th percentile.

Range of Compound Annual Returns Over One Year



	SIF 3 31 05	SIF Target	All Cash	All Bonds	Mix A	Mix B	Mix C	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
5th Percentile	23 0%	20 3%	4 6%	19 0%	18 2%	18 1%	20 5%	20 2%	23 6%	27 3%	31.1%	35 0%
25th Percentile	13.2%	11 9%	3 8%	10 5%	10 3%	10 7%	12 0%	11.9%	13 5%	15 2%	16 9%	18 7%
Median	6 9%	6 5%	3 3%	5 0%	5.2%	5.8%	6 5%	6 5%	7.0%	7.5%	8 0%	8 5%
75th Percentile	0 9%	1 3%	2 7%	(0 2%)	0.2%	1.1%	1 2%	1.3%	0 8%	0 3%	(0 2%)	(0 8%)
95th Percentile	(7 1%)	(5 7%)	1 9%	(7 3%)	(6 4%)	(5 3%)	(5 9%)	(5 7%)	(7 4%)	(9 2%)	(11 0%)	(12 8%)

Range of Compound Annual Returns Over Five Years



	SIF 3.31 05	SIF Target	All Cash	All Bonds	Mix A	Mix B	Mix C	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
5th Percentile	13 8%	12 4%	3 8%	11 0%	10.8%	11 1%	12 6%	12 4%	14 1%	15 9%	17 8%	19 6%
25th Percentile	9 7%	8 9%	3 5%	7 4%	7 4%	7 9%	8 9%	8.9%	9 9%	10 9%	11 9%	12 9%
Median	6 9%	6 5%	3 3%	5 0%	5 2%	5 8%	6 5%	6.5%	7 0%	7 5%	8 0%	8 5%
75th Percentile	4.2%	4 1%	3 0%	2 6%	2 9%	3 7%	4 1%	4.2%	4 2%	4 2%	4 2%	4 2%
95th Percentile	0 4%	0 9%	2 7%	(0 7%)	(0 2%)	0 7%	0 8%	0.9%	0.3%	(0 3%)	(1 0%)	(1 6%)

Importance of Liabilities

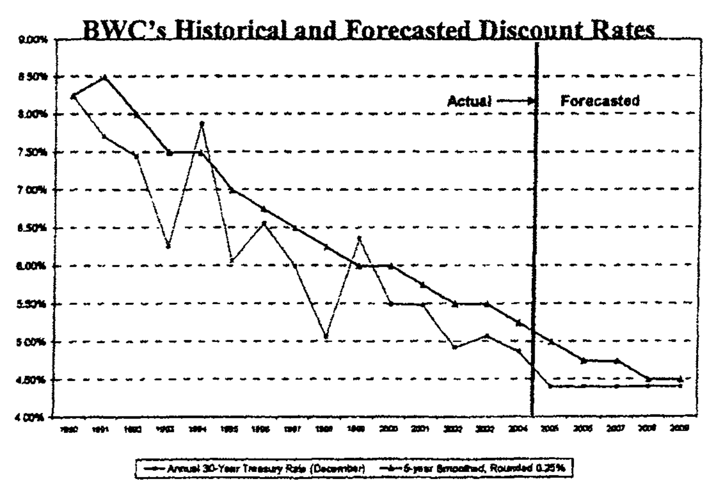
A thorough understanding of the liabilities is a key component in determining an appropriate asset allocation strategy. Liabilities for BWC consist primarily of the reserves for injuries sustained as of the measurement date. Reserves represent the amount of funds that an insurer must set aside to meet future claim obligations. This amount, together with future premiums and investment return (interest and appreciation), must be adequate to pay the future benefits and expenses of the agency. The liability projections for this study include all future claims, premiums, and reserves of BWC assuming the current benefit and premium rate structures, and based on forecasts prepared by Mercer Oliver Wyman Actuarial Consulting Inc.

To understand the how liabilities impact BWC, it is important to assess their sensitivity to capital market uncertainty. Factors to consider include the type of agency and coverage, the amount and timing of future cash flows, the methodology for calculating reserves and the sensitivities of reserves, claims and premiums to changes in the actuarial assumptions.

BWC is a monopoly (captive insurance) agency providing medical and wage-loss compensation to injured workers and their families. Medical claims and related expenses represent a higher proportion of BWC's obligations (over 60% and growing) than loss-replacement benefits. Both types are sensitive to the effects of inflation: one to wages, and one to medical. Medical inflation has been much higher than general price inflation as measured by the CPI and is expected to grow at a faster rate in the future. The actuarial projections for claims, premiums and reserves assume 3.5% future wage inflation and 9% future medical inflation. Thus, there is inflation risk inherent in the liabilities if actual inflation (usually unexpected) experienced by the BWC in the future is higher than the actuarial assumptions.

To offset inflation risk, the Mercer forecasts assume that premium and assessment income will increase from their 2004 levels by the actual inflation experienced by BWC. For this study, we simulated future levels of inflation to determine the impact on premium growth, but made no underlying changes to the rate structures. However, we note that as of the last actuarial audit report (June 30, 2004), the actuary stated that both private and public employers premiums rates were deficient.

The average duration of BWC's liabilities is approximately 10.3 years as of June 30, 2004, which closely matches the duration of a US Treasury bond with a maturity of 17 years. Technically, duration measures the weighted average time to maturity of BWC's future obligations. Another way of using duration is to measure reserve volatility or the percentage increase (reduction) in the reserves (10.3%) for a 1% decline (increase) in interest rates. The discount rate methodology, which smoothes the monthly yield to maturity on 30-year Treasuries (similar in yield and duration to the liabilities) over 5 years, introduces interest rate risk over the short term if yields move significantly from one year to the next. The graph below shows historical and projected discount rates. Lower discount rates are projected for the immediate future based on current interest rates, implying higher growth rates in reserves.



Source Federal Reserve until Dec 2004

Financial Statement Overview

As of June 30, 2004, SIF's liabilities accounted for $18.8 billion (out of $20.4 billion) and $19.5 billion in assets (out of $21.3 billion), which represented approximately 92% of the agency's total liabilities and assets.

As of June 30, 2004, SIF's surplus amounted to $644 million, which represents the difference between total assets and liabilities. Total surplus for BWC was $861 million. Industry standards measure surplus as a percentage of reserves or as a percentage of assets. Thus, SIF total surplus represents 4.2% of reserves and 3.3% of assets (BWC is 5.3% and 5%, respectively).

The current level of surplus reflects a significant decline since the last full asset allocation and liability study conducted in March 2000 when surplus for BWC was recorded at $5.2 billion (37% of reserves and 27% of assets). Part of the decline in surplus is attributable to significant premium reductions and refunds granted to employers over the ensuing years. The other primary reasons for the surplus decline include negative equity returns and adverse experience, especially declining interest rates and rising medical costs. This study assumes no future premium reductions or refunds after fiscal year 2005.

The audited financial statements serve to represent the financial position of BWC as of a particular date, including changes in the financial position and cash flows over time. The financial statements are the basis for understanding how future potential capital market scenarios can impact the interaction of assets and liabilities, and hence the financial position and security of BWC.

Deterministic Projections

BWC's basic financial statements include the balance sheet, income statement (or statement of revenues, expenses and changes in net assets), and statement of cash flows. The balance sheet provides both the value of liabilities and assets, with the difference considered surplus (or net assets). It is the balance sheet that provides the basis for determining the financial strength and solvency of the workers' compensation fund. The income statement shows the operating performance of BWC for a particular fiscal year, while the statement of cash flows identifies the sources and uses of cash. Thus, in order to accurately simulate the future of the BWC Fund, a detailed model is constructed based on the most recent audited financial statements as of June 30, 2004.

The following tables provide a "deterministic" projection of BWC's financial position (balance sheet and income statement) for a ten-year period and include the 2004 fiscal year results. A deterministic forecast represents the baseline projection, where all forecasted variables take on their expected values. To develop expected values for future premium and assessment income, total disbursements and reserves, we relied on the Mercer projections. For other elements of the financial statement projections, we worked with BWC to develop reasonable financial forecasts. The expected investment returns are generated from Callan's capital market assumptions and efficient frontier. The deterministic snapshot represents just one of the several possible capital market outcomes, and is based on an assumed asset allocation strategy.

Projected Balance Sheet

The balance sheet reports the amount of BWC's assets and liabilities at a particular point in time. For this projection, we adjusted total liabilities to include only the reserves (moving the non-reserve liability items to the "other" section) and netted the dual entry of securities lending obligations with its collateralized asset. The projection of future liabilities shows SIF representing the largest portion of BWC's reserves.

Ultimately, the goal of BWC is to have sufficient assets to pay the Fund's obligations when they become due. For this projection, we have assumed that the current target mix for all BWC funds continues into the future (that is, SIF Target Mix continues under the total return approach) and the expected return is earned in each future year.

The projection also considers two other important factors: lower discount rates and lower actual inflation experience. We have incorporated lower current yields and the expectation that actual inflation experience going forward will be lower than expected (based on Callan's capital market assumptions).

Integration of Assets and Liabilities
Deterministic Projections

Projected Balance Sheet continued

The baseline projections show below have an expected average growth rate in the reserve levels of approximately 6.3% per year. The Fund's projected surplus position is derived by taking the difference between total assets and liabilities (and reconciled with the income statement) as shown below.

Balance Sheet

(Thousands of Dollars)

Year Ending	06/30/04	06/30/05	06/30/06	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14
Reserves											
State Insurance Fund (SIF)	15,284,100	16,323,591	17,687,077	19,140,646	20,258,847	21,394,423	22,614,276	23,871,267	25,224,636	26,689,540	28,228,749
Coal Workers Fund (CWPF)	55,700	55,704	55,704	55,704	55,704	55,704	55,704	55,704	55,704	55,704	55,704
Public Work Relief Fund (PWREF)	5,728	6,246	6,773	7,297	7,821	8,336	8,853	9,362	9,873	10,387	10,896
Marine Industry Fund (MIF)	5,044	5,282	5,550	5,840	6,155	6,489	6,851	7,235	7,651	8,103	8,588
Administrative Cost Fund (ACF)	916,500	968,118	1,024,470	1,083,879	1,146,650	1,211,861	1,280,953	1,352,964	1,429,512	1,511,330	1,597,531
Total Liabilities	16,267,072	17,358,942	18,779,575	20,293,366	21,475,177	22,676,814	23,966,637	25,296,533	26,727,376	28,275,064	29,901,469
Invested Assets											
Bonds	7,884,223	8,370,645	8,812,043	9,296,703	9,821,288	10,390,690	11,004,432	11,669,816	12,386,788	13,160,002	14,003,651
Domestic Stocks	4,078,268	4,303 711	4,530,653	4,779,837	5,049,549	5,342,303	5,657,855	5,999,958	6,368,584	6,766,127	7,199,883
International Stocks	1,774,188	2,073,344	2,182,675	2,302 722	2,432,657	2,573,694	2,725,713	2,890,523	3,068,112	3,259,631	3,468,597
Private Equity	999,037	641,929	675,779	712,947	753,176	796,843	843,910	894,937	949,920	1,009,216	1,073,914
Absolute Return	0	158,660	167,027	176,213	186,156	196,949	208,582	221,194	234,784	249,440	265,431
Short-Term Investments	1,619,675	314,503	331,088	349,297	369,007	390,401	413,460	438,460	465,399	494,450	526,148
Total Invested Assets	16,355,391	15,862,792	16,699,265	17,617,720	18,611,835	19,690,880	20,853,952	22,114,888	23,473,586	24,938,466	26,537,624
Other Net Assets (Liabilities)											
Non-current											
Premiums Receivable	1,310,975	1,470,227	1,567,372	1,667,894	1,781,032	1,898,511	2,027,618	2,163,601	2,313,295	2,478,780	2,656,129
Premium Payment Security Deposits	(85,679)	(96,087)	(102,436)	(109,006)	(116,400)	(124,078)	(132,515)	(141,403)	(151,186)	(162,001)	(173,592)
LT Obligations, Capital Assets, Other Liab	(406,904)	(378,533)	(349,202)	(322,782)	(302,357)	(282,177)	(261,997)	(241,817)	(221,637)	(201,457)	(191,147)
Current											
Premiums and Assessments in Collection	891,009	975,091	1,034,676	1,096,575	1,166,095	1,238,794	1,318,299	1,402,212	1,494,263	1,595,558	1,704,056
Investment Receivables (Payables)	(1,027,167)	0	0	0	0	0	0	0	0	0	0
Other Current Assets (Liabilities)	90,217	0	0	0	0	0	0	0	0	0	0
Total Other Net Assets	772,451	1,970,698	2,150,410	2,332,682	2,528,371	2,731,051	2,951,405	3,182,593	3,434,735	3,710,880	3,995,447
Total Assets	17,127,842	17,833 490	18,849,675	19,950 401	21,140,207	22,421,931	23,805,357	25,297,481	26,908,321	28,649,746	30,533,071

Assumptions for Discount Rates: 2004 - 5.5%, 2005 -5.25%, 2006 -5.0%, 2007 and after - 4.75%, and for Actual CPI - 2.6% all years

Projected Income Statement

The income statement provides valuable insight into the sources of income, distinguishing between operating income (loss) and non-operating investment gains. We have separated incurred costs into paid costs versus accrued, showing separately the increase in the value of reserves from one year to the next. It should be recognized that uncertainty in the growth rate of the reserves will impact future net income and BWC's underlying surplus position.

We note that the projection below shows premium and assessment income will lag behind total cash disbursement projections for the next several years. Furthermore, premium reductions and refunds (shown in the other income charges) are recognized in fiscal year 2004 and 2005. No future reductions and refunds are assumed for fiscal years 2006 and beyond. In summary, under the current SIF Target Mix, net income is expected to turn negative for several years, before it turns back positive and rises over time.

Income Statement

(Thousands of Dollars)

Year Ending	06/30/04	06/30/05	06/30/06	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14
Operational											
Premium Income											
Premium Income	1 649 745	1,850,149	1,972,398	2 098 896	2,241,270	2,389 107	2 551 576	2,722,699	2,911,075	3 119,324	3,342,502
Assessment Income	488,889	490,302	511,070	533,145	557,637	584,295	612,656	647,943	675,513	710,396	747,640
=Premium / Assessment Income	2,138 634	2,340 451	2,483,469	2,632,041	2,798,907	2,973,402	3,164,232	3,363 642	3,586,588	3,829,719	4 090 141
Claims and Expenses											
Paid Claims and Adjustment Expense	2,026,871	2,094,273	2,195,659	2,301,305	2,423,230	2,553,915	2,695,044	2,844 533	3 007,784	3,185 790	3,375,962
Paid Expenses	318,127	340,928	357,433	374,631	394,479	415,754	438,728	463,064	489,639	518,617	549,575
Total Disbursements	2,344,998	2,435,201	2,553,092	2 675,936	2,817 710	2,969 668	3,133,772	3,307,597	3,497 423	3,704 407	3,925,537
Increase in Reserves											
State Insurance Fund (SIF)	339,700	1,039 491	1,363,486	1 453,368	1,118,202	1,135 576	1,219 853	1 256,992	1 353,368	1,464 904	1 539 209
Coal Workers Fund (CWPF)	3,100	4	0	0	0	0	0	0	0	0	0
Public Work Relief Fund (PWREF)	6	518	526	524	524	516	516	509	511	514	509
Marine Industry Fund (MIF)	291	238	268	290	315	334	362	384	416	452	485
Administrative Cost Fund (ACF)	(57 100)	51,618	56,352	59,409	62 771	65,211	69,093	72 011	76,548	81,817	86 202
Total Increase in Reserves	285,997	1 091 870	1 420,633	1 513,792	1,181,811	1,201 636	1,289,824	1,329 896	1 430,843	1,547 688	1,626,405
Other Income Charges	447 470	228 500	0	0	0	0	0	0	0	0	0
Net Operating Gain (Loss)	(939 831)	(1,415,120)	(1 490,257)	(1,557,686)	(1,200,614)	(1 197,903)	(1,259,363)	(1,271,850)	(1,341 678)	(1,422,375)	(1,461 801)
Non-Operational											
Non-Operational Revenues (Expenses)											
Investment Income (Yield, SL income)	446,312	548,956	581,050	612,522	646,763	683 892	724,014	767 420	814,295	864 832	919,740
Appreciation (Capital Gains(Loss))	801 910	479 943	504,759	532,099	561,845	594 098	628 952	666,659	707,380	751,281	798 980
Total Non-Operational Revenues, Net	1 248,222	1,028,898	1,085,809	1 144,621	1,208,608	1,277,991	1,352 966	1,434,079	1 521 674	1,616,113	1,718,720
Net Income	308 391	(386,221)	(404 448)	(413,065)	7 994	80 088	93,603	162 229	179,996	193 737	256,919

Assumptions for Discount Rates: 2004 - 5 5%, 2005 -5.25%, 2006 -5.0%, 2007 and after - 4.75%, and for Actual CPI - 2.6% all years

Projected Surplus

Projected surplus (net assets) is derived from either the balance sheet or the income statements (accumulated over time). Net surplus is simply assets minus liabilities, and is also calculated by adding annual projected net income to the prior year surplus. Therefore, if cumulative net income over a particular period is positive (negative), surplus will growth (fall) by that amount.

The table below illustrates the expected development of surplus over the next ten-year period, showing initial contraction and turning slightly negative, but followed by growth. The projection assumed a particular expected return based on one asset allocation strategy. In order to fully assess surplus sensitivity to changes in the asset allocation strategy, surplus will be evaluated over a wide range of economic conditions and portfolio asset allocation alternatives, generating both optimistic and pessimistic outcomes in addition to the results below.

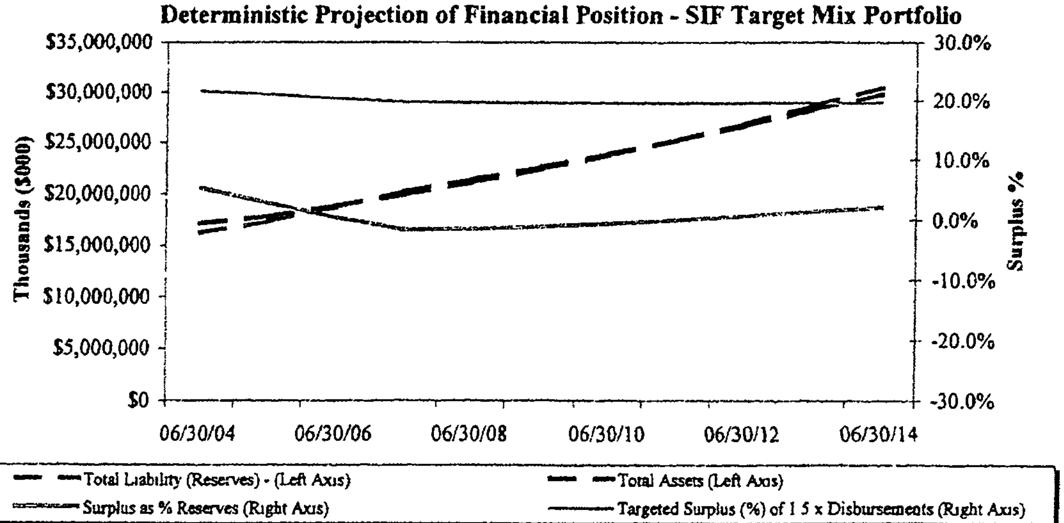
Surplus Account	06/30/04	06/30/05	06/30/06	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14
Net Assets Beginning of the Period	552,379	860,770	474,549	70,100	(342,965)	(334,971)	(254,883)	(161,280)	949	180,945	374,682
(+) Net Income	308,391	(386,221)	(404,448)	(413,065)	7,994	80,088	93,603	162,229	179,996	193,737	256,919
Net Assets End of the Period	860 770	474,549	70,100	(342,965)	(334,971)	(254,883)	(161,280)	949	180,945	374,682	631,602
Surplus as a % Reserves	5.3%	2.7%	0.4%	-1.7%	-1.6%	-1.1%	-0.7%	0.0%	0.7%	1.3%	2.1%
Surplus as a % Total Assets	5.0%	2.7%	0.4%	-1.7%	-1.6%	-1.1%	-0.7%	0.0%	0.7%	1.3%	2.1%
Targeted Surplus of 1.5 x Disbursements	3,517,497	3,652,801	3,829,639	4,013,984	4,226,565	4,434,502	4,700,658	4,961,395	5,246,134	5,556,610	5,888,306
Targeted Surplus as a % Reserves	21.6%	21.0%	20.4%	19.8%	19.7%	19.6%	19.6%	19.6%	19.6%	19.7%	19.7%

Assumptions for Discount Rates: 2004 - 5.5%, 2005 -5.25%, 2006 -5.0%, 2007 and after - 4.75%, and for Actual CPI - 2.6% all years

We have included several alternative measures of surplus. The industry standard is to measure surplus as a percentage of reserves or as a percentage of assets. It is also common to see a targeted surplus, usually at levels sufficient to cover at least one year (or more) of annual claim and expense costs. For this study, BWC chose 1.5 times total cash disbursements, which represents approximately 20% of total projected reserves.

The graph below shows a summary of the key elements of the baseline "deterministic" projection presented above. This projection, assuming all of the current policies for funding, benefits and investment are kept in place, reveals an expectation for some contraction in surplus, followed by modest growth. Surplus is expected to contract initially because of the expected shortfalls in premiums and from lower discount rates going forward. The projection also confirms that in order to significantly grow the surplus closer to target over the next 10 years requires either higher premiums or a more aggressive investment policy (or both) than is currently being pursued.

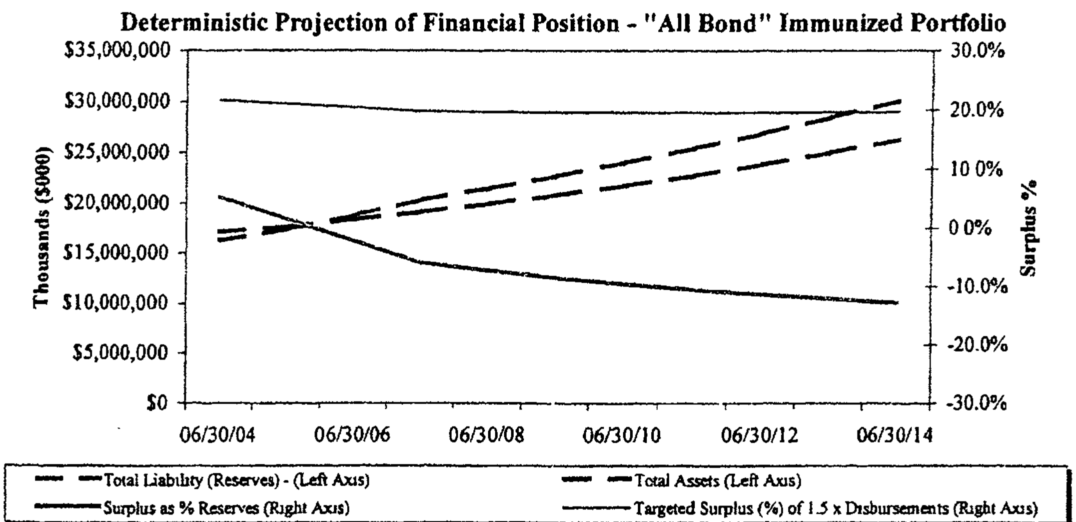
Deterministic Projection of Financial Position - SIF Target Mix Portfolio



Financial Statement Projections

Projected Surplus (Net Assets) continued

The next graph below shows a summary the "deterministic" projection for the "all bonds" portfolio. In this projection we assumed all of the current policies for funding, benefits are kept in place but the investment policy is changed. Given the lower expected return for this portfolio, the projection reveals expectations for locking in a negative surplus within 2-3 years, and a continuing deterioration in surplus.



Looking only at the deterministic projections, where the investments generate their expected returns without variation, the total return approach of the current target appears to be superior to the "all bonds" portfolio. However, it is the potential uncertainty in the capital markets and the cost to the Fund of this uncertainty that is the focus of the liability-matching approaches. In the next section, we will illustrate the impact of capital market uncertainty on the financial statement projections, including liability growth and asset performance, and their interaction as measured by the Fund's ending surplus position over the investment planning horizon.

Time Horizon and Liquidity Needs

The deterministic projection shown can help to identify the time horizon for assuming investment risk. The time horizon is usually defined as the average period of time between when a dollar in the fund (plus its return) today is needed in the future to meet the benefit payment promises. A short time horizon means a heightened sensitivity to return volatility as shown in the range of return charts. Growth in assets provides one measure of the agency's time horizon. Duration is another measure, while liquidity requirements provide a third measure.

The projection shows an expectation for continued growth in assets and liabilities with manageable liquidity needs, and a sufficiently long duration of the liabilities to support a long-term time horizon. The table below provides some cash flow measures (i.e. the sources and uses of cash) and confirms that expected liquidity needs (as measured by Net Cash Flows from Operations) are manageable under the current investment policy.

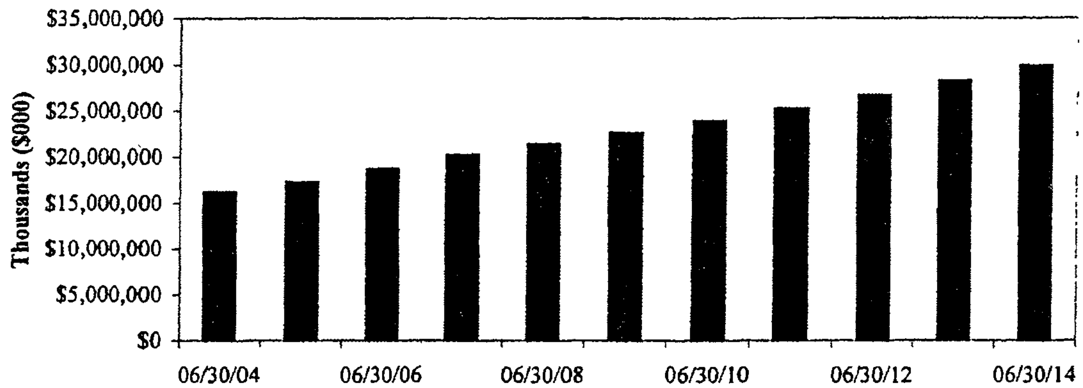
Cash Flow/Balance Measures	06/30/04	06/30/05	06/30/06	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14
Premium + Assessments Collected	1,881,720	1,934,736	2,363,301	2,512,968	2,677,524	2,849,033	3,033,152	3,231,474	3,445,161	3,675,307	3,933,187
Net Cash From Operations ex- Inv Inc	(555,450)	(1,521,497)	(249,203)	(230,986)	(212,600)	(202,045)	(189,197)	(175,540)	(160,745)	(143,751)	(114,771)
Net Cash From Operations inc Inv Inc	(109,138)	(955,395)	355,824	404,273	456,468	503,587	555,903	612,166	672,956	739,628	822,532
Realized and Unrealized Capital Gains	801,910	434,501	438,962	461,506	486,062	512,631	541,304	572,257	605,672	641,762	680,937
Total Cashflow & Capital Gains	692,772	(520,895)	793,985	865,778	942,523	1,016,219	1,097,205	1,184,423	1,278,628	1,381,389	1,503,469

Other indicators that may serve to shorten the time horizon are the low level of surplus and a desire to maintain intergenerational neutrality.

Projected Reserves

We begin this section by recapping the "deterministic" projection for the actuarial reserves, defined as the present value of future claims for injuries sustained as of the valuation date. The reserves measure the minimum amount of assets necessary to satisfy future claim obligations for established case files, assuming actuarial expectations materialize. The most critical capital market assumptions affecting the value of the reserves are inflation (wage and medical) and the discount rate (which is a proxy for future investment returns). Reserves are projected to increase by 6.3% per annum as shown in the first graph below.

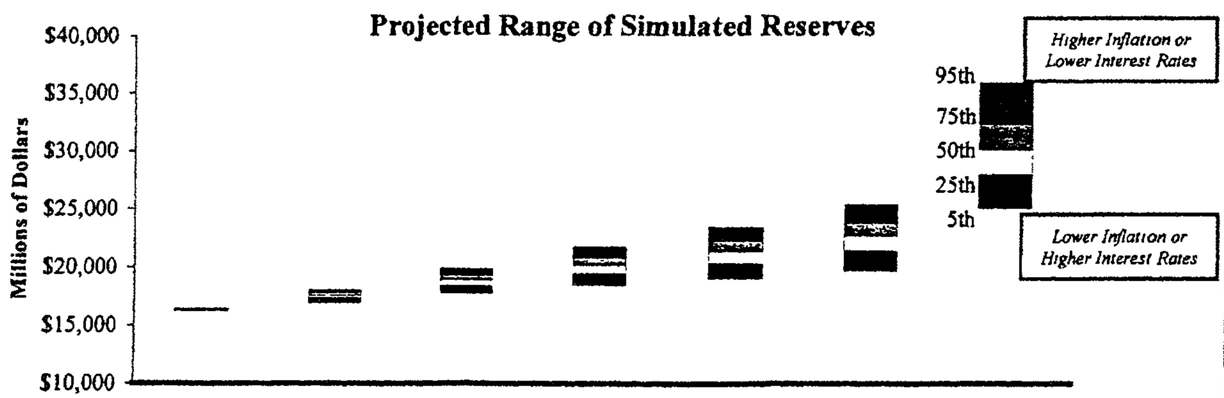
Average Growth of Actuarial Reserves



The next graph illustrates the impact of capital market uncertainty on the reserve projections shown above. The graph below shows a "stochastic" projection (generated using Monte Carlo simulations) and illustrates the full range of inflation and interest rate uncertainty. Inflation will impact BWC's reserves as (wage and medical inflation) actual experience ultimately drives future claim payments (and premiums). Interest rates impact the reserves through the discount rate methodology currently employed by BWC. No other changes in the actuarial assumptions were made.

The bars in the graph show the range from 95th percentile (a 5% worse-case) to 5th percentile (a 5% best-case) that the reserves might take on given different inflation and interest rate experience. The chart shows that future reserves have a range of uncertainty. Downside risk measures the increase in the reserves from its expected value (50th percentile) to a worse-case scenario like the 95th percentile. In general, we are searching for asset mixes that are efficient, and that might best insulate BWC from these "liability" risks. Over the short-term, interest rate risk stemming from the discount rate methodology exceeds that of inflation risk.

Projected Range of Simulated Reserves



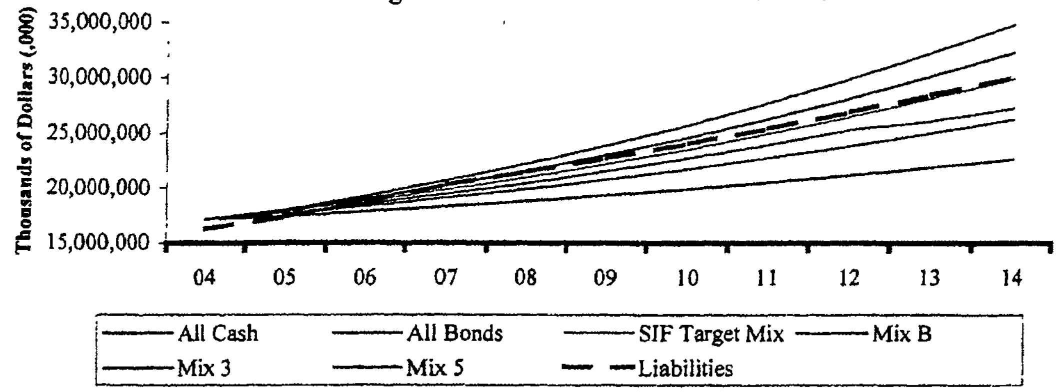
Percentile	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 10
95th	16,267	18,016	19,871	21,714	23,401	25,383	35,904
75th	16,267	17,775	19,268	20,791	22,241	23,790	32,344
50th	16,267	17,552	18,861	20,136	21,329	22,693	30,136
25th	16,267	17,304	18,380	19,442	20,330	21,399	27,953
5th	16,267	16,911	17,703	18,392	18,999	19,690	25,038
Downside		464	1,010	1,578	2,072	2,691	5,768

Integration of Asset and Liability Projections
Stochastic Projections of Assets

Projected Market Value of Assets

The graph below illustrates the interaction of the fair market value of assets and liabilities in the valuation process. Each of the lines represents the projected growth of assets (taking into consideration estimated cash flows) under one of the efficient mixes being evaluated in this analysis. [Note: to make the graph easier to read, most but not all of the portfolios are shown]. The red dotted line represents the projected growth of reserves, the growth rate of which is independent of the selected investment strategy. These lines assume that the asset mixes earn their average return each year, and that inflation and discount rates don't change to impact the liabilities (i.e. unpaid loss reserves).

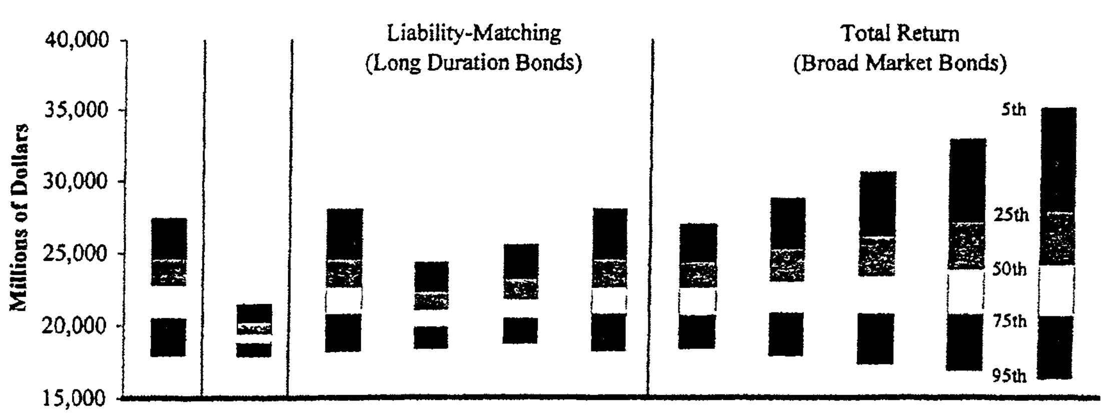
Average Growth of Market Value of Assets



The chart below is generated from the Monte Carlo simulations, and illustrates the fact that there is risk associated with inflation, interest rates and asset returns that can impact the Fund's market value. The bars represent the range that the market value of assets might take on under each asset mix at the end of the fifth year of the simulation. Unlike the previous chart, these results take into account the full range of capital market uncertainty. Thus, while Mix 5 generates the highest median market value (50th percentile), it also generates the lowest worse-case market value (as measured by 95th percentile). In the next section, we will compare the full range of simulated assets to liabilities to gain a more complete understanding of these risks.

In comparison with the simulated range of reserves, the chart below confirms there is significantly more downside risk associated with investment performance.

Projected Range of Market Value of Assets at the end of the 5th Year



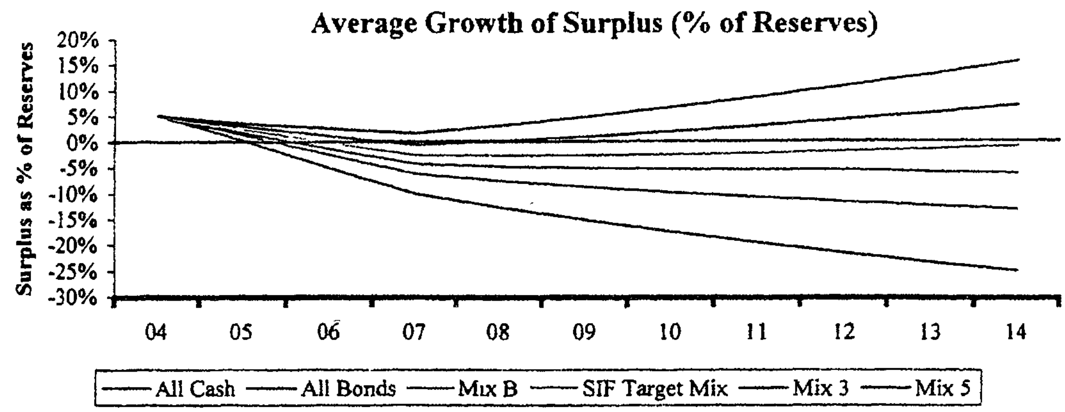
Percentile	Target Mix	All Cash	All Bonds	Mix A	Mix B	Mix C	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
5th	27,503	21,462	28,091	24,391	25,596	28,091	27,060	28,831	30,641	32,974	35,211
25th	24,681	20,249	24,597	22,341	23,221	24,597	24,435	25,340	26,203	27,195	27,929
50th	22,779	19,489	22,652	21,114	21,816	22,652	22,665	23,084	23,436	23,896	24,187
75th	20,514	18,784	20,776	19,892	20,479	20,776	20,710	20,853	20,799	20,773	20,591
95th	17,921	17,874	18,211	18,408	18,719	18,211	18,396	17,907	17,329	16,874	16,312
Downside	4,858	1,594	4,441	2,706	3,097	4,441	4,269	5,157	6,107	7,022	7,875

Integration of Asset and Liability Projections
Stochastic Projections of Surplus

Projected Surplus (Net Assets)

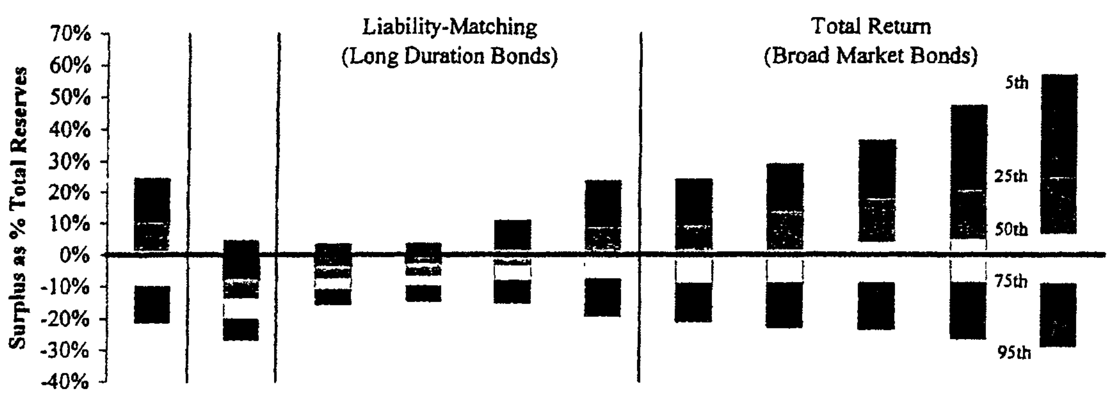
While income in any one year is important to BWC's financial health, a better gauge of the benefits associated with an investment policy is the impact on cumulative net income and the fund's ultimate surplus position over a longer time period.

The following chart illustrates the "deterministic" projection of surplus (as a % of the reserves). Each of the lines represents the projected surplus percentage under one of the efficient mixes being evaluated in this analysis.



The next chart below illustrates the simulated range of surplus at the end of the fifth year, integrating both assets and liabilities and the full range of capital market uncertainty: inflation, interest rates and return performance.

Projected Range of Surplus (as a % Reserves) at the end of 5th Year



Percentile	Target Mix	All Cash	All Bonds	Mix A	Mix B	Mix C	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5	
5th	%25	%5	%3	%4	%11	%24	%24	%29	%37	%47	%57	
25th	%11	(%7)	(%3)	(%3)	%2	%9	%9	%14	%18	%21	%25	
50th	%1	(%14)	(%7)	(%8)	(%3)	%0	%0	%2	%4	%5	%7	*Larger*
75th	(%10)	(%20)	(%11)	(%10)	(%8)	(%7)	(%9)	(%9)	(%9)	(%9)	(%9)	
95th	(%21)	(%27)	(%18)	(%15)	(%15)	(%19)	(%21)	(%23)	(%23)	(%26)	(%29)	*Smaller*
Downside	23%	13%	8%	8%	12%	20%	21%	24%	27%	32%	36%	

When focusing on the total return portfolios considered in this study (such as Mix 1 through 5) the chart illustrates that the more aggressive the asset allocation policy the *larger* the net surplus will be in the expected case (50th percentile) with Mix 5 generating the highest level. However, the more aggressive the policy mix the *smaller* the net surplus will be in a worse-case scenario (like the 95th percentile). This concept illustrates there is a trade-off between higher return and higher risk.

The simulation analysis confirms that a significant reduction in surplus volatility can be gained from the "all bonds" immunized approach by matching the duration of the asset portfolio to that of the liabilities. However, the simulation also confirms that negative surplus would be effectively "locked-in" under this particular low risk approach and upside potential restricted. Nevertheless, surplus volatility is not eliminated, primarily because interest rates for discounting purposes are smoothed over 5-years and the from the presence of inflation risk that is not hedged with long duration nominal bonds.

Evaluating the Results
Risk and Reward Analysis

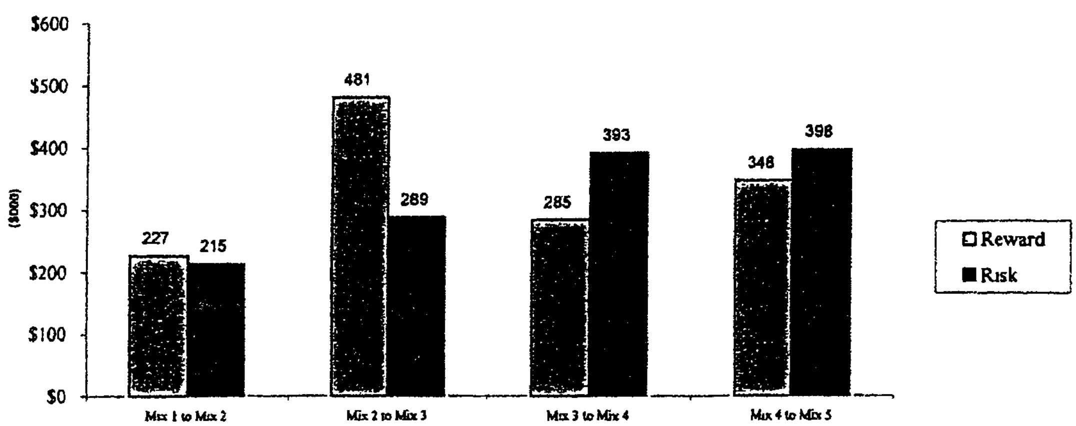
Risk and Reward Analysis using Real Surplus

Analysis of the risk/reward tradeoff for each asset mix along the efficient frontier can be performed to determine an appropriate asset allocation policy for the Fund under the total return approach. This risk/reward analysis focuses on Mix 1 through Mix 5 and is based on the range of the surplus shown on the prior page, but converted to real dollars. First, the percentage surplus is converted to a dollar value of surplus. Next, these "nominal" surplus amounts are discounted for the effects of inflation to determine a real value in today's dollars (called Real Surplus). In each case, the reward is measured as the change in the values of Real Surplus at the 50th percentile when comparing mix to mix while moving up the efficient frontier. The increase in Real Surplus values is the reward. The risk is the decrease in Real Surplus at the 95th percentile or worse-case scenario.

The graphs below illustrate the tradeoff consequences of moving from asset mix to asset mix along the efficient frontier, beginning with the Mix 1 (lower return, lower risk) and ending with Mix 5 (higher return, higher risk). A positive bar means an increase in the risk or reward associated with the move, and a negative bar means a reduction. Typically, if the reward is greater than the risk, then a move to a more aggressive alternative is justified. For example, a move from Mix 1 to Mix 2 is justified since the reward is greater than the risk ($227 m vs. $215 m), as so is a move from Mix 2 to Mix 3. The move from Mix 3 to Mix 4, however, is not justified since the increase in risk exceeds the increase in reward ($393 m versus $285 m, respectively).

The conclusion of this type of analysis is that BWC and the Oversight Commission could consider as aggressive a policy as mix 3 because of the favorable risk and reward tradeoff.

Risk and Reward Analysis
Real Surplus at the end of the 5th Year



In using this type of analysis to draw a conclusion, we highlight several underlying assumptions: no change in the benefit or premium structures, a long-term time horizon, and a tolerance for volatility in surplus from one year to the next. When focusing on the Fund's ending projected surplus (in real terms after discounting for inflation), the risk and reward tradeoff analysis indicates as aggressive as Mix 3 is an optimal asset allocation (Mix 1 and Mix 2 also have favorable tradeoffs). This conclusion is based on two critical factors: premium rates are too low and will remain so going forward, and that greater risk taking is in order in order to favorably grow the surplus over the long term when premiums are deficient. The quantitative conclusions also assume that BWC is able and willing to withstand the short-term volatility in surplus associated with the total return approach.

Alternative Mix 3 would result in a significant change in asset allocation policy and a large transition from the current Target Mix which the Oversight Commission may not prefer. Alternative Mix 1 is similar to the current strategy, while Mix 2 slightly increases risk and is similar to the current invested position of the Fund. Alternative Mix 2 is expected to slightly grow the surplus without increasing the Fund's risk level.

Risk and Reward Analysis using Real Surplus continued

The analysis and conclusions presented on the prior page assume the risk tolerance of the Oversight Commission (and BWC) is sufficient to withstand short-term volatility of surplus in the pursuit of long-term growth. If the risk tolerance of the Oversight Commission is lower than what was expressed by BWC staff, and significant volatility of surplus (or negative surplus) over the short-term is unacceptable, then a liability matching approach may be more appropriate at least for those assets supporting reserves.

This report demonstrates several alternative approaches under a liability-matching approach as a means of reducing surplus volatility, including a 100% "all bonds" portfolio which is duration-matched to the liabilities. The reason for selecting this portfolio for our analysis is that we are projecting no future surplus under this strategy by the end of third year. Another alternative is to invest 5% of the assets in a total return approach with the remaining 93% invested (2% fixed in cash) in a liability-matching portfolio ("Immunized" or Mix A). Either portfolio closely reflects the current surplus level of BWC and is similar to the strategies of a peer group of other workers' compensation agencies.

The simulation analysis confirms that a significant reduction in surplus volatility can be gained from the "all bonds" immunized approach by matching the duration of the asset portfolio to that of the liabilities. However, the simulation also confirms that negative surplus would be effectively "locked-in", requiring premiums to rise.

As our efficient frontier analysis discussed, there are numerous choices between the liability matching and the total return portfolio approaches that the Oversight Commission could select (for example, Mix B). The ability to adjust premiums higher (or benefits lower) will influence how much liability-matching may be appropriate. If BWC has the flexibility to fully adjust the premiums to insure the solvency of the agency, then a liability-matching approach maybe appropriate. On the other hand, if premiums are relatively inflexible, then our analysis suggests that the total return approach may be more appropriate. Nevertheless, surplus is not expected to be at a level sufficient to provide any future premium refunds over the projection period under the total return approach. A discussion of the flexibility (or inflexibility) in premium rates is essential to finalizing the most appropriate investment strategy.

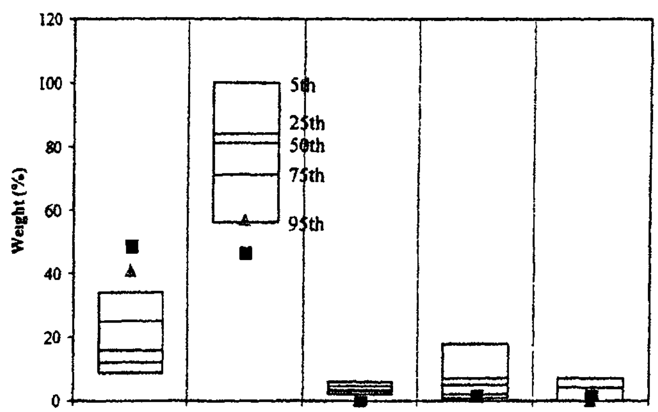
Finally, to tailor a liability-matching strategy involves several considerations. A dedicated, cash flow matching strategy would be limited to only the near term (maximum 3-5 years) as longer term cash flows are likely too unpredictable. To extend duration closer to that of the liabilities, our example assumed that the Fund would be fully invested in long duration bonds. BWC could also consider using interest rate derivatives to extend the duration rather than directly buying long duration bonds. Unlike the derivatives market, direct purchase of long duration bonds presents problems with concentration due to the low number of outstanding issues, with demand and supply, and with optionality embedded in some of the bonds. A derivative strategy can be "overlaid" on a broad market bond portfolio to provide the necessary duration protection (associated with changes in interest rates) without disturbing the underlying investment strategy and the diversification benefits associated with the broad market. Nevertheless, adding a derivative strategy to the portfolio will require BWC to have sufficient knowledge and resources to implement and monitor a more complex investment strategy.

Peer Group Analysis

In this section, we ask the question, "What are other workers' compensation funds or large institutional investors doing with their asset allocation strategies?" While Callan does not recommend asset allocation strategies based solely on what others are doing, we believe that this is a reasonable check for quantitatively-based recommendations. Furthermore, we realize that fiduciaries find a certain "comfort in numbers," which this peer review can provide. The Oversight Commission needs to evaluate the relative comfort they place in their fund's investment performance being similar to that of a peer group of funds.

The data in this section encompass a range of asset allocations for a group of workers' compensation funds. The database was constructed in February 2005 by Callan from a survey of other monopoly states, competitive state agencies, and private insurers providing workers compensation coverage in competition with state agencies. Measurement dates for the peer group range between December 31, 2003 and December 31, 2004. For this analysis, we constructed a universe of 20 funds chosen for similarities in benefits and liabilities guiding their investment approach.

The red square within each bar represents BWC's invested position for the State Insurance Fund as of March 31, 2005, while the green triangle represents the Fund's current Target Mix.



	Equity	Fixed	RE	Cash	Other
5th Percentile	34%	100%	6%	18%	7%
25th Percentile	25%	84%	5%	7%	4%
Median	*16%*	*81%*	*4%*	*5%*	*0%*
75th Percentile	12%	71%	3%	2%	0%
95th Percentile	9%	56%	2%	1%	0%
SIF March 31, 2005 ■	49%	47%	0%	2%	2%
SIF Target Mix ▲	41%	57%	0%	2%	0%
% Invested	85%	100%	20%	0%	15%

The above comparison shows that the current allocation and target mix have relatively aggressive equity allocations. Alternative Mix 2 or Mix 3 would be considered even more aggressive. Overall, alternative Mix B (20% equity) is closest to the peer group. The peer comparison confirms our understanding of the competitive nature of insurance industry with its lower tolerance for risk. This type of analysis does not contemplate the fact that each fund has a different level of surplus assets to support risk taking, which we will consider next.

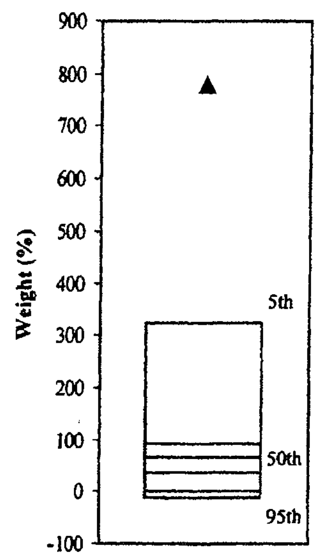
Finally, the peer comparison shown above includes other state monopoly agencies (only 4 remain) similar to Ohio's. We highlight below the surplus level and asset allocation strategy currently being pursued by these funds:

- North Dakota: 37% surplus (as a % of reserves), asset allocation: 21% equity, 72% bonds, 6% real estate, 1% cash.
- Washington: 5% surplus, asset allocation: 16% equity, 83% bonds, 1% cash.
- Wyoming: Would not disclose.

Peer Group Analysis continued

The comparison chart shown on the prior page does not consider that different workers' compensation insurance programs have different levels of surplus and different objectives with regard to surplus stability or growth. Callan observes that, in general, given the lower funding flexibility and the strict regulatory requirements for solvency associated with the competitive insurance industry, only surplus assets are considered for riskier asset classes like equity investments.

As the second peer comparison, the chart below shows the range of equity allocations as a percentage surplus assets, which serves to measure "surplus at risk" for the peer group.



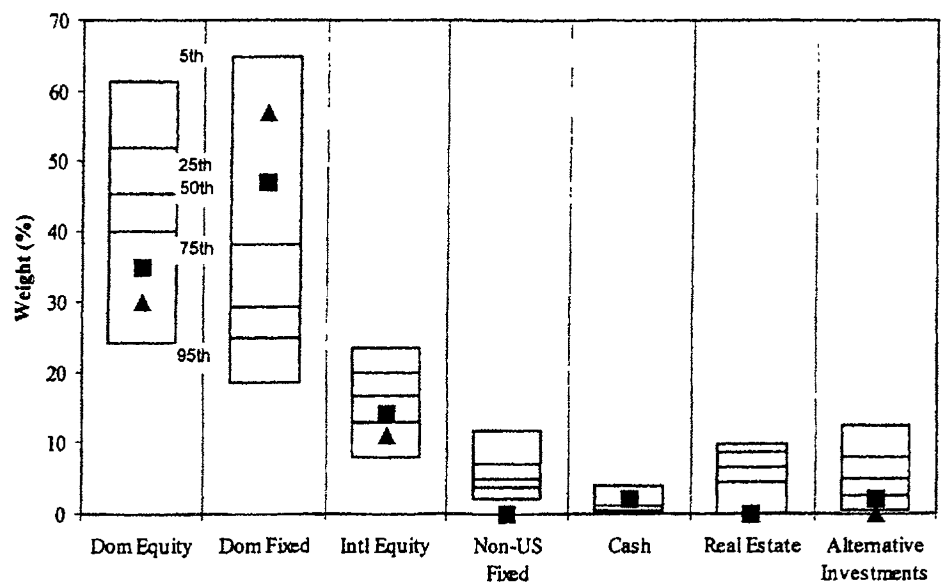
		Equity (as % Surplus)
5th Percentile		311%
25th Percentile		80%
Median		***52%***
75th Percentile		23%
95th Percentile		-13%
SIF Target Mix	▲	778%
% Invested in Equity		85%

The above peer group comparison shows that the current SIF Target Mix is relatively aggressive given the level of BWC's current surplus.

Peer Group Analysis continued

The third peer group comparison encompasses the range of asset allocations for a group of other public sector institutional investors such as Ohio's state retirement plans. The data used in this section was selected from Callan's proprietary Public Plan Sponsor database and includes a universe of 80 retirement funds. This group was chosen for similarities in their asset sizes and time-horizons (i.e. greater than 5 years) guiding their investment approach.

The red square within each bar represents BWC's invested position for the State Insurance Fund as of March 31, 2005, while the green triangle represents the Fund's current Target Mix.



		Dom Equity	Dom Fixed	Intl Equity	Non-US Fixed	Cash	Real Estate	Alternative Investments
5th Percentile		61%	65%	23%	12%	4%	10%	13%
25th Percentile		52%	38%	20%	7%	1%	9%	8%
Median		***45%***	***29%***	***17%***	***5%***	***1%***	***7%***	***5%***
75th Percentile		40%	25%	13%	4%	0%	4%	3%
95th Percentile		24%	19%	8%	2%	0%	0%	0%
SIF March 31, 2005	■	35%	47%	14%	0%	2%	0%	2%
SIF Target Mix	▲	30%	57%	11%	0%	2%	0%	0%
% Invested		99%	100%	89%	29%	39%	53%	63%

The above comparison shows that the current allocation and target mix have more conservative equity allocations relative to this particular peer group, which consists primarily of public state and municipal retirement systems. The majority of the benefits are pension related, however some plans in the peer group also include medical benefits.

The primary reasons for the higher median equity allocations in this peer group are that they generally have higher return targets guiding their investment strategy, a willingness to accept funded status volatility, and the ability to permit surplus to turn negative for a period of time without severe penalties. Alternative Mix 2 and Mix 3 would be more in line with these types of long-term institutional investors.

Evaluating the Results
Selecting an Investment Policy Target Mix

Alternative Investment Policy Target Mix

For this study, we analyzed the financial impact on BWC of pursuing an alternative investment policy for the Fund's assets. Our analysis focused on simulating capital market uncertainty and understanding its impact on the financial status of BWC over a five year period (from June 30, 2004 to June 30, 2009).

For this study, we examined a range of portfolio alternatives over the spectrum of liability-matching approaches (such as dedication or immunization) to the more opportunistic approach of total return.

Our deterministic projection shows expected grow in both assets and liabilities over the next 5 years along with manageable cash flows. These combined characteristics suggest that the BWC has a relatively long planning horizon in which to assume investment risk. On the other hand, the significant decline in surplus and a desire for intergenerational neutrality may indicate the opposite - more of short term horizon.

Our projections indicate that the current SIF Target Mix has a reasonable chance of keeping pace with liability growth under the current premium structure, with modest growth expected in surplus. The downside risk, however, associated with the total return approach is surplus volatility.

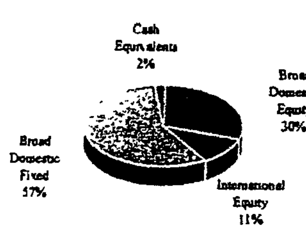
Under a move to a liability-matching approach, our projections indicate that asset returns will not keep pace with liability growth, implying locking-in negative surplus and higher premiums today. The advantage of a liability-matching approach is to control surplus volatility and downside risk, at the cost of forgoing upside potential.

Risk and reward tradeoff analysis was performed using the projected surplus (Real Surplus) decision variable to determine the appropriate asset mix under the total return approach. The conclusion of the analysis is that BWC could consider an investment strategy as aggressive as Mix 3, which has higher returns and higher risk relative to the current SIF target mix. This conclusion is based on two critical factors: premium rates are too low and will remain so going forward, and that greater risk taking is in order in order to favorably grow the surplus. Alternative Mix 3 would result in a significant change in asset allocation policy and a large transition from the current Target Mix which the Oversight Commission may not prefer. Alternative Mix 1 is similar to the current strategy, while Mix 2 slightly increases risk and is similar to the current invested position of the Fund. Alternative Mix 2 is expected to slightly grow the surplus without increasing the Fund's risk level.

The Asset Peer Group analyses suggests most competitive agencies and private companies favor the liability-matching approach at least for assets supporting reserves. For the majority of other long term institutional investments such as public pension plans, the total return approach is generally favored.

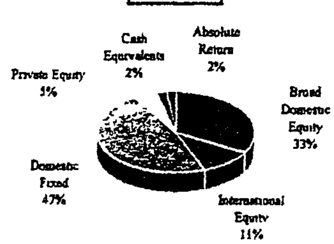
The following charts show the two total return approaches, the SIF's Target Mix with a comparison to alternative Mix 2, and the liability matching "Immunized" portfolio. The most appropriate portfolio choice should reflect the goals and risk tolerance of the BWC and the Oversight Commission. As there are numerous options between the "immunized" portfolio (or Mix A) and Mix 2 that the Oversight Commission could select. Premium flexibility suggests the liability-matching may be more appropriate, while inflexibility suggest the total return approach. A discussion of how the three key policies are expected to change going forward is necessary to finalize the most appropriate investment strategy.

Current SIF Target Mix



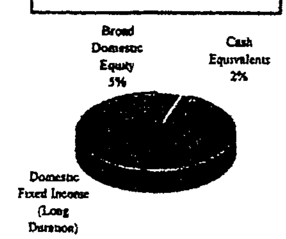
Return = 6.5%
Risk = 7.9%

Mix 2



Return = 7.0%
Risk = 9.5%

Immunized / Mix A



Return = 5.2%
Risk = 7.5%

Summary of Questionnaire
Establishing Goals and Tolerance For Risk

Summary Results

Prior to completing this report, Callan distributed a questionnaire to the Oversight Commission which was intended to raise issues critical to defining their goals and risk tolerance. Three members completed the questionnaire, 2 advised us that they did not intend to complete it, and several members have yet to reply.

We have reviewed the completed questionnaires and highlight our impressions of the responses to date relative to the issues under consideration:

- There seemed to be a general consensus that preservation of capital and portfolio diversification was a goal for the Fund.
- On the other hand, there was a wide range of opinion on how much equity risk was appropriate for the Fund.
- There was also a difference of opinion on whether to take investment risk (relative to asset supporting the reserves) to grow surplus.
- There was a lack of consensus on whether BWC was sensitive to short-term volatility such that volatility minimizing investment strategies should be pursued.
- There was some consensus of not needing an investment hedge for inflation risk, with a range of opinions on hedging interest rate risk.
- There was general consensus that the current investment portfolio was sufficiently diversified.
- There was a wide range of opinion on whether an investment approach similar to other worker's compensation funds or private funds was important.

In light of these responses, Callan believes there is still a diverse range of opinion within the Oversight Commission on the appropriate amount of risk to take. We believe the specific choice of strategy can be narrowed down, but the Commission must resolve its conflicting views. Consequently, we anticipate further refinement in the portfolio strategy may be necessary once there is resolution.

Appendix D includes the individual responses to provide a more complete picture of the range of opinions, with additional comments from several respondents worth reviewing.

Appendix A

Capital Market Projection Process

The 2005 Capital Market Projections

Introduction

Callan Associates develops projections of capital market performance at the start of each year. These projections are a key component of asset allocation studies, incorporating the economic and financial environment in which pension plans, money managers and the Callan consultants will operate. Callan integrates information on past capital market performance, key economic indicators, and the market insights of Callan professionals to develop projections that are sound, defensible, and consistent. Individual asset classes (equities, fixed income, cash, real estate, and private equity investments) are analyzed as part of a larger system, acknowledging both the interaction between asset classes and the influence of larger macroeconomic events such as inflation or recession on the entire structure of capital markets.

The capital market projections consist of projected returns and two measures of risk -- standard deviation and correlation -- for each of nine asset classes and inflation, as represented by the following market benchmarks:

Asset Class	Benchmark
Equities	
Broad Domestic Equity	Russell 3000 Index
Large Cap Domestic Equity	S&P 500 Index
Small/Mid Cap Domestic Equity	Russell 2500 Index
International Equity	MSCI EAFE Index
Fixed Income	
Domestic Fixed Income	Lehman Brothers Aggregate Bond Index
International Fixed Income	Citigroup Non-U.S. Government Bond Index
Other	
Real Estate	Callan Total Real Estate Database
Private Equity	Venture Economics Post-Venture Capital Index
Cash Equivalents	90-Day U.S. Treasury Bill
Inflation	CPI - All Urban Consumers

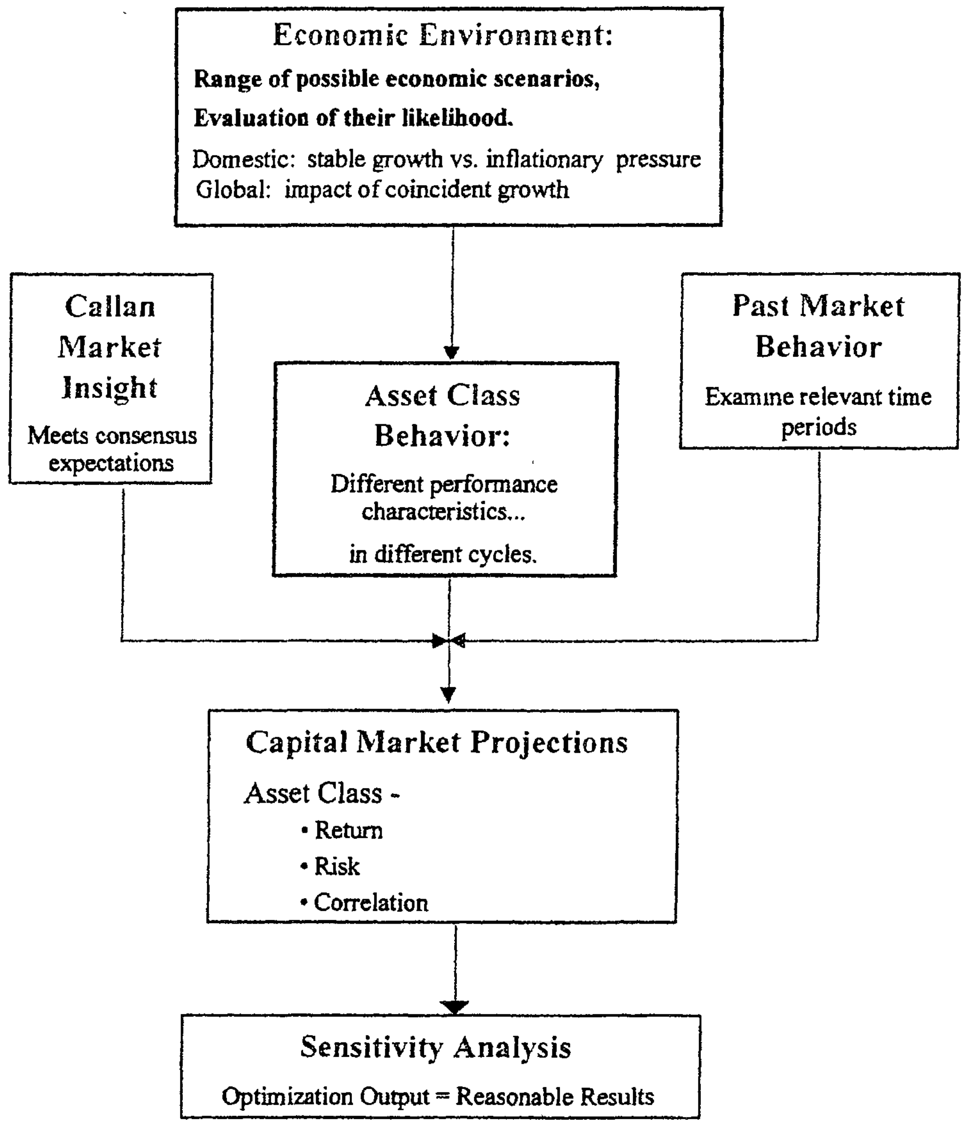
The projections for returns, standard deviations and correlations are for the five-year period from 2005 through 2009. A five-year period is chosen because it typically captures a market cycle.

The benchmarks above are investable, measurable and representative of the markets they cover. The domestic equity asset classes are now represented by S&P and Russell indices due to the discontinuation of the Callan indices at December 31, 2002.

The process Callan uses to develop the capital market projections is summarized in Figure 1 on the next page.

The 2005 Capital Market Projections

Figure 1



The Process

There are four distinct steps, which act as inputs to the formation of Callan's capital market expectations:

1) Develop medium and long-term economic outlooks for the U.S. and other major industrial economies. This process consists of both understanding the range of possible economic scenarios and evaluating their likelihood.

2) Examine historical relationships between key economic variables and asset class performance patterns. This step includes the development and maintenance of empirical models which embody these relationships.

3) Create comprehensive asset class performance projections by blending descriptive asset class characteristics with capital market insight and economic analyses developed in Steps 1 and 2.

4) Test performance projections for reasonable results with an optimization model and fine tune preliminary estimates when necessary.

The 2005 Capital Market Projections

Step One: The Economic Environment

Callan Associates believes that projections of asset class performance should explicitly consider the expected state of the economy over the time frame being considered. Since our clients have medium and long-term investment horizons, the first step in our capital market projection process is to develop a medium and long-term economic outlook. Our research, as well as other academic and professional research, indicates that much of the intermediate and long-term variation in asset class performance is closely related to the behavior of the U.S. economy and other industrial economies.

We apply in-house models in an effort to understand the relationship between key economic variables and capital market behavior. We have learned that the interaction between economic growth, inflation and interest rates is a fundamental determinant of returns for domestic equities and bonds. Outside the U.S., we have learned that economic events in other countries can influence exchange rates, domestic inflation and markets for domestic goods. We examine historical information, recent economic trends and robust human capital resources to form expectations on key variables such as inflation, GDP growth, and exchange rates, for both the domestic and international economies. We survey leading economic forecasters, and incorporate the wisdom of experts and veteran practitioners within the money management community and among institutional investors.

Economic Environment and Outlook

United States Economy

2004 was a good year for the economy and the capital markets. GDP rose an estimated 3.6% in the fourth quarter, resulting in a gain of 4.4% for the year, the best performance since 1999. While continually characterized as "disappointing", the job market finally delivered new jobs in sizable numbers. Payrolls rose 2.2 million during 2004, on a base of about 130 million at the start of the year. While 2.2 million sounds like a lot of new jobs, especially after the experience of the past few years, it is still about half a million jobs short of expectations. Oil prices shot up to $50 and inflation fears were fanned, yet the economy and the price levels overall shrugged it off. The year-over-year change in the CPIU fell back below 3% after visiting 3.25% in June, and the rise in October and November to 3.5% was largely due to the decline in prices experienced a year earlier. A sharp decline in energy prices sent the CPIU down in December, and overall increase in inflation for the year was 3.3%. The dollar fell further in 2004, but not by as much as headlines would have you believe; the big move downward in the dollar's value occurred in 2003. Internationally, sluggish growth continued to dog Europe, and the recovery in Japan began to falter during 2004 after it seemed the Japanese economy was finally getting on track. China is still growing at remarkable rates, but many observers are calling for a controlled "soft landing" over the next year or two. The currency peg to the dollar is coming under increasing pressure, and the biggest risk for China is now a "hard" rather than a soft landing should a significant revaluation of the yuan become unavoidable.

Looking forward, leadership in the expansion is expected to pass (reluctantly) from consumers to businesses. Consumers would like to keep spending, but the tax cuts are finished, housing markets have likely peaked, and interest rates are rising, and consumer spending is running out of gas. Businesses have been reluctant to hire and invest, but are being prodded to move by record profits, low inventories, growing markets and increased utilization of capacity. Exports are rebounding in response to the dollar's depreciation, although they are tempered by slow growth in the Europe and Japan. The Federal government stimulus is ending, both from spending and from tax cuts, and the budget deficit will place increasing pressure on taxes to rise, despite campaign promises to the contrary. With upwards of 85% of Federal spending "locked in" through entitlements and defense, there is little room to fix the budget gap through spending alone. In sum, the economy is coming off a strong year but faces some headwind, and the outlook for 2005 is best characterized as "good but not great".

Business spending on equipment is finally surging. The Report on Business, published by the Institute for Supply Management (ISM), suggests that December marked the 19th consecutive month in which the manufacturing sector of the U.S. economy grew. The "new orders" and "backlog of orders" components of the ISM data show particular strength, and confirm growing demand from capital spending. The ISM tracks purchasing activity in both the manufacturing and non-manufacturing sectors of the economy, and its data are often reliable leading indicators of economic activity. The ISM index of non-manufacturing activity also indicates continued growth in the U.S. economy. Consistent with the "good but not great" theme of the current outlook, the level of activity as depicted by the indexes for both manufacturing and non-manufacturing has slowed since the first half of 2004.

Economic Environment and Outlook (Continued)

United States Economy, continued

Consumer spending growth will now be determined by employment and income gains, rather than positive responses to Fed policy and Administration tax cuts. 2004 marked the first year since 1997 that consumer spending rose less rapidly than GDP, and this pattern is likely to become the new norm. Housing activity will also no longer grow faster than the economy (and demographic forces) will allow. The greatest concerns for the economy stem from the dollar, investment flows and fiscal policy, all of which are closely linked. Foreign capital continues to flow into the United States, fueled in part by "official inflows", code words for exchange rate intervention by our trading partners' central banks. Official inflows rose from 21.5% of net inflows in 2003 to almost 30% of net inflows in 2004, an increase of $100 billion. Overseas investors have been willing to finance our twin trade and budget deficits, but our increasing reliance on intervention by other countries' central banks suggests further weakening of the dollar is likely. With European and Japanese economies remaining weak, there is little chance for the trade deficit to narrow without further dollar decline. This decline in the dollar could weaken the resolve of foreign investors to support our free-spending ways, and a loss of appetite for dollar-denominated assets could send the dollar into a tumble, and cause a major correction in the bond market, i.e., a spike in U.S. interest rates. The impact of the decline in the dollar on prices and interest rates has been surprisingly muted thus far; foreign exporters have absorbed the dollar decline in their margins, and investors have been willing to absorb actual losses in local currency terms to remain invested in dollar-denominated assets.

Callan expects the economic expansion will continue, with a return to trend growth of 3%-3.5% over the next few years after the strong gains of 2003-2004. Overall, Callan expects the economic and capital market environment to be characterized by low inflation, low interest rates, and low investment returns. The Federal Reserve is well into tightening monetary policy and has targeted a 4% Federal Funds rate. The stock market recovery will be slow. Profits cannot outpace GDP growth, and share prices cannot outpace earnings.

International Economies

The fundamental problem for the G-7 remains the weakness of the European and Japanese economies. Right now, many overseas economies are getting most of their demand growth from the U.S. recovery. This reliance is not healthy for either the U.S. or Europe. Economic policies in Japan and to a lesser extent on the European continent have exacerbated problems. Economic demand should be based on internal growth, not a policy push for trade surpluses. Over the past year, roughly 80% of Germany's growth and 50% of Japan's growth were directly and indirectly the result of exports to the rest of the world, notably to the United States and China. As these two global growth engines slowed in the second half of the year, it is not surprising that Japan and the Eurozone have faltered. The European Central Bank (ECB) has been reluctant to cut interest rates to boost growth, which has contributed to a strengthening euro. The rest of the world is concerned with the ballooning U.S. trade deficit, yet does not relish the idea of a weak dollar, which makes their exports to the U.S. less competitive. Europe and Japan cannot rationally blame the U.S. for running deficits if they insist on running surpluses.

The outlook for Europe and Japan is restrained. With the yen and the euro expected to appreciate next year, these economies will face stiffer headwinds. After growing at a respectable pace earlier in the year, the French, German and Japanese economies stumbled in the third quarter, each growing a paltry 0.4% - one-tenth the rate of the U.S. economy. In the Eurozone region, consumer spending and business investment remains stubbornly weak. Japan enjoyed real growth for "real" economic reasons in 2003 - demand from consumers and businesses that was based on economic activity, not a response to federal spending - but the economy began to stall again in 2004. Both economies are expected to lag the U.S. in growth over the next few years. Growth in Japan is expected to remain stuck at a rate between 1.5% and 2.0%, as is growth in the Eurozone. Both will also continue to rely on exports to the U.S. and China to propel demand, despite the fall in the dollar and expectations of further dollar devaluation in 2005.

A rebounding world economy and rising commodity prices helped most emerging markets in 2004 and should continue to help going forward. The tsunami caused great devastation and loss of life that will take years to fully recover from, but the impact on productive capacity of the affected countries appears to be muted. China is expected to slow, but avoid a "hard landing". China has become a mini growth locomotive, especially for many emerging markets. While accounting for less than 5% of the global economy, it is credited with 15%-20% of global growth. In response to rising inflation, the government has been trying to slow growth, which running over 9% per year, without precipitating a hard landing, defined as growth below 6%. Inflation in China has leveled off at around 3%, reducing the risk of overheating.

The 2005 Capital Market Projections

CAI

Step Two: Examination of Economic and Capital Market Relationships

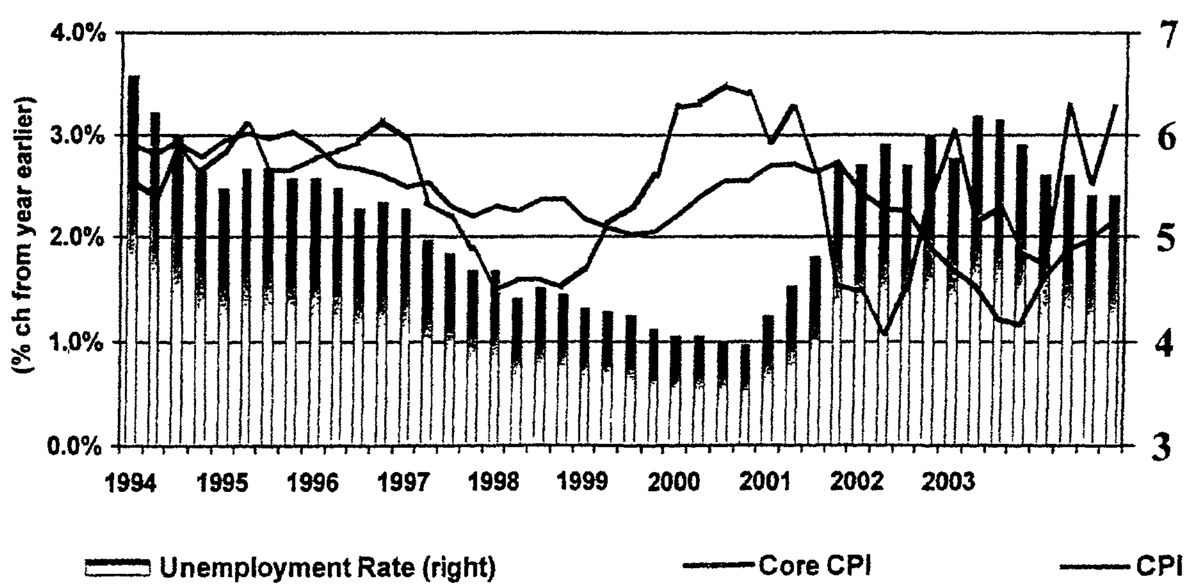
The second step in the process links our economic outlook with an outlook on asset performance. For this process a different group of empirical models is used. These models have been specifically designed to link projections of important economic variables to the medium term asset performance characteristics which will be used in the portfolio optimization procedure. Most of these models are either small to medium scale simultaneous equation models, unrestricted and Bayesian vector autoregressive models, or multiple regression models.

When using complex statistical models to characterize the past, and then to forecast the future, it may seem that we are constrained to thinking that history will repeat itself. However, it is precisely this modeling of underlying relationships in economic and financial markets which allows us to use information from previous decades and apply it to the new situation of the next decade. The ultimate function of these statistical models is to identify the past relationships between asset performance and movements in various parts of the economy. These models allow us to identify past co-reactions of financial and economic variables while controlling for other situational influences on the variables in which we are interested. That is, we can use the models to find the relatively constant structural relationships characterizing how the economic and financial markets interact in all types of economic and financial environments. This analysis enables us to bring historical relationships between variables (independent of the situation) to bear on a situation which is different than any encountered before. This is the real power of econometric models, and the reason they are essential to our capital market expectation process.

Inflation

Oil prices spiked to over $50 per barrel during 2004 and inflation fears were fanned, but consensus forecasts for inflation actually call for a decline in 2005 and 2006 compare to what we saw in 2004. The CPI finished the year with a 3.3% year-over-year increase, up from the extreme lows of 2003, and most projections see inflation drifting back toward 2.5% in 2005 and lower thereafter. The risks are now shaded more towards rising inflation , but there are still many factors countering inflationary pressures. First is continuing global overcapacity, second is fierce global competition, which has expanded rapidly beyond manufacturing to services and removed pricing power from many industries in the process, third is productivity, and fourth is the continuing lack of pressure from wages. The devaluation of the dollar should show up in prices sooner or later, but the sharp decline in 2003 has yet to be felt.

The bond market has not changed its inflation expectations materially from one year ago, and is still planning on a "reflationary" environment. The U.S. economy and overall price levels have shrugged off the spike in oil prices, and with oil headed back towards $40 (and maybe below), inflation will remain only a low level threat.



The 2005 Capital Market Projections

Step Three: Create 5-Year Performance Projections

Return:	Annualized Total Return
Risk:	Annualized Standard Deviation of Returns
Relationships:	Correlation of Asset Class Returns

Recent Capital Market Performance: Understanding Risk

Understanding the current capital market environment and how it has evolved over time is another crucial step in the projection process. The performance characteristics for each asset class are examined in great detail, particularly the interrelationships among the asset classes. The starting point in this process is examining risk. For our purposes, risk is measured by standard deviation and correlation. The standard deviation of returns for the S&P 500 Index, for example, is the measure of how wide the range of returns for large cap equities tends to vary around the mean. The wider the typical range, the higher the standard deviation, and the higher the risk. Correlation measures the degree to which the returns from two asset classes move together. The higher the correlation between returns of two asset classes, the higher the likelihood that these classes will simultaneously experience above or below average performance. The benefit of lower risk through portfolio diversification is achieved by combining asset classes with low correlation. A portfolio with lower correlation between asset classes faces a lower likelihood that all asset classes will suffer low levels of returns at the same time.

Anticipating Risk: Trends and Expectations

Academic research suggests that recent historical values of standard deviation and correlation are good predictors of near-term future values, a concept called "persistence." Initial ranges for the projections of standard deviation and correlation are established by analyzing detailed historical data. The long-term average and two smoothing techniques (rolling 5-year averages and exponentially smoothed 5-year averages) over relevant time periods frame the starting point for the projections.

Callan's market insight and economic forecasts are then applied to the recent market data to determine projections for standard deviation and correlation. Short-term variations in the recent values for the variables are analyzed to determine whether these changes are permanent or simply transitory. Knowledge of market shifts that are not yet embodied in the data are incorporated, and expectations of changes to recent trends in standard deviation and correlation are imposed. As this market insight is applied, a sharp eye is kept focused on the consistency of the projections across asset classes. In particular, the complete set of correlations between each of the nine asset classes and inflation -- the correlation matrix -- is monitored to ensure mathematical consistency among the values. That is, if two asset classes are highly correlated they should be similarly correlated to a third asset class.

The 2005 Capital Market Projections

Forming Return Expectations

A set of initial assumptions -- market insights and economic forecasts -- guide the analysis of the capital market data:

- An initial bias toward long run averages
- A conservative bias
- Awareness of risk premiums
- Markets clear and are rational
- The relationship between inflation, T-bills, and bonds is the building block for returns on other asset classes

Market returns are computed by analyzing recent market performance measures including:

- Historic rolling 5-year returns
- P/E ratios with subsequent rolling 5-year returns
- Relative volatility (e.g., small/mid cap equities versus S&P 500)
- Rolling 5-year excess returns
- Yields to maturity
- Liquidity
- Risk premiums

The object of the return projections is not to try to pinpoint the exact return for each asset class, but to estimate a central point around which future returns are likely to fall. The standard deviation indicates the range of potential returns around this central point in such a way that probabilities can be calculated for any possible return. For example, the 8.85% projected return for large cap domestic equity simply indicates that there is a 50% probability that the return to domestic equity will be at or above 8.85%. The probability of any outcome, either above or below 8.85%, can be determined from the distribution. For example, the standard deviation of 16.2% implies that in any one year there is a 67% (2 out of 3) probability that the return will be within the following range of possible returns: 8.85% + 16.2% = 25.05% and 8.85% - 16.2% = -7.35%. As a result, we are not projecting a specific return for each asset class, rather we are indicating the breadth of possible returns and expressing the likelihood of their occurrences.

Callan Market Insight

For each asset class, insight and feedback from Callan specialty consulting groups further refine the return expectations. In the cases of real estate and private equity investments, where market performance data are often incomplete, Callan's market insight is crucial to the formulation of meaningful return expectations. The projections for returns, standard deviations, correlations and inflation are then subject to discussion, review and final approval by Callan's Client Policy Review Committee. This Committee, comprised of senior consultants, research specialists and company executives, conducts peer review and quality control on all Callan research.

The 2005 Capital Market Projections

CAI

Step Four: Sensitivity Analysis

The final step in our capital market projection process involves testing return, risk and correlation estimates in our proprietary optimization model (ASSETMAX). ASSETMAX is a computer program that mathematically solves for "efficient" portfolios of assets. According to popular financial theory, efficient portfolios have the greatest expected return at any given level of risk, or vice versa, the lowest level of risk at any level of return.

This is the "reasonable results" phase. This step is an iterative process where return, risk and correlation values for each asset class are entered into the optimization program. Efficient portfolios are generated and subjected to a careful examination to determine:

1) Whether the portfolios represented fall within the range of currently held institutional portfolios, and assure that no asset class is under or over-weighted in any of the optimal portfolios for the associated level of risk. This "market test" is crucial: if our model suggests asset mixes that would not be found in the institutional investment universe, then either Callan knows something the market doesn't know already (possible but unlikely), or the projection inputs need further refinement (more likely).

2) Whether there is a continuity as we move from safer to riskier portfolios, so that small movements along the efficient frontier do not cause large (percentage) changes in portfolio weightings. Since different plans have different risk tolerances, it is important that the full range of portfolios satisfy this criteria.

On the basis of this analysis, we may fine-tune return, risk, and correlation projections (within predetermined ranges) until reasonable portfolios are produced.

The 2005 Capital Market Projections

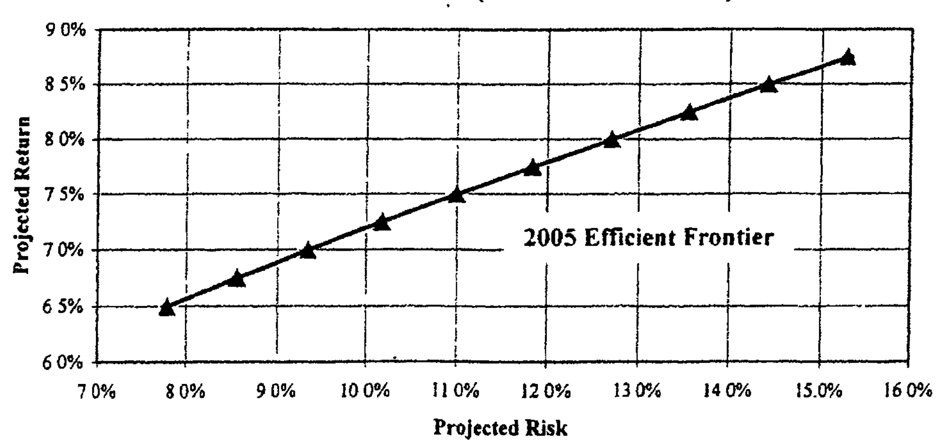
Summary of 5-Year Capital Market Projections (2005-2009)

Asset Class	Index	Projected Annual Return	Projected Standard Deviation (Risk)	Projected Yield
Equities				
Broad Domestic Equity	Russell 3000	9.00%	16.90	2.10
Large Cap	S&P 500	8.85%	16.40	2.20
Small/Mid Cap	Russell 2500	9.85%	22.70	1.20
International Equity	MSCI EAFE	9.25%	20.10	2.20
Fixed Income				
Domestic Fixed	LB Aggregate	4.75%	4.50	4.75
Non US$ Fixed	Citi Non-US Gov't	4.65%	9.60	4.65
Other				
Real Estate	Callan Real Estate	7.60%	16.50	7.00
Private Equity	VE Post Venture Cap	12.00%	34.00	0.00
Absolute Return	*	6.50%	10.50	0.00
Cash Equivalents	90-Day T-Bill	3.25%	0.80	3.25
Inflation	CPI-U	2.60%	1.40	

Projected Correlation Between Asset Classes

	Broad	Lrg Cap	Smid Cap	Int'l Eq	Dom Fix	NUS Fix	Real Est	Priv Eq	Abs Rtn	Cash	Inflation
U.S. Eq - Broad	1.00										
U.S. Eq - Large Cap	0.96	1.00									
U.S. Eq - Small/Mid Cap	0.92	0.84	1.00								
Int'l Equity	0.73	0.73	0.61	1.00							
U.S. Fixed	0.25	0.27	0.19	0.21	1.00						
Non $US Fixed	0.01	0.03	-0.03	0.22	0.32	1.00					
Real Estate	0.62	0.63	0.52	0.47	0.20	0.03	1.00				
Private Equity	0.64	0.63	0.57	0.63	0.20	0.10	0.45	1.00			
Absolute Return	0.65	0.64	0.60	0.58	0.45	0.15	0.45	0.46	1.00		
Cash Equivalents	-0.12	-0.10	-0.15	-0.25	0.30	-0.05	-0.06	0.07	0.50	1.00	
Inflation	-0.15	-0.15	-0.13	-0.23	-0.25	-0.04	-0.13	-0.13	0.50	0.28	1.00

Efficient Frontier (All Asset Classes)



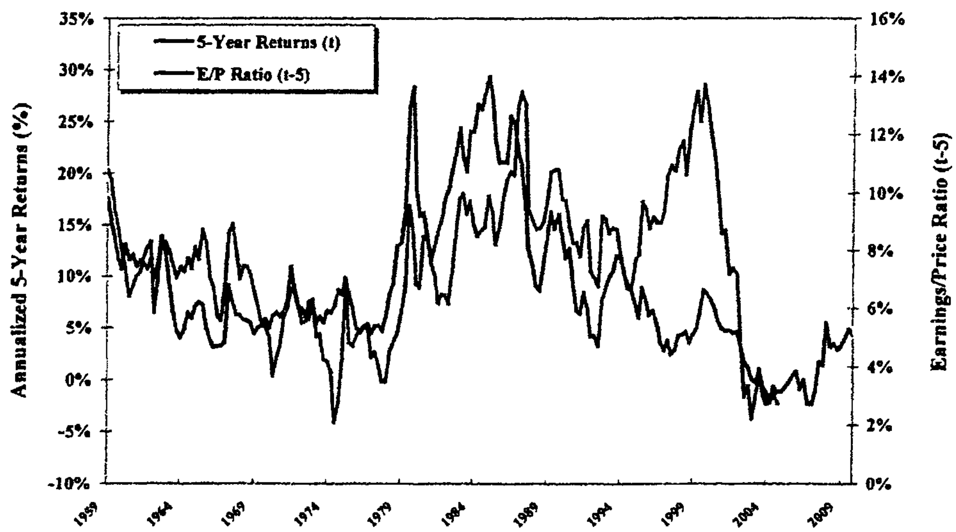
✓ Callan's 2005 nominal return projections are virtually identical to last year's five-year outlook, reflecting our expectations for the economy, inflation and interest rates. For a given level of return, investors will need about the same level of equity exposure and face the same expected risk. For a given level of equity exposure, investors will face a similar level of expected return.

The 2005 Capital Market Projections

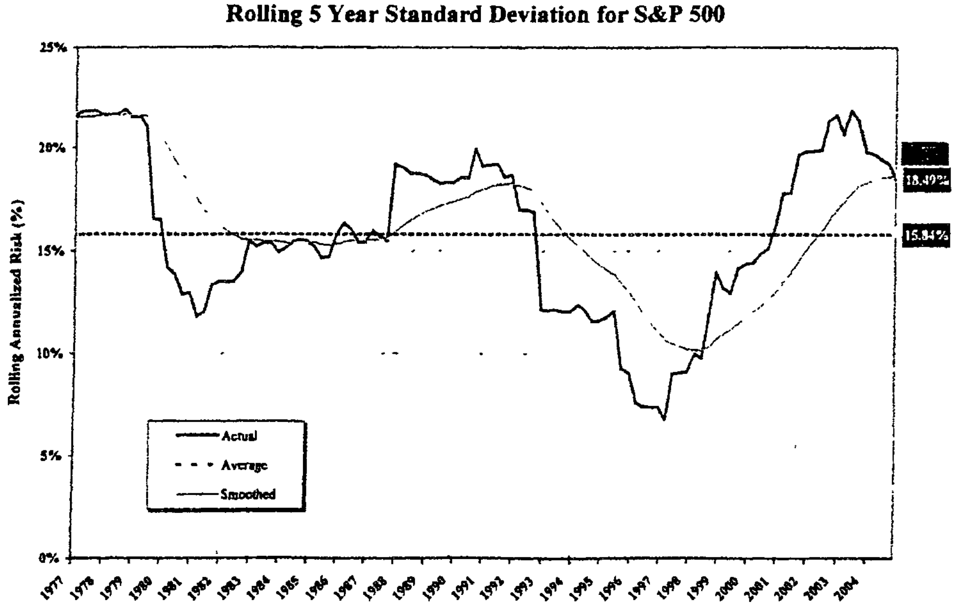
Large Cap Domestic Equity (S&P 500)
Projected Return = 8.85% **Projected Standard Deviation = 16.20%**

- ✓ Callan's 2005 return projection is slightly higher (5bp) than last year's five-year outlook, reflecting a very modest adjustment given no change in our expected inflation projection (the real return is essentially the same). We believe that equity returns will remain positive as corporate profits expand, but will also remain low relative to long-run averages.
- ✓ Callan's 2005 risk projection is unchanged from last year's projection, and reflects our research that markets indeed have become more risky over time. However, the recent measures of 5-year historical volatility reflect the market extremes of the past five years and perhaps overstate volatility that can be expected going forward.
- ✓ The first figure below shows the earnings/price ratio of the S&P 500 versus its five-year annualized return. The E/P ratio is lagged five years to show the relationship between the level of the ratio and future equity returns. The three-year market decline brought valuations back toward much more reasonable levels after the late-1990s bubble.
- ✓ The bottom figure shows the rolling five-year standard deviation of returns for the S&P 500 and indicates its sharp upward trend since 1997.

S&P 500 5-Year Returns vs. Lagged Earnings/Price (1954 - 2004)



Rolling 5 Year Standard Deviation for S&P 500

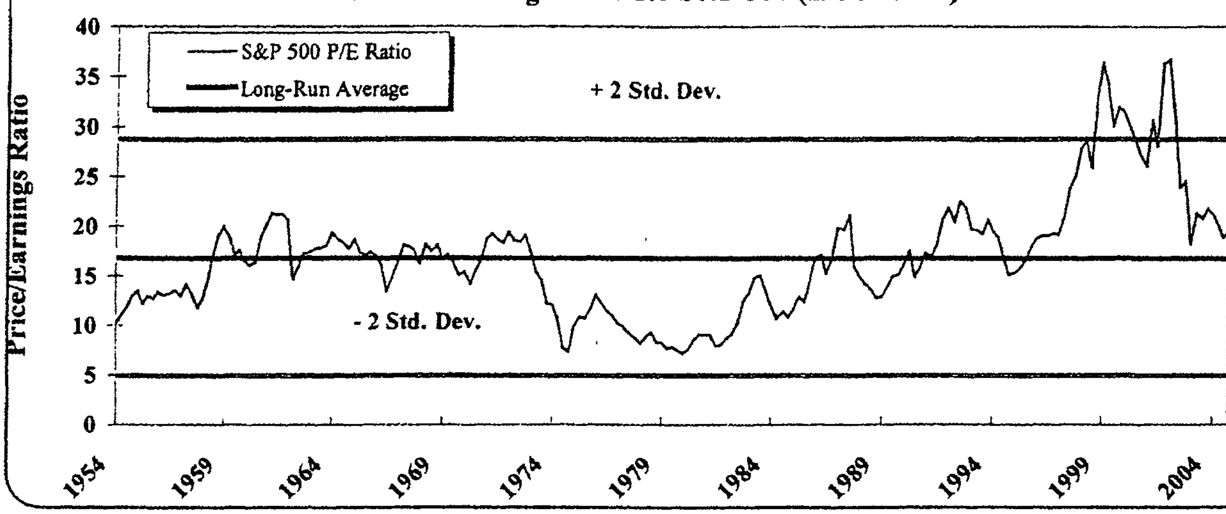


The 2005 Capital Market Projections

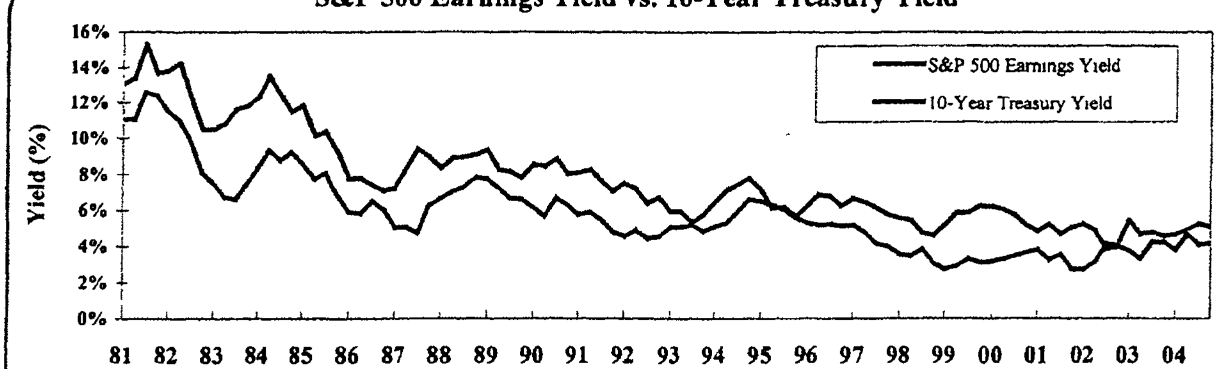
Large Cap Domestic Equity (S&P 500)
Projected Return = 8.85% **Projected Standard Deviation = 16.20%**

- ✓ The first figure below shows the P/E ratio of the S&P 500 since 1954, the long-run average and the range of potential values as described by two standard deviations above and below the long-run average. After the dislocation of the late 1990s and the 3-year bear market, the current market P/E is still above its long-run average. Correspondingly, the E/P ratio is low, but has moved up substantially from the historic lows of 2000 and 2002.
- ✓ Historically low interest rates are part of the reason for the low E/P (high P/E). Over the course of the 80's and 90's bull market, the *ratio* of the S&P 500 E/P (often referred to as the "earnings yield") and the 10-Year Treasury Yield have held at a steady range between 0.60 and 0.90 (see bottom figure). As bond yields declined, the E/P of the S&P 500 declined as well. This decline translates directly to the rising P/E ratio. The low current interest rate supports a low E/P (high P/E), and evidence suggests that the current market valuation may now be low, or at least much closer to fair value when viewed in the context of the long-term interest rate/equity relationship.

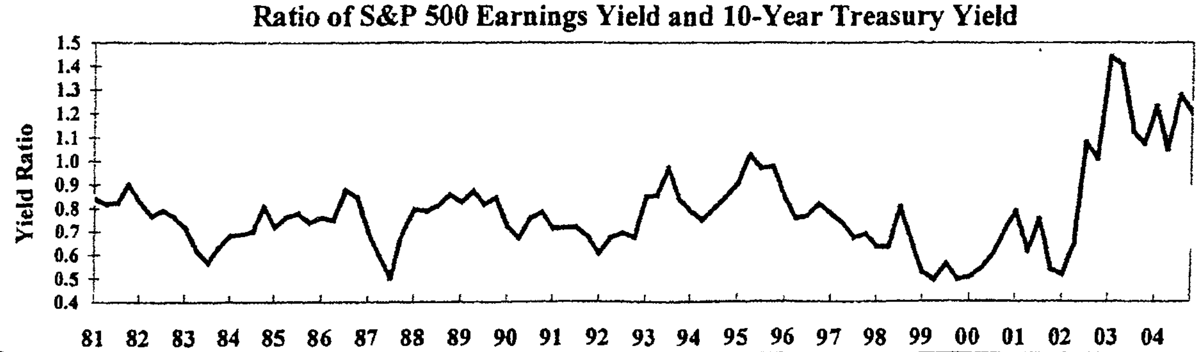
Price to Earnings Ratio for S&P 500 (1954 - 2004)



S&P 500 Earnings Yield vs. 10-Year Treasury Yield



Ratio of S&P 500 Earnings Yield and 10-Year Treasury Yield

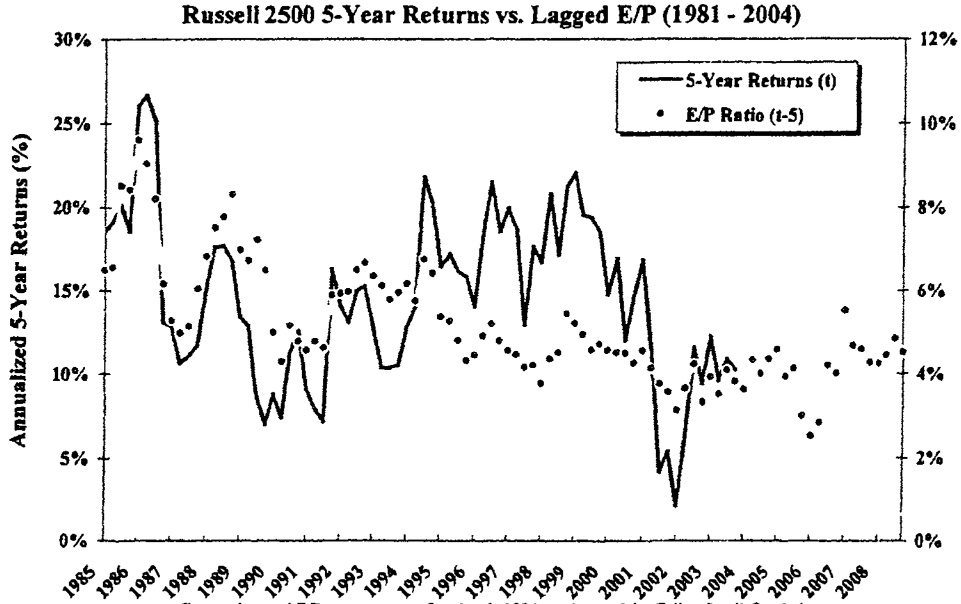


The 2005 Capital Market Projections

Small/Mid Cap Domestic Equity (Russell 2500)
Projected Return = 9.85% **Projected Standard Deviation = 22.70%**

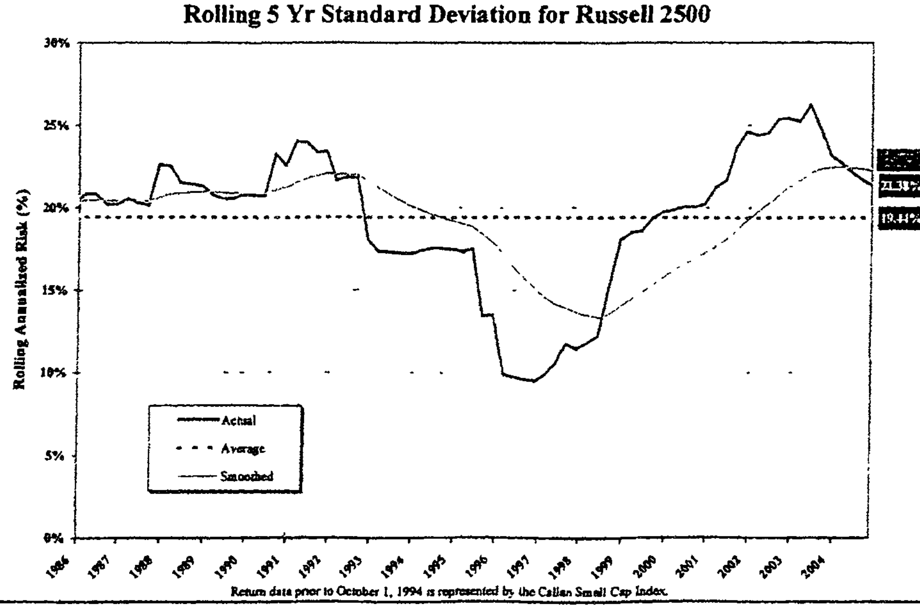
- ✓ Small/mid cap stocks once again outperformed large cap stocks in 2004, now repeated for six consecutive years. We still see small/mid cap equity as a greater relative value to large cap equity, although we have narrowed the gap after six years of outperformance. Our return outlook for small/mid cap stocks is lower (-25bp) than last year's.
- ✓ The projection for risk remains above the long-run average of 19.3%, reflecting our belief that standard deviations for small/mid cap as measured by the market indices understates the potential for widely varying performance within the small/mid cap segment of the market.
- ✓ The first figure below shows the earnings to price ratio of the Russell 2500 Index versus the five-year annualized return of the Russell 2500 Index. The E/P ratio is lagged five years to show the relationship between the level of the ratio and future equity returns. The small/mid cap equity market valuations are now closer to the levels indicated by the lagged E/P than any time during the last 10 years, suggesting they might be close to fair value.

Russell 2500 5-Year Returns vs. Lagged E/P (1981 - 2004)



Return data and E/P ratios prior to October 1, 1994 are those of the Callan Small Cap Index.

Rolling 5 Yr Standard Deviation for Russell 2500



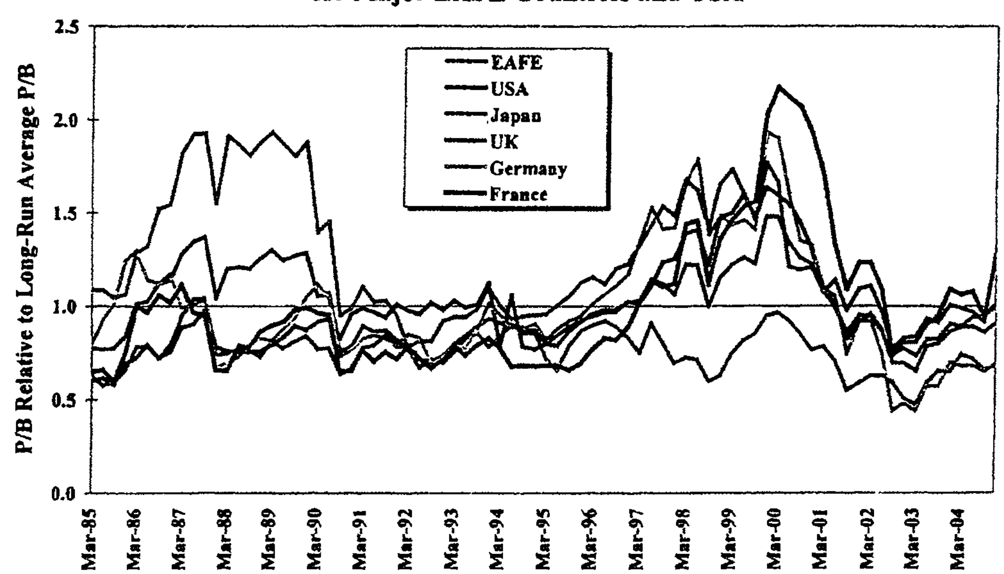
Return data prior to October 1, 1994 is represented by the Callan Small Cap Index.

The 2005 Capital Market Projections

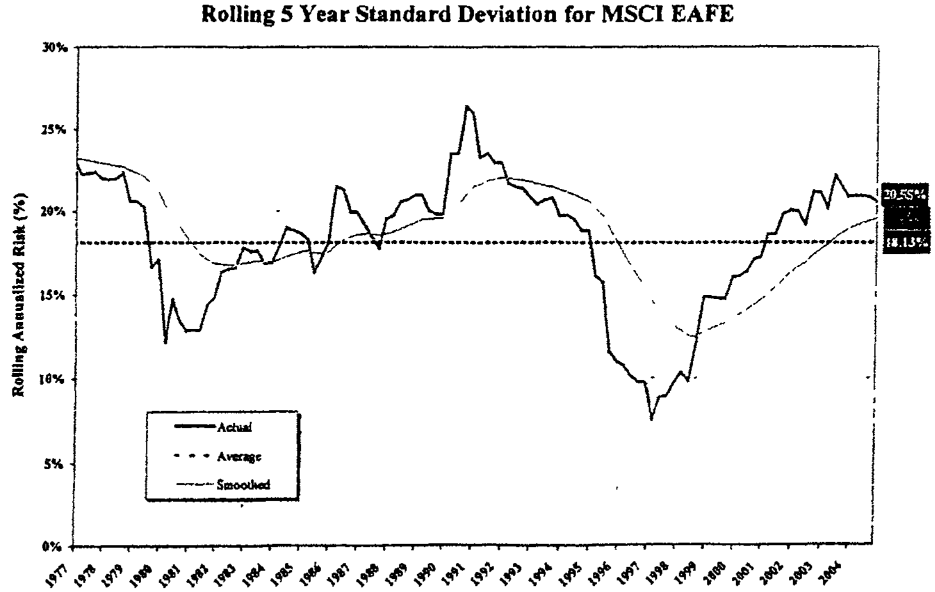
International Equity (MSCI EAFE)
Projected Return = 9.25% **Projected Standard Deviation = 20.10%**

- ✓ Callan's 2005 return projection for international equities is lower (-5bp) than last year's five-year outlook, with a commensurately lower level of risk. After substantially outperforming U.S. equities in 2003 and 2004, our research suggests that foreign equity markets are still slightly more favorably priced relative to domestic equity markets.
- ✓ Market valuations overseas (as measured by the Price/Book ratio) are low relative to their long-run averages, and undervalued relative to U.S. equities, as shown in the top graph, but the gap is narrowing.
- ✓ The bottom graph shows the rolling five-year standard deviation of return for the MSCI EAFE index. While our projected risk for international equities is above the long-run average of 18.1%, we continue to believe that volatility is expected to remain high with the continued currency volatility.
- ✓ The correlation of international to domestic equity markets (0.73) is above the long-run average, but below the recent five-year historical calculations, which were driven very high by the expansion and subsequent bursting of the technology bubble worldwide. While Callan has increased this correlation over time, its level confirms that there is still diversification benefits to holding international equity in a portfolio.

Price/Book Value Relative to Long-Run Average for Major EAFE Countries and USA



Rolling 5 Year Standard Deviation for MSCI EAFE

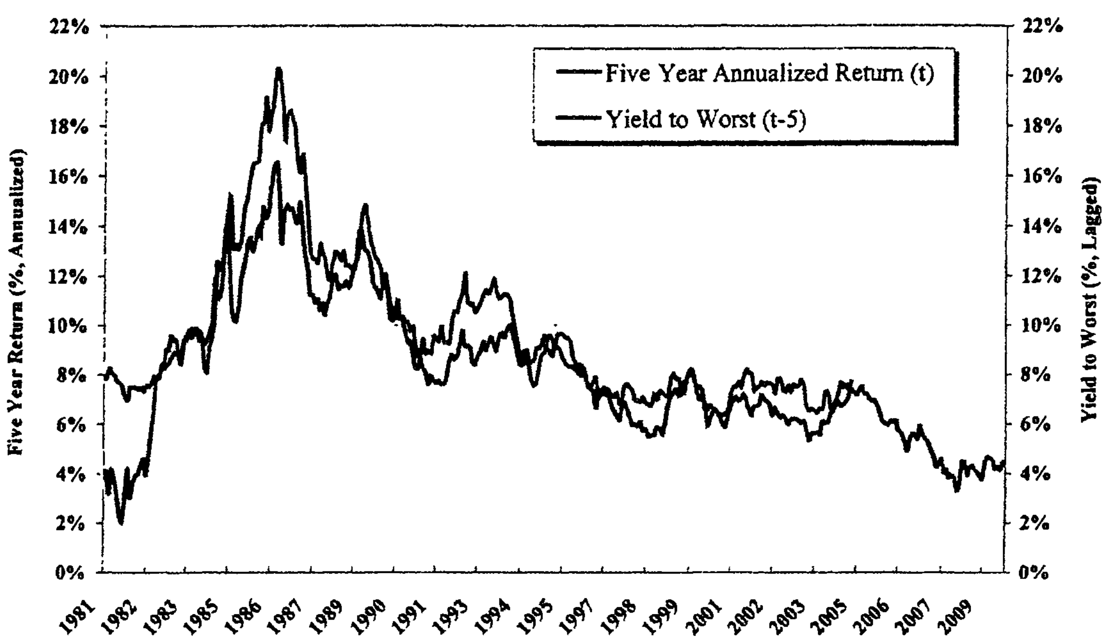


The 2005 Capital Market Projections

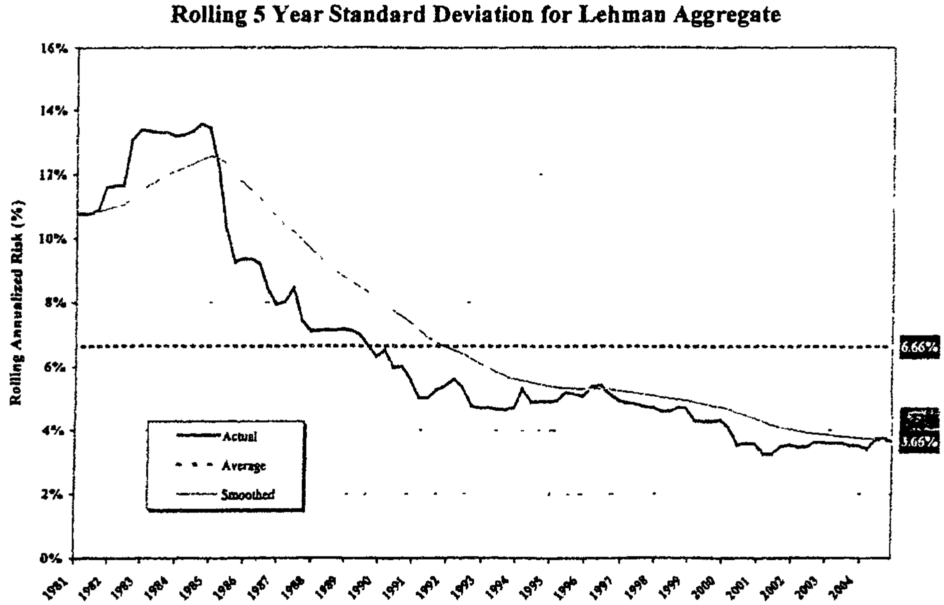
Domestic Fixed Income (Lehman Aggregate)
Projected Return = 4.75% **Projected Standard Deviation = 4.50%**

- ✓ Yield is the key determinant of future bond market performance. The yield to worst of the Lehman Aggregate was 4.38% on December 31, 2004, 23 basis points higher than a year ago. However, the yield was extremely volatile during the last year, falling as low as 3.66 in March before backing up to 4.9 in June. The level of yields and the slope of the yield curve imply that the bond market's expectations for growth and inflation are similar to last year's. Our forecast implies a slight rise in the current yield over the next five years. We believe the rise will be concentrated at the short end, mitigating the negative impact on 5-year Aggregate returns. We believe long rates will be relatively stable, and investors will see higher realized yields on mortgages and on corporate bonds as shorter term debt must be rolled. The advantage to issuing shorter term debt will lessen as the yield curve flattens.
- ✓ Projected risk of 4.5% is the same as last year, and still below the long-run average of 6.7% as shown in the lower graph. Empirical evidence suggests that when yields are at today's relatively low levels, volatility is similarly low.

Lehman Aggregate Index 5 Year Returns vs. Lagged Yield to Worst



Rolling 5 Year Standard Deviation for Lehman Aggregate

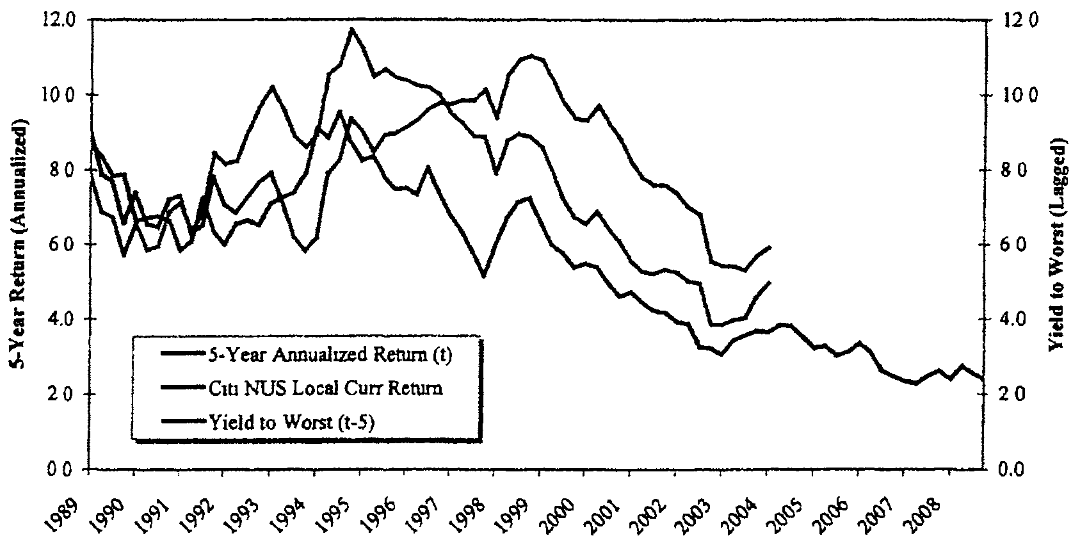


The 2005 Capital Market Projections

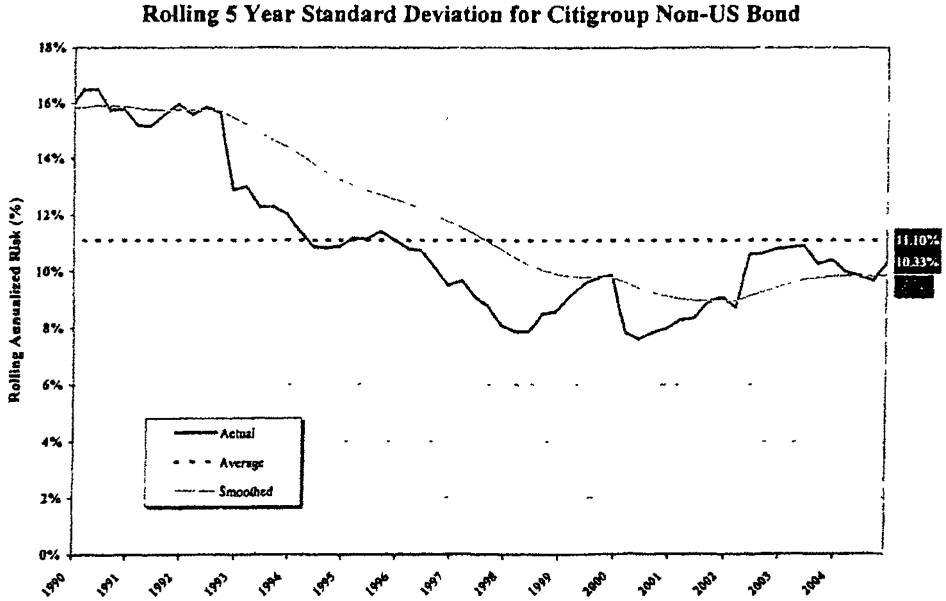
International Fixed Income (Citigroup Non-U.S. Govt)
Projected Return = 4.65% **Projected Standard Deviation = 9.60%**

- ✓ Yield is the key determinant of future bond market performance. The first figure below shows the yield to worst of the Citigroup Non-U.S. Government Bond Index plotted with the subsequent five year period hedged returns. The yield to worst is lagged five years to show the relationship between the level of the yield and future bond returns. The break in the relationship since 1996 is largely due to gains earned through hedging when the dollar was rising. The falling dollar in 2003 and 2004 brought the five-year hedged return back toward the yield.
- ✓ The yield to worst of the Citigroup Non-U.S. Government Bond index has been declining steadily, due in large part to the extended Japanese recession, softness in the global economy, and lower interest rates worldwide.
- ✓ Projected risk is below the long-run average of 11.1% as shown in the lower graph. The risk for international fixed income as measured in local currency is low -- below that of domestic bonds -- due to the diversification of interest rate risk across many countries. A substantial portion of the U.S. dollar return volatility arises from currency volatility.

Citigroup Non-US Govt (Hedged) 5-Year Returns vs. Lagged Yield to Worst



Rolling 5 Year Standard Deviation for Citigroup Non-US Bond



The 2005 Capital Market Projections

Real Estate (Callan Total Real Estate)
Projected Return = 7.60% **Projected Standard Deviation = 16.50%**

- ✓ Callan surveyed real estate managers to determine their projected returns for new dollars allocated and invested in today's market as well as growth expectations for dollars already invested. In general, managers expect capitalization rates, net of fees, in the range of 6.0% to 9.0% depending on the asset, its location and level of risk.
- ✓ The economic slowdown from 2000-2002 held down capital appreciation, but institutional interest in the asset class supported prices in 2003 and 2004. Competition for real estate investments has forced expectations for real returns down from 6% to 5%. Occupancy and rental rates have begun to respond to the economic growth seen in 2003 and 2004. Overbuilding of the type that plagued the real estate market after the boom and bust in the 1980s has been held largely at bay, although many urban markets face an oversupply of office space.
- ✓ Our projected nominal returns are between 6.0% and 9.0%. While the 7.60% used in asset allocation is on the conservative side, we believe that the lower return expectation (and high expected *economic* risk) protects clients from the illiquidity and increased capital allocation expectations of the asset class.
- ✓ The benefits to holding real estate in a large portfolio stem less from five-year projections of return and risk than from its diversification benefit. Due to its relatively low correlation with other asset categories, it will tend to reduce total portfolio risk when included in an asset mix. In addition, the high transaction costs and illiquidity are mitigated if real estate assets are held long-term.

Private Equity (Post-Venture Capital Index)
Projected Return = 12.00% **Projected Standard Deviation = 34.00%**

- ✓ Private equity was modeled using the Warburg Pincus/Venture Economics Post-Venture Capital Index.
- ✓ Developing empirical, statistically based projections for the private equity asset class is problematic due to the wide range of potential investments qualifying as "private equity," lack of publicly available information, short history, and differing investment strategies and portfolio compositions. Callan examines all available, relevant proxies for private market performance. Using qualitative and quantitative inputs, Callan develops a reasonable estimate of how a relatively conservative private equity portfolio will interact with the capital market risk and return spectrum.
- ✓ The projections for private equity are sufficient when first considering the broad asset class for a portfolio. However, these projections can be adjusted to model specific current or potential investments.
- ✓ The benefits to holding private equity in a large portfolio stem from higher expected returns than public equity and its diversification benefit, as the strategies offer differentiated sources of return from those available in the public markets. The high standard deviation expectation reflects the illiquidity and high economic risk inherent in the asset class and not readily apparent from any data that might broadly describe returns.

Cash Equivalents (90-Day U.S. Treasury Bill)
Projected Return = 3.25% **Projected Standard Deviation = 0.80%**

- ✓ The projected return for cash equivalents was modeled using a 90-Day U.S. Treasury Bill historical index. Behavior of the T-Bill index was examined using Ibbotson Associates data back to 1926.
- ✓ After 12 Federal rate cuts in 2001 and 2002, the Fed began raising rates in 2004, adding 1.25% to the Federal Funds rate. As a result, T-bills yields rose by a similar amount, but at 2.4% at the end of 2004, they are still offering negative real rates of returns. Massive monetary intervention by our trading partners' central banks during the past year - buying short-term dollar-denominated debt - in an effort to keep the U.S. dollar from depreciating even more has further depressed yields on the short end of the yield curve. Our return projection reflects the view that real short-term rates will become modestly positive, but remain low relative to their long-term history during the next five years.
- ✓ The Fed has targeted a Federal Funds rate of 3.5% to 4.0%, and is projected to achieve this goal over the next two years. A Fed Funds rate of 3.5% by mid-2006 results in our five-year projection of cash equivalents of 3.25%.
- ✓ Returns for 90-Day T-Bills are substantially below the long-run average, which is skewed by the high inflation and interest rate environment of the early 1980s. It is highly unlikely that either inflation or interest rates will approach their historic long-run averages during the next five years.

The 2005 Capital Market Projections

Hedge Funds (T-Bill+ Premium; Callan Hedge Fund-of-Fund Database)
Projected Return = 6.50% **Projected Standard Deviation = 10.50%**

- ✓ Many of Callan's surveyed hedge fund-of-fund managers suggest an outlook of T-Bill plus 4% to 6%; others suggest nominal returns of 10% to 12%, which is on the conservative side of past performance for well-diversified fund-of-fund managers, after fees. We feel the former outlook is more appropriate than the latter. Since many hedge fund strategies involve short securities and therefore derive a short-interest rebate, the level of expected T-Bill returns directly influences the base performance of hedge funds.
- ✓ Callan's projected return for hedge funds was based on our outlook for 90-Day U.S Treasury Bills (3.25%) plus a 3.25% premium for the value-added from manager skills in this diversified set of investment strategies.
- ✓ Our return projection for T-Bills reflects the view that real short-term rates will be slightly positive, but remain extremely low during the next five years. While the 3.25% premium is very low by historical returns, this outlook reflects conservative assumptions about hedge fund capacity, capital market growth (upon which hedge funds depend), and liquidity over the next five years.

Appendix B
Alternative Investment Strategies

Additional Investment Strategies

Advantages & Disadvantages

STRATEGY	ADVANTAGES	DISADVANTAGES
Private Equity	• Higher expected returns than public equities • Differentiated source of return • Additional portfolio diversification • Available to smaller investors via fund-of-funds	• Illiquid • High fees relative to public markets • Allocation must be a long-term commitment • Investment pattern can produce losses in early years • Implementation risk (need to select top quartile managers, median manager does not beat S&P, difficult to value/monitor)
Real Estate (Including Timber)	• Returns are generally between stocks and bonds • Strong income component • Low volatility • Provides diversification	• Illiquid • High fees relative to stocks and bonds • Economically cyclical • Implementation risk (can be difficult and time consuming to monitor)
REITS (Publicly Traded)	• More liquid than direct real estate • Access to additional property types • Diversification	• Correlated to small/mid cap equity • High volatility • Some exposure may already exist through equity holdings • Capacity constraints
Hedge Funds	• Potential for higher risk-adjusted returns • Returns are generally between stocks and bonds • Capital preservation • Reduced volatility • Attractive correlations	• Illiquid (often significant exposure to poorly traded instruments) • Some key risks cannot be quantified (lack of transparency, potential for fraudulent behavior) • High fees relative to public markets • Implementation risk (solely reliant on manager skill for positive return; no custodian; difficult to monitor) • Capacity constraints
High Yield	• High level of income • Improves diversification • Diversified portfolio offers good risk/reward characteristics	• Could be illiquid • Increased credit risk/default risk over investment grade bonds • Less risky than equity, but is an equity-like investment • Capacity constraints
Non-US Bonds	• Opportunity for enhanced returns exists if there is increased use of non-US credits • Diversification benefit from low correlation with US capital markets • Expands the fixed income opportunity set	• Currency risk is significant unless hedged • Volatility can be double that of the US market
Global Tactical Asset Allocation (GTAA)	• Expansive opportunity set • Potential for higher risk-adjusted returns • Better transparency than hedge funds • Very effective diversifier • Low capital requirement if derivative overlay	• Potential for increased tracking error due to short selling and use of leverage • Time commitment, communication challenges and education required to establish suitable program • Difficult to monitor
Currency As An Absolute Return Strategy	• Large, liquid markets • Identifiable inefficiencies • Most strategies have low correlation to traditional asset classes	• Potential for added risk from short-selling and use of leverage • Expected long term return to holding currency is zero • Fees tend to be high
International Small Cap	• Expands Non-U S equity opportunity set • Potential for higher risk-adjusted returns • Potentially inefficient markets • Additional portfolio diversification	• High return volatility • Could be illiquid • Additional currency risk unless hedged • Difficult to monitor • Higher fees than EAFE mandates • Large allocations require multiple managers • Small allocations may not be feasible • May be long periods of underperformance • Capacity constraints
Treasury Inflation Protection Securities (TIPs)	• A "real" asset – interest and principal payments linked to the CPI • Effective hedge against rising U.S inflation • Very effective diversifier • Risk reducer for long-term total return portfolio	• Poor returns in deflationary and rising real interest rate environments • Potentially low yielding investment • Capacity constraints
Commodities	• A "real" asset • Positively correlated with inflation • Effective diversifier due to counter-cyclical movement between commodities and financial assets • Tend to benefit from price shocks (supply disruptions)	• High return volatility • Heavily influenced by short-term supply/demand imbalances • Expected long-term real return is zero • Significant event risk • High fees relative to stocks and bonds • Difficult to monitor • May be long periods of underperformance
Emerging Market Equity	• Expands Non-U S equity opportunity set • High expected return (growth) opportunities • Potentially inefficient markets • Additional portfolio diversification	• Volatility can be 2x-4x that of US equity market • Could be illiquid • Susceptible to large "boom-and-bust" cycles • Significant currency risk (unless hedged) and political risk • Higher fees than EAFE mandates • Small fund size may preclude an economical allocation • May be long periods of underperformance • Capacity constraints due to company size and government restrictions

Appendix C

Efficient Frontier Analysis
(presented to BWC in May, 2005)

Current Asset Classes - Unconstrained

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	13	26	38	51	60
International Equity	14	11	0	100	0	5	8	12	16	19
Private Equity	2	0	0	100	0	0	3	6	10	19
Fixed Income	46	57	0	100	0	80	57	34	10	0
Absolute Return	4	0	0	100	0	0	4	8	11	0
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.50
Standard Deviation	9.17	7.90				5.25	7.88	11.11	14.54	18.17
Total Equity (%)	48	41				18	37	56	77	98
Sharpe Ratio	0.398	0.410				0.429	0.413	0.383	0.361	0.344

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.25	7.88	11.12	14.59	19.39
Total Equity (%)	48	41				16	38	60	83	95
Sharpe Ratio	0.398	0.410				0.428	0.413	0.382	0.360	0.306

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.25	7.88	11.12	14.59	19.39
Total Equity (%)	48	41				16	38	60	83	95
Sharpe Ratio	0.398	0.410				0.428	0.413	0.382	0.360	0.306

Current Asset Classes - Constrained Minimum/Maximum, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	7	24	41	58	0
International Equity	14	11	0	100	0	1	8	14	20	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	82	58	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.38	7.89	11.12	14.59	19.39
Total Equity (%)	48	41				13	37	60	83	95
Sharpe Ratio	0.398	0.410				0.418	0.412	0.382	0.360	0.306

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.25**	**7.88**	**11.12**	**14.59**	**19.39**
Total Equity (%)	**48**	**41**				**16**	**38**	**60**	**83**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.428**	**0.413**	**0.382**	**0.360**	**0.306**

TIPS added

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	7	24	41	58	0
International Equity	14	11	0	100	0	3	9	15	21	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	56	40	23	7	0
TIPS	0	0	0	100	0	24	17	11	4	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.18**	**7.81**	**11.09**	**14.59**	**19.39**
Total Equity (%)	**48**	**41**				**15**	**38**	**61**	**84**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.434**	**0.416**	**0.383**	**0.360**	**0.306**

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.25**	**7.88**	**11.12**	**14.59**	**19.39**
Total Equity (%)	**48**	**41**				**16**	**38**	**60**	**83**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.428**	**0.413**	**0.382**	**0.360**	**0.306**

HY added

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	7	23	38	53	0
International Equity	14	11	0	100	0	1	8	14	20	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	82	57	32	7	0
High Yield	0	0	0	100	0	0	2	6	10	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.38**	**7.89**	**11.10**	**14.57**	**19.39**
Total Equity (%)	**48**	**41**				**13**	**36**	**57**	**78**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.418**	**0.412**	**0.383**	**0.360**	**0.306**

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.25**	**7.88**	**11.12**	**14.59**	**19.39**
Total Equity (%)	**48**	**41**				**16**	**38**	**60**	**83**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.428**	**0.413**	**0.382**	**0.360**	**0.306**

Non-US Bonds added

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	9	25	42	58	0
International Equity	14	11	0	100	0	0	7	13	20	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	74	53	32	11	0
Non-US Fixed Income	0	0	0	100	0	7	5	3	1	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	**6.90**	**6.49**				**5.50**	**6.50**	**7.50**	**8.50**	**9.19**
Standard Deviation	**9.17**	**7.90**				**5.35**	**7.88**	**11.11**	**14.59**	**19.39**
Total Equity (%)	**48**	**41**				**14**	**37**	**60**	**83**	**95**
Sharpe Ratio	**0.398**	**0.410**				**0.421**	**0.413**	**0.382**	**0.360**	**0.306**

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.25	7.88	11.12	14.59	19.39
Total Equity (%)	48	41				16	38	60	83	95
Sharpe Ratio	0.398	0.410				0.428	0.413	0.382	0.360	0.306

Real Estate added

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	5	21	36	51	0
International Equity	14	11	0	100	0	1	7	13	20	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	80	56	32	8	0
Real Estate	0	0	0	100	0	4	6	9	11	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.36	7.85	11.06	14.52	19.39
Total Equity (%)	48	41				11	33	54	76	95
Sharpe Ratio	0.398	0.410				0.420	0.414	0.384	0.361	0.306

Historical Market Capitalization Weights

MSCI - AC World Index

Date Ending	US	EAFE	EMF	Total
1997 4Q	48.32%	45.74%	5.94%	100.00%
1998 1Q	48 27%	46.17%	5.56%	100.00%
1998 2Q	48.80%	46.79%	4.41%	100.00%
1998 3Q	49.35%	44.48%	6.17%	100.00%
1998 4Q	48.93%	45.10%	5.97%	100.00%
1999 1Q	49.31%	44.37%	6 32%	100.00%
1999 2Q	49.24%	43.34%	7.42%	100.00%
1999 3Q	47.10%	45.71%	7.19%	100.00%
1999 4Q	46.33%	46.06%	7 61%	100.00%
2000 1Q	46.36%	45.44%	8.20%	100.00%
2000 2Q	46.33%	45.09%	8.58%	100.00%
2000 3Q	49.52%	42.53%	7.95%	100.00%
2000 4Q	48 02%	44.46%	7.52%	100.00%
2001 1Q	48.67%	43.61%	7.72%	100.00%
2001 2Q	50.41%	42.02%	7.57%	100.00%
2001 3Q	50.53%	42.29%	7.18%	100.00%
2001 4Q	53.78%	39.46%	6.76%	100.00%
2002 1Q	53.56%	39.31%	7.13%	100.00%
2002 2Q	53.25%	40.54%	6.21%	100 00%
2002 3Q	53.85%	39.83%	6.32%	100.00%
2002 4Q	54.08%	39.47%	6.45%	100.00%
2003 1Q		***missing data***		
2003 2Q	55.12%	37.97%	6.91%	100.00%
2003 3Q	53.80%	39.05%	7.15%	100.00%
2003 4Q	52.57%	40 07%	7.36%	100.00%
2004 1Q	51.72%	40.56%	7.72%	100.00%
2004 2Q	52.56%	39.90%	7.54%	100.00%
2004 3Q	51.84%	39.96%	8 20%	100.00%

MSCI - AC World Index Ex-US

Date Ending	EAFE	EMF	Total
1999 4Q	89.95%	10.05%	100.00%
2000 1Q	89.29%	10.71%	100.00%
2000 2Q	88.88%	11.12%	100.00%
2000 3Q	89.61%	10.39%	100.00%
2000 4Q	90.37%	9.63%	100.00%
2001 1Q	89.80%	10.20%	100.00%
2001 2Q	89.58%	10.42%	100.00%
2001 3Q	90.57%	9.43%	100.00%
2001 4Q	90.62%	9.38%	100.00%
2002 1Q	89.68%	10.32%	100.00%
2002 2Q	92.00%	8.00%	100.00%
2002 3Q	91.66%	8.34%	100.00%
2002 4Q	91.38%	8.62%	100.00%
2003 1Q		***missing data***	
2003 2Q	91.04%	8.96%	100.00%
2003 3Q	90.54%	9.46%	100.00%
2003 4Q	90.47%	9.53%	100.00%
2004 1Q	89.94%	10.06%	100.00%
2004 2Q	90.16%	9.84%	100.00%
2004 3Q	89.41%	10.59%	100.00%

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.25	7.88	11.12	14.59	19.39
Total Equity (%)	48	41				16	38	60	83	95
Sharpe Ratio	0.398	0.410				0.428	0.413	0.382	0.360	0.306

Emerging Market Equity added

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	7	24	40	55	0
International Equity	14	11	0	100	0	1	8	13	19	80
Emerging Market Equity	0	0	0	100	0	0	0	2	3	10
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	82	58	35	13	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.24
Standard Deviation	9.17	7.90				5.38	7.89	11.11	14.57	19.12
Total Equity (%)	48	41				13	37	60	82	95
Sharpe Ratio	0.398	0.410				0.418	0.412	0.383	0.360	0.313

Current Asset Classes - Constrained Maximum only, Set Aside

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	100	0	12	26	41	58	0
International Equity	14	11	0	100	0	4	9	14	20	90
Private Equity	2	0	0	5	0	0	3	5	5	5
Fixed Income	46	57	0	100	0	79	57	35	12	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.19
Standard Deviation	9.17	7.90				5.25	7.88	11.12	14.59	19.39
Total Equity (%)	48	41				16	38	60	83	95
Sharpe Ratio	0.398	0.410				0.428	0.413	0.382	0.360	0.306

Global Broad Equity (55% US, 45% EAFE, 5% EM)

Portfolio Component	OBWC 3/31/05	OBWC Target	*Minimum Allocation*	*Maximum Allocation*	*Set Aside*	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5
						ASSET MIX ALTERNATIVES				
Domestic Broad Equity	32	30	0	0	0	0	0	0	0	0
International Equity	14	11	0	0	0	0	0	0	0	0
Global Broad Equity	0	0	0	100	0	8	31	54	76	90
Private Equity	2	0	5	5	0	5	5	5	5	5
Fixed Income	46	57	0	100	0	82	59	36	14	0
Absolute Return	4	0	0	0	3	3	3	3	3	3
Cash Equivalents	2	2	2	2	0	2	2	2	2	2
Total	100	100				100	100	100	100	100
Annual Return	6.90	6.49				5.50	6.50	7.50	8.50	9.10
Standard Deviation	9.17	7.90				5.40	7.96	11.23	14.74	16.89
Total Equity (%)	48	41				13	36	59	81	95
Sharpe Ratio	0.398	0.410				0.417	0.408	0.379	0.356	0.346

CAI

General Observations

- Unconstrained optimizations show optimal allocations for total portfolio of:
  - ✓ Private Equity 0-19%
  - ✓ Absolute Return 0-11%
  - ✓ TIPS 4-24% (TIPS not included in LB Universal)
  - ✓ High Yield 0-10% (High Yield is roughly 5% of LB Universal)
  - ✓ Non-US Fixed Income 1-7% (Non-US bonds are roughly 5% of LB Universal)
  - ✓ Real Estate 4-11%
  - ✓ Emerging Markets 0-3% (EMs are roughly 10% weight in ACWI)
- Constraints must be imposed on total portfolio to :
  - ✓ Private equity no more than 5%
  - ✓ Absolute return no more than 3% (Set aside function used, remaining portfolio optimized)
  - ✓ Emerging Markets of at least 5%
- Global Broad Equity implies belief in manager's ability, and willingness to underweight US equity relative to Non-US equity.

CAI

Appendix D
Individual Questionnaire Responses

WARD, KAPS, BAINBRIDGE, MAURER & MELVIN, LLC

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C WILLIAM MILLER
ANDREW J BAINBRIDGE

OF COUNSEL
WILLIAM J MELVIN

JOHN C FONTANA (1907-1971)
STEPHEN M WARD (1946-1997)
CHARLES T KAPS (1918-2000)

August 11, 2005

VIA FACSIMILE & US MAIL
Mr. Ken Brunke
Callan Associates
101 California Street
Suite 2500
San Francisco, CA 94111

Dear Mr. Brunke:

Please find my thoughts to your recent questionnaire inquiry. Hopefully, it will prove to be helpful to your further consultation of our State Insurance Fund.

If further information is needed, please advise. We will await your thoughts and guidance.

Very truly yours,

Thomas H. Bainbridge
THB/jas
Attachment
CC: Tina Kielmeyer, Ohio BWC

Risk Tolerance Questionnaire

1. **Does the BWC have any stated objectives, official or unofficial, that must be met?**

   List in order in importance.
   diversified portfolio without excess risk
   Allowing for growth with preservation
   of capital.

2. **How much risk is necessary to generate the required return?**

A. It is necessary to have an equity allocation sufficient to have a reasonable probability of keeping pace with the growth rate of liabilities (reserves), currently estimated to be 6.0% per year.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

3. **Does BWC wish to preserve current surplus, or is it preferable to assume risk to grow surplus? (Surplus volatility will lead to premium volatility, but a focus on preservation of surplus, or a more conservative asset strategy in general will likely lead to premium stabilization).**

   A. It is a priority to preserve current surplus, understanding that the cost is giving up the opportunity for higher returns from riskier assets, such as equity.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

   B. It is the intent of the BWC to assume risk in order to grow the surplus, at the cost of potentially reducing the surplus in adverse capital market environments, with the attendant risk of higher premiums.

Strongly agree
Agree

Neutral
Disagree
Strongly disagree

Comments:

4. What is the Board's investment horizon?

A. The BWC Board is very sensitive to short-term volatility in returns, and should seek to minimize such volatility (at the expense of higher expected long run returns).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

B. The BWC Board is very sensitive to short-term volatility in the surplus, and should seek to minimize such volatility (at the expense of potentially growing the surplus over the long run).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

5. What is the nature of the liabilities, including their expected growth and their sensitivity to changes in the capital markets?

A. Interest rate risk in the liabilities is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this interest rate risk through immunization strategies.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

B. Inflation risk is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this inflation risk (wages or prices).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

6. **Does the BWC wish to entertain any new asset classes or strategies in the investment program (such as real estate, index funds, etc.)?**

If yes, list in order of preference. BWC should follow current
At present the
stated policy with it's current ~~stated~~ Allocation.
In the future BWC should consider Real Estate with proper staff oversight.

7. **Does the BWC wish to eliminate or cap (i.e. maximum percentage) any asset classes in the investment program (such private equity, hedge funds, etc.)?**

yes, private equity should be maintained @ its current or less allocation.
BWC should reconsider Hedge Funds.

8. **What are other workers' compensation agencies or other institutional investors doing?**

A. The Board places great importance in comparing its investment approach to those of a peer group of similar workers' compensation funds.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments: Small Number of other comparative State funds.

B. The BWC should look to other private insurance funds in competitive environments for guidance on how the investments should be structured. (In a competitive environment with no recourse to collect more funds should premiums prove to be mispriced, private insurance funds are typically focused on dedicated or matching strategies).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

8/11/05

CALLAN ASSOCIATES INC

Responses of Michael C. Koetters
513-772-4515
mckfinance@yahoo.com
August 5, 2005

Risk Tolerance Questionnaire

1. **Does the BWC have any stated objectives, official or unofficial, that must be met?**

I am newly appointed commissioner. I am not aware of the stated objectives, either official or unofficial.

My views are based upon my traditional insurance company investment experience. They are to have:

- *the investment assets associated with the reserve (liability) account to be invested in fixed income securities with an equivalent risk-duration, and*
- *the investment assets associated with the surplus account to have a view towards total return with a managed volatility through a diverse asset allocation portfolio to include fixed income, equities, and alternative investments. The tilting of the allocation for the surplus portfolio will be based upon projected profitability, need for surplus (e.g. dividends), general wealth of the company, and economic outlook for inflation and insurance underwriting cycles.*

I recognize that a portfolio with this design will have lower volatility, increase income (yield), and preservation of capital in volatile periods. Yes, this approach gives up the potential opportunity of higher returns over longer periods of time that are associated with the riskier investment classes of equities and alternative investments.

2. **How much risk is necessary to generate the required return?**

A. It is necessary to have an equity allocation sufficient to have a reasonable probability of keeping pace with the growth rate of liabilities (reserves), currently estimated to be 6.0% per year.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

Is the estimated growth of 6% a factor of inflation, or a factor of annual premium growth? If the 6% is an inflation factor, then the investment assets, associated and equal to the liabilities, will have a yield income which will nearly equate to the inflation growth. If the 6% relates to grown in premium and thus increased claims, then increasing premiums due to growth will be used to increase the investment reserve account. In either event, equities are not appropriate to protect the 6% growth of liabilities.

3. **Does BWC wish to preserve current surplus, or is it preferable to assume risk to grow surplus? (Surplus volatility will lead to premium volatility, but a focus on preservation of surplus, or a more conservative asset strategy in general will likely lead to premium stabilization).**

    A. It is a priority to preserve current surplus, understanding that the cost is giving up the opportunity for higher returns from riskier assets, such as equity.

    Strongly agree
    Agree
    Neutral
    Disagree
    Strongly disagree

Comments:

As a captive insurance company with the need to be in the market of providing insurance (and not having the luxury of moving in and out of the insurance market with insurance cycles) the company should not be risking the surplus by increasing the risks of investment portfolios. The company has a limited ability to take on risk. And that risk needs to be made available first to the underwriting of workers compensation insurance. As such, the investment portfolio needs to be designed to protect the existing liabilities (reserves) and maintain the surplus of the company.

    B. It is the intent of the BWC to assume risk in order to grow the surplus, at the cost of potentially reducing the surplus in adverse capital market environments, with the attendant risk of higher premiums.

    Strongly agree
    Agree
    Neutral
    Disagree
    Strongly disagree

Comments:

The purpose of the Ohio Bureau of Workers' Compensation is to provide insurance coverage at reasonable costs. This is the business of accepting insurance risk. The accepting of investment portfolio risk, at the risk of not being able to provide insurance coverage at reasonable costs is misdirected.

4. **What is the Board's investment horizon?**

   A. The BWC Board is very sensitive to short-term volatility in returns, and should seek to minimize such volatility (at the expense of higher expected long run returns).

   Strongly agree
   Agree
   Neutral
   Disagree
   Strongly disagree

Comments:

The Bureau of Workers' Compensation is a captive insurance company that is in the business of spreading costs of workers' injury claims. The BWC insurance premiums are an expense to its stakeholders. Its stakeholders would understand annual rate filings associated to claims experience, but not due to volatile investment portfolio losses.

The environment of equity investing in a captive insurance company is one of setting insurance rates annually (short term) with a long term investment horizon. In financial business terms, this is borrowing short term and investing long term. This is mismatching of risks, and subject to volatile results.

BWC Board is very sensitive to short-term volatility in the surplus, and should seek to minimize such volatility (at the expense of potentially growing the surplus over the long run).

   Strongly agree
   Agree
   Neutral
   Disagree
   Strongly disagree

Comments:

The company surplus is the life blood of any insurance company. Expanding the risk by increasing investment portfolio risk in an already thinly capitalized insurance company should not be done. The insurance company's first order of risk taking is the underwriting of insurance.

5. **What is the nature of the liabilities, including their expected growth and their sensitivity to changes in the capital markets?**

   A. Interest rate risk in the liabilities is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this interest rate risk through immunization strategies.

   Strongly agree
   Agree

Neutral
Disagree
Strongly disagree

Comments:

The actuarial calculations of claim liabilities take into consideration interest rate risk. The understanding of this in establishing the reserve portfolio to match such claim liabilities has some inherent hedging of interest rate risk. A portfolio that is matched to duration or laddered to meet the expected claim payment has a hedge component.

Beyond this matching, a hedge contract can be placed on the fixed income portfolio to profit from anticipated changes in long term interest rates. Isn't it interesting that most economists have been predicting rising long term rates for the past 24 months, and it has not occurred, to any material extent. Any hedge contract ("making the bet") placed in the past two years to gain from anticipated rise in interest rates would have been done at a loss.

B. Inflation risk is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this inflation risk (wages or prices).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

As an insurance company, I view inflation as a business environment that we accept along with our stakeholders. As inflation occurs, those costs are passed along to the stakeholders. The philosophy of attempting to protect for inflation, forever, has broad boundaries: including claims, administrative expenses, and investment portfolio values.

6. **Does the BWC wish to entertain any new asset classes or strategies in the investment program (such as real estate, index funds, etc.)?**

If yes, list in order of preference.

If the investment portfolio would change from its existing allocation to one, more of the design I am proposing, then the existing portfolio has sufficient alternative asset class investments.

7. **Does the BWC wish to eliminate or cap (i.e. maximum percentage) any asset classes in the investment program (such private equity, hedge funds, etc.)?**

I sense this question is directed to set asset class parameters. Yes, the reserve portfolio should be of a size to match the claims liability of the company, and the asset class should be fixed income. Because the duration of the claims liabilities are relatively long, the fixed income benchmark should be a broad market long duration index.

The remaining assets should be composed of fixed income, equity and alternative investment (because they already exist). For this portfolio, it would be interesting to see the efficient frontier portfolio design that would bring forth the lowest volatility with the best return..

8. What are other workers' compensation agencies or other institutional investors doing?

A. The Board places great importance in comparing its investment approach to those of a peer group of similar workers' compensation funds.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

My general knowledge of insurance company portfolio design is the same as you presented in your slide presentation on peer comparisons. There is logic for this style of portfolio design:

- *The matching of the reserve portfolio to claims liability with fixed income.*
- *The limited use of equity and real estate and alternative asset classes in the design of the portfolio allocation.*
- *The larger fixed income portfolio provide for additional investment income (yield) as compared to equity's balance sheet capital fluctuation (appreciation).*
- *Setting the risk of writing insurance higher than the risk of investment portfolio design.*

B. The BWC should look to other private insurance funds in competitive environments for guidance on how the investments should be structured. (In a competitive environment with no recourse to collect more funds should premiums prove to be mispriced, private insurance funds are typically focused on dedicated or matching strategies).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

My prior responses are directed to this very point. The Ohio Bureau of Workers' Compensation is a single line, private insurance company operating in a captive *environment. Its investments should be directed to matching strategies for its asset/liability matching with the remaining surplus portfolios to include some equity opportunities.*

101

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CLEVELAND, OHIO 44132

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Bill Sopko
Chairman
OBWC Oversight
Commission

Attn:
Karen Harris
Ken Brawke

Callan Associates, Inc.
120 N. La Salle St. Suite 2100
Chicago, Ill. 60602

6060282423

Risk Tolerance Questionnaire

1. **Does the BWC have any stated objectives, official or unofficial, that must be met?**

   (1) BEAT THE BENCHMARK OF 6.8% RETURN

   List in order in importance. (2) RETURN "SURPLUS" TO EMPLOYERS WHO PAY INTO W.C. FUND
   (3) USE "OHIO" BROKERS + MANAGERS (GOAL 50% OR MORE)
   (4) USE EMERGING (WOMEN)/MINORITY BROKERS + MANAGERS (GOAL 10% OR MORE

2. **How much risk is necessary to generate the required return?**

A. It is necessary to have an equity allocation sufficient to have a reasonable probability of keeping pace with the growth rate of liabilities (reserves), currently estimated to be 6.0% per year.

Strongly agree
~~Agree~~
Neutral
Disagree
Strongly disagree

Comments:

3. **Does BWC wish to preserve current surplus, or is it preferable to assume risk to grow surplus? (Surplus volatility will lead to premium volatility, but a focus on preservation of surplus, or a more conservative asset strategy in general will likely lead to premium stabilization).**

   A. It is a priority to preserve current surplus, understanding that the cost is giving up the opportunity for higher returns from riskier assets, such as equity.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

   B. It is the intent of the BWC to assume risk in order to grow the surplus, at the cost of potentially reducing the surplus in adverse capital market environments, with the attendant risk of higher premiums.

Strongly agree
Agree

Neutral
Disagree
Strongly disagree

Comments:

4. **What is the Board's investment horizon?**

A. The BWC Board is very sensitive to short-term volatility in returns, and should seek to minimize such volatility (at the expense of higher expected long run returns).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

B. The BWC Board is very sensitive to short-term volatility in the surplus, and should seek to minimize such volatility (at the expense of potentially growing the surplus over the long run).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

5. **What is the nature of the liabilities, including their expected growth and their sensitivity to changes in the capital markets?**

A. Interest rate risk in the liabilities is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this interest rate risk through immunization strategies.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

B. Inflation risk is the greatest threat to the financial condition of the fund, and the BWC should attempt to hedge this inflation risk (wages or prices).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

6. **Does the BWC wish to entertain any new asset classes or strategies in the investment program (such as real estate, index funds, etc.)?**

If yes, list in order of preference.

WE JUST ESTABLISHED INDEX FUNDS to "PARK" DOLLARS UNTIL A NEW INVESTMENT POLICY + ASSET ALLOCATION IS DETERMINED.

REAL ESTATE IS A NO!

7. **Does the BWC wish to eliminate or cap (i.e. maximum percentage) any asset classes in the investment program (such private equity, hedge funds, etc.)?**

HEDGE FUNDS HAVE NOT BEEN FUNDED. DO NOT FUND.
PRIVATE EQUITY IS PARTLY FUNDED - KEEP P.E. THE SAME %

8. **What are other workers' compensation agencies or other institutional investors doing?**

A. The Board places great importance in comparing its investment approach to those of a peer group of similar workers' compensation funds.

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

B. The BWC should look to other private insurance funds in competitive environments for guidance on how the investments should be structured. (In a competitive environment with no recourse to collect more funds should premiums prove to be mispriced, private insurance funds are typically focused on dedicated or matching strategies).

Strongly agree
Agree
Neutral
Disagree
Strongly disagree

Comments:

-----Original Message-----
From: carrollm@firstenergycorp.com [mailto:carrollm@firstenergycorp.com]
Sent: Friday, August 12, 2005 1:18 PM
To: Harris, Karen
Cc: bill.sopko@wmsopko.com; Tina.Kielmeyer@bwc.state.oh.us
Subject: Risk Tolerance Questionnaire

Karen,

I appreciated speaking with you today as a result of the message I left earlier this week. As mentioned, I am not completing the Callan Associates questionnaire. It's my belief that our personal perspectives should not be the basis for determining a sound investment policy. We need to have internal and external, timely recommendations on peer portfolio asset allocations, strategies and risk profiles; albeit in relatively tight ranges that may permit some fine-tuning as the Oversight Commission members would address. We should be basing our collective wisdom on performance, return, short-term and long-term needs and through much more sophisticated tools than are at our disposal independently; tools that we rely on you to deliver.

With that, our responses to your questionnaire could be quite different now than they might be six months from now, with a temporary conservatism due to current circumstances that would limit an advisable return as we resolve our challenges.

BWC's Investment Management Staff is in transition at this time, yet the Staff and Commission both continue to shoulder responsibility to ensure and oversee investments that create returns to expedite sufficiency for returning injured workers to their workplaces without undue cost to employers. We hold our consultants accountable for providing professional direction beyond our knowledge. These are not categorical private holdings, these are, for all intensive purposes, public funds.

My personal hope would be for Callan's report to show us what other similarly complexioned and scaled portfolios use as the range for our considerations, acknowledging both risk and return and recommending an appropriate course that will sustain, and potentially grow, the Self Insured Fund.

Mary Beth Carroll
Vice President, Corporate Affairs and Community Involvement
FirstEnergy Corp. and President, FirstEnergy Foundation
76 S. Main St., Akron, OH 44308
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Assistant: Jill Smart, Phone: 330-384-5853

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SENATOR Eric D. Fingerhut
25th District

August 4, 2005

Tina Kielmeyer
Administrator/CEO
Ohio Bureau of Workers' Compensation
300 West Spring Street
Columbus, Ohio 43215

RE: Callan Associates questionnaire

Dear Administrator Kielmeyer:

Thank you for providing the additional information in support of the Callan Associates questionnaire. Nevertheless, I do not feel qualified to respond to these questions without having participated in discussions with the Oversight Commission adequate to form an opinion on the important matters raised in the questionnaire. Accordingly, please be advised that I do not intend to submit responses by the date indicated.

Sincerely,

Eric D. Fingerhut

cc: Members of the Oversight Commission
Karen Harris, Callan Associates
Ken Brunke, Callan Associates

State House
Columbus, Ohio 43215
614-466-4583
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SenatorFingerhut @ hotmail.com

Appendix XI: Ohio Revised Code Section 4123.44

R.C. § 4123.44

Baldwin's Ohio Revised Code Annotated Currentness

Title XLI. Labor and Industry
Chapter 4123. Workers' Compensation (Refs & Annos)
Funds and Premiums
4123.44 Investment powers of administrator

The voting members of the workers' compensation oversight commission, the administrator of workers' compensation, and the bureau of workers' compensation chief investment officer are the trustees of the state insurance fund. The administrator of workers' compensation, in accordance with sections 4121.126 and 4121.127 of the Revised Code and the investment objectives, policies, and criteria established by the workers' compensation oversight commission pursuant to section 4121.12 of the Revised Code, and in consultation with the bureau of workers' compensation chief investment officer, may invest any of the surplus or reserve belonging to the state insurance fund.

The administrator shall not invest in any type of investment specified in divisions (G)(6)(a) to (j) of section 4121.12 of the Revised Code.

The administrator and other fiduciaries shall discharge their duties with respect to the funds with the 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 with like aims, and by diversifying the investments of the assets of the funds so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.

To facilitate investment of the funds, the administrator may establish a partnership, trust, limited liability company, corporation, including a corporation exempt from taxation under the Internal Revenue Code, 100 Stat. 2085, 26 U.S.C. 1, as amended, or any other legal entity authorized to transact business in this state.

When reporting on the performance of investments, the administrator shall comply with the performance presentation standards established by the association for investment management and research.

All investments shall be purchased at current market prices and the evidences of title to the investments shall be placed in the custody of the treasurer of state, who is hereby designated as custodian, or in the custody of the treasurer of state's authorized agent. Evidences of title of the investments so purchased may be deposited by the treasurer of state for safekeeping with an

Appendix XI: Ohio Revised Code Section 4123.44

authorized agent selected by the treasurer of state who is a qualified trustee under section 135.18 of the Revised Code. The treasurer of state or the agent shall collect the principal, dividends, distributions, and interest as they become due and payable and place them when collected into the state insurance fund.

The treasurer of state shall pay for investments purchased by the administrator on receipt of written or electronic instructions from the administrator or the administrator's designated agent authorizing the purchase, and pending receipt of the evidence of title of the investment by the treasurer of state or the treasurer of state's authorized agent. The administrator may sell investments held by the administrator, and the treasurer of state or the treasurer of state's authorized agent shall accept payment from the purchaser and deliver evidence of title of the investment to the purchaser, on receipt of written or electronic instructions from the administrator or the administrator's designated agent authorizing the sale, and pending receipt of the moneys for the investments. The amount received shall be placed in the state insurance fund. The administrator and the treasurer of state may enter into agreements to establish procedures for the purchase and sale of investments under this division and the custody of the investments.

No purchase or sale of any investment shall be made under this section, except as authorized by the administrator.

Any statement of financial position distributed by the administrator shall include the fair value, as of the statement date, of all investments held by the administrator under this section.

When in the judgment of the administrator it is necessary to provide available funds for the payment of compensation or benefits under this chapter, the administrator may borrow money from any available source and pledge as security a sufficient amount of bonds or other securities in which the state insurance fund is invested. The aggregate unpaid amount of loans existing at any one time for money so borrowed shall not exceed ten million dollars. The bonds or other securities so pledged as security for such loans to the administrator shall be the sole security for the payment of the principal and interest of any such loan. The administrator shall not be personally liable for the payment of the principal or the interest of any such loan. No such loan shall be made for a longer period of time than one year. Such loans may be renewed but no one renewal shall be for a period in excess of one year. Such loans shall bear such rate of interest as the administrator determines and in negotiating the loans, the administrator shall endeavor to secure as favorable interest rates and terms as circumstances will permit.

The treasurer of state may deliver to the person or governmental agency making such loan, the bonds or other securities which are to be pledged by the administrator as security for such loan, upon receipt by the treasurer of state of an order of the administrator authorizing such loan. Upon payment of any such loan by the administrator, the bonds or other securities pledged as security therefor shall be returned to the treasurer of state as custodian of such bonds.

Appendix XI: Ohio Revised Code Section 4123.44

The administrator may pledge with the treasurer of state such amount of bonds or other securities in which the state insurance fund is invested as is reasonably necessary as security for any certificates issued, or paid out, by the treasurer of state upon any warrants drawn by the administrator

The administrator may secure investment information services, consulting services, and other like services to facilitate investment of the surplus and reserve belonging to the state insurance fund. The administrator shall pay the expense of securing such services from the state insurance fund.

(2005 H 66, eff. 9-29-05; 1996 S 82, eff. 3-7-97; 1995 H 7, eff. 9- 1-95; 1994 S 179, eff. 3-10-95; 1993 H 107, eff. 10-20-93; 1989 H 222; 1986 H 562; 1985 H 201; 1984 H 469; 1976 S 545; 1975 H 1; 1974 S 129; 1973 H 406; 1969 S 176; 131 v S 58; 129 v 582; 128 v 1206; 1953 H 1; GC 1465-58)

HISTORICAL AND STATUTORY NOTES

Pre-1953 H 1 Amendments: 118 v 324, § 1; 117 v 469, § 1; 115 v 79; 111 v 51, 218; 109 v 525; 103 v 76, § 11; 102 v 528

Amendment Note: 2005 H 66 added first sentence; inserted "sections 4121.126 and 4121.127 of the Revised Code and" and ", and in consultation with the bureau of workers' compensation chief investment officer" in the first paragraph; added the second paragraph; and inserted "of state" after the second occurrence of "treasurer" in the second sentence of the sixth paragraph.

Amendment Note: 1996 S 82 rewrote this section. See Baldwin's Ohio Legislative Service, 1996, p 12/L-4356, or the OH-LEGIS or OH-LEGIS-OLD database on WESTLAW, for prior version of this section.

Amendment Note: 1995 H 7 added ", in accordance with the investment policy established by the workers' compensation oversight commission pursuant to section 4121.12 of the Revised Code," to division (A).

Amendment Note: 1994 S 179 inserted "the international finance corporation or by" and "; however, the administrator may invest not more than the aggregate of fifteen per cent of the value of the funds described in division (A) of this section in such obligations" in division (A)(6).

Amendment Note: 1993 H 107 deleted ", with the approval of the workers' compensation board and the industrial commission," prior to "may invest" in the first paragraph of division (A); added division (A)(1)(d); substituted "four" for "three" and "fourth" for "third", respectively, in divisions (A)(2)(f)(iv), (A)(3)(a)(iv), and (A)(4)(a); substituted "A-2 or higher quality according to the Standard and Poor's rating service and P-2 or higher quality according to the Moody's rating service, or an equivalent rating according to" for "prime by" and inserted "other" prior to "standard rating services" in division (A)(4)(b); inserted "and section 4123.441 of the Revised Code" in, and deleted a reference to section 4123.442 from the last sentence of, division (B); and added division (G).

CROSS REFERENCES

Bureau of workers' compensation, duties of administrator, 4121.121
Coal-workers pneumoconiosis fund established, investments, 4131.03
Safety and hygiene fund, investment powers of administrator, 4121.37
Self-insuring employers' surety bond fund, investments, 4123.351
State administrative procedure, exceptions to application, 119.01

LIBRARY REFERENCES

Workers' Compensation ⚩1049.
Westlaw Topic No. 413.
C.J.S. Workmen's Compensation § 358.
Baldwin's Ohio Legislative Service, 1989 Laws of Ohio, H 222--LSC Analysis, p 5-832
Baldwin's Ohio Legislative Service, 1993 Laws of Ohio, H 107--LSC Analysis, p 5-941

RESEARCH REFERENCES

Encyclopedias

OH Jur. 3d Administrative Law § 6, Ohio Administrative Procedure Act (Ohio Apa)--Agency and Rulemaking Agency Defined and Exempted by Ohio Apa.

OH Jur. 3d Administrative Law § 67, Filing With Joint Committee on Agency Rule Review--Exceptions.

OH Jur. 3d Workers' Compensation § 51, Rulemaking Powers; Rules Generally.

OH Jur. 3d Workers' Compensation § 427, State Insurance Fund and Surplus; Successors in Interest.

Treatises and Practice Aids

Ohio Personal Injury Practice App. B, Appendix B.

Ohio Personal Injury Practice App. B, Appendix B.

NOTES OF DECISIONS

In general 2
Constitutional issues 1
Disbursements; investments 3
Effective date 5

Appendix XI: Ohio Revised Code Section 4123.44

Fiduciary obligations 4

1. Constitutional issues

The transfer of state insurance fund investment income to the disabled workers' relief fund, pursuant to RC 4123.411, violates neither O Const Art II §28 nor 35. Thompson v. Industrial Com'n of Ohio (Ohio 1982) 1 Ohio St.3d 244, 438 N.E.2d 1167, 1 O.B.R. 265. Workers' Compensation ⟹1049

Unconstitutional in its attempt to require taxing districts before advertising a bond issue for sale to offer same to the industrial commission of Ohio at less than market value. State ex rel. City of Cleveland Heights v. Frazine (Ohio 1924) 110 Ohio St. 523, 144 N.E. 289, 2 Ohio Law Abs. 407, 22 Ohio Law Rep. 177.

Workmen's compensation fund can be raised only by contributions levied on employers. To divert the premium on bonds, which belongs to a taxing district, is to burden such district as compared with a district not issuing bonds or whose bonds are not accepted by the commission, and hence amounts to a tax without uniformity. State ex rel. City of Cleveland Heights v. Frazine (Ohio 1924) 110 Ohio St. 523, 144 N.E. 289, 2 Ohio Law Abs. 407, 22 Ohio Law Rep. 177.

2. In general

If the assessment levied against employers pursuant to RC 4123.411 is insufficient to carry out the provisions of RC 4123.412 to 4123.418 then the additional amount necessary must be provided from the income produced as a result of investments made pursuant to RC 4123.44. OAG 76-039.

Responsibility of the state treasurer for collection of installments of interest and principal of so-called FHA insured mortgages bought by state retirement boards or state industrial commission, begins when, under the terms of the accompanying contract for the servicing of said mortgages, the proceeds of these payments are remitted by the servicer or the servicing agent to the investors; the title to notes and the mortgage securing the same, representing the investment, vests in the retirement board of the industrial commission making the investment. 1940 OAG 1723.

3. Disbursements; investments

The formation of a partnership by the administrator of workers' compensation and a private corporation for the purpose of investing a portion of the surplus or reserve of the state insurance fund in a project to construct and operate a parking garage does not violate O Const Art VIII §4, provided that no moneys belonging to the state will ever be obligated for the purpose of reimbursing the state insurance fund for any losses it incurs as a result of such investment. OAG 99-002.

Pursuant to RC 4123.44, the administrator of workers' compensation may form a partnership with a private corporation for the purpose of investing a portion of the surplus or reserve of the state insurance fund in a project to construct and operate a parking garage, provided such investment is in accordance with the investment objectives, policies, and criteria established by the workers' compensation oversight commission. However, in making such an investment, the administrator must discharge his investment duties with the 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 with like aims. OAG 99-002.

Neither the administrator of the bureau of workers' compensation nor the industrial commission has the authority to invest moneys of the safety and hygiene fund not needed for current operations. Such moneys may, however, be invested by the treasurer of state in accordance with RC Ch 135. OAG 79-110.

The department of administrative services and industrial commission have no authority to create a rotary fund in the state insurance fund for payment of administrative costs of managing investments made pursuant to RC 4123.44, and disbursements from the state insurance fund for payment of such administrative costs are limited to those provided for in the appropriations act and RC 4123.341 and 4123.342. OAG 74-067.

Neither the workmen's compensation fund nor the teachers' retirement fund can lawfully be used for the purpose of erecting a state building. 1927 OAG 110.

4. Fiduciary obligations

The industrial commission has a fiduciary responsibility to preserve and safeguard the financial integrity and solvency of the state insurance fund, including an obligation to adhere to certain standards of judgment and care when taking actions such as approving the sale of industrial rehabilitation centers for prices less than their construction and development costs, modifying or renegotiating the terms of the lease agreements for such centers, or agreeing to a reduction in the rent paid under such lease agreements. OAG 89-033.

5. Effective date

Any section of a law which changes the permanent law of the state is subject to referendum under the powers reserved to the people by O Const Art II § 1, even though the law also contains a section providing for an appropriation for the current expenses of the state government and state institutions, which under O Const Art II § 1d becomes immediately effective; thus, the nonappropriation provisions of 1993 Am.Sub.H.B. 107 are stayed for ninety days, during which period relators may undertake to petition for a referendum on the provisions of such act that change the permanent law of the state. State ex rel. Ohio AFL-CIO v. Voinovich (Ohio, 04-08-1994) 69 Ohio St.3d 225, 631 N.E.2d 582, 1994-Ohio-1, opinion clarified 69 Ohio St.3d 1208, 632 N.E.2d 907.

R.C. § 4123.44, OH ST § 4123.44

Current through 2005 File 63 and 2006 File 64 of the 126th GA (2005-2006) apv. by 1/30/06, and filed with the Secretary of State by 1/31/06.

The Ohio Bureau of Workers' Compensation
Statement of Investment Policy and Guidelines

Appendix XI: Ohio Revised Code Section 4123.44

The Ohio Bureau of Workers' Compensation
Statement of Investment Policy and Guidelines

Appendix XII: Legal Requirements Summary

This section of the Statement of Investment Policy and Guidelines contains the Ohio Revised Code citations that form the legal basis for the duties and requirements of the Workers' Compensation Oversight Commission, the Administrator, and the Chief Investment Officer relating to Bureau of Workers' Compensation investments. The text of relevant statutory provisions that form the basis of the Statement of Investment Policy and Guidelines is included in this section for reference. This section does not include all Revised Code sections relating to the WCOC, Administrator, BWC, and Chief Investment Officer, but only those Revised Code sections that relate to the Investment Policy.

Am. Sub. H.B. 66, the General Revenue budget bill for the operation of state government, amended or enacted many of these statutes affecting BWC investments. The provisions of Sub. H.B. 66 were effective September 29, 2005.

I. General Investment Authority and Criteria

R.C. 4123.44 contains the chief authority for the investment of the State Insurance Fund. The statute establishes the "prudent person" standard for investment decisions. The statute cross references R.C. 4121.12(G)(6)(a) to (j) for prohibited investments, cited below in the section on "Workers' Compensation Oversight Commission duties."

> 4123.44: The voting members of the workers' compensation oversight commission, the administrator of workers' compensation, and the bureau of workers' compensation chief investment officer are the trustees of the state insurance fund. The administrator of workers' compensation, in accordance with sections 4121.126 and 4121.127 of the Revised Code and the investment objectives, policies, and criteria established by the workers' compensation oversight commission pursuant to section 4121.12 of the Revised Code, and in consultation with the bureau of workers' compensation chief investment officer, may invest any of the surplus or reserve belonging to the state insurance fund.
>
> The administrator shall not invest in any type of investment specified in divisions (G)(6)(a) to (j) of section 4121.12 of the Revised Code.
>
> The administrator and other fiduciaries shall discharge their duties with respect to the funds with the 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 with like aims, and by diversifying the investments of the assets of the funds so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so.
>
> To facilitate investment of the funds, the administrator may establish a partnership, trust, limited liability company, corporation, including a corporation exempt from taxation under the Internal Revenue Code, 100 Stat. 2085, 26 U.S.C. 1, as amended, or any other legal entity authorized to transact business in this state.

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When reporting on the performance of investments, the administrator shall comply with the performance presentation standards established by the association for investment management and research.

All investments shall be purchased at current market prices and the evidences of title to the investments shall be placed in the custody of the treasurer of state, who is hereby designated as custodian, or in the custody of the treasurer of state's authorized agent. Evidences of title of the investments so purchased may be deposited by the treasurer of state for safekeeping with an authorized agent selected by the treasurer of state who is a qualified trustee under section 135.18 of the Revised Code. The treasurer of state or the agent shall collect the principal, dividends, distributions, and interest as they become due and payable and place them when collected into the state insurance fund.

The treasurer of state shall pay for investments purchased by the administrator on receipt of written or electronic instructions from the administrator or the administrator's designated agent authorizing the purchase, and pending receipt of the evidence of title of the investment by the treasurer of state or the treasurer of state's authorized agent. The administrator may sell investments held by the administrator, and the treasurer of state or the treasurer of state's authorized agent shall accept payment from the purchaser and deliver evidence of title of the investment to the purchaser, on receipt of written or electronic instructions from the administrator or the administrator's designated agent authorizing the sale, and pending receipt of the moneys for the investments. The amount received shall be placed in the state insurance fund. The administrator and the treasurer of state may enter into agreements to establish procedures for the purchase and sale of investments under this division and the custody of the investments.

No purchase or sale of any investment shall be made under this section, except as authorized by the administrator.

Any statement of financial position distributed by the administrator shall include the fair value, as of the statement date, of all investments held by the administrator under this section.

When in the judgment of the administrator it is necessary to provide available funds for the payment of compensation or benefits under this chapter, the administrator may borrow money from any available source and pledge as security a sufficient amount of bonds or other securities in which the state insurance fund is invested. The aggregate unpaid amount of loans existing at any one time for money so borrowed shall not exceed ten million dollars. The bonds or other securities so pledged as security for such loans to the administrator shall be the sole security for the payment of the principal and interest of any such loan. The administrator shall not be personally liable for the payment of the principal or the interest of any such loan. No such loan shall be made for a longer period of time than one year. Such loans may be renewed but no one renewal shall be for a period in excess of one year. Such loans shall bear such rate of interest as the administrator determines and in negotiating the loans, the administrator shall endeavor to secure as favorable interest rates and terms as circumstances will permit.

The treasurer of state may deliver to the person or governmental agency making such loan, the bonds or other securities which are to be pledged by the administrator as security for such loan, upon receipt by the treasurer of state of an order of the administrator authorizing such loan. Upon payment of any such loan by the administrator, the bonds or other securities pledged as security therefor shall be returned to the treasurer of state as custodian of such bonds.

The administrator may pledge with the treasurer of state such amount of bonds or other securities in which the state insurance fund is invested as is reasonably necessary as security for any certificates issued, or paid out, by the treasurer of state upon any warrants drawn by the administrator.

The administrator may secure investment information services, consulting services, and other like services to facilitate investment of the surplus and reserve belonging to the state insurance fund. The administrator shall pay the expense of securing such services from the state insurance fund.

II. Workers' Compensation Oversight Commission Investment Duties

R.C. 4121.12(G)(6) requires the WCOC to establish an investment policy with certain criteria, and to monitor the Administrator's progress in investments. The WCOC shall review the investment policy annually. The WCOC shall prohibit BWC from investing in certain specified assets.

4121.12(G): The commission shall . . . (6) Establish objectives, policies, and criteria for the administration of the investment program that include asset allocation targets and ranges, risk factors, asset class benchmarks, time horizons, total return objectives, and performance evaluation guidelines, and monitor the administrator's progress in implementing the objectives, policies, and criteria on a quarterly basis. The commission shall review and publish the objectives, policies, and criteria no less than annually and shall make copies available to interested parties. The commission shall prohibit, on a prospective basis, any specific investment it finds to be contrary to its investment objectives, policies, and criteria.

The objectives, policies, and criteria adopted by the commission for the operation of the investment program shall prohibit investing assets of funds, directly or indirectly, in vehicles that target any of the following:

(a) Coins;

(b) Artwork;

(c) Horses;

(d) Jewelry or gems;

(e) Stamps;

(f) Antiques;

(g) Artifacts;

(h) Collectibles;

(i) Memorabilia;

(j) Similar unregulated investments that are not commonly part of an institutional portfolio, that lack liquidity, and that lack readily determinable valuation.

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R.C. 4121.12(G)(7) requires the WCOC to specify in the investment policy that the Administrator is permitted to invest in an investment class only if the WCOC opens that class. The WCOC shall adopt rules establishing due diligence standards for BWC employees to follow when investing in that class. The WCOC shall establish policies and procedures to monitor and review the performance and value of each investment class. The WCOC shall report annually on the performance and value of each investment class.

> 4121.12(G): The commission shall . . . (7) Specify in the objectives, policies, and criteria for the investment program that the administrator is permitted to invest in an investment class only if the commission, by a majority vote, opens that class. After the commission opens a class but prior to the administrator investing in that class, the commission shall adopt rules establishing due diligence standards for employees' of the bureau to follow when investing in that class and shall establish policies and procedures to review and monitor the performance and value of each investment class. The commission shall submit a report annually on the performance and value of each investment class to the governor, the president and minority leader of the senate, and the speaker and minority leader of the house of representatives. The commission may vote to close any investment class.

III. Administrator's Investment Duties

R.C. 4121.121(B)(7) states the general power for the Administrator to invest, prohibits the Administrator from investing in prohibited investment classes, and requires the Administrator to make investments in consultation with the Chief Investment Officer.

> R.C. 4121.121: (B) The administrator is responsible for the management of the bureau of workers' compensation and for the discharge of all administrative duties imposed upon the administrator in this chapter and Chapters 4123., 4127., 4131., and 4167. of the Revised Code, and in the discharge thereof shall do all of the following: . . .
>
> (7) Exercise the investment powers vested in the administrator by section 4123.44 of the Revised Code in accordance with the investment objectives, policies, and criteria established by the oversight commission pursuant to section 4121.12 of the Revised Code and in consultation with the chief investment officer of the bureau of workers' compensation The administrator shall not engage in any prohibited investment activity specified by the oversight commission pursuant to division (G)(6) of section 4121.12 of the Revised Code and shall not invest in any type of investment specified in division (G)(6)(a) to (j) of that section. All business shall be transacted, all funds invested, all warrants for money drawn and payments made, and all cash and securities and other property held, in the name of the bureau, or in the name of its nominee, provided that nominees are authorized by the administrator solely for the purpose of facilitating the transfer of securities, and restricted to the administrator and designated employees.

IV. Chief Investment Officer Duties

R.C. 4123.441 requires BWC, with the advice and consent of the WCOC, to employ a licensed BWC chief investment officer and who is a chartered financial analyst. The chief investment officer shall reasonably supervise BWC employees who handle

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investments to prevent specified securities and investment violations. The chief investment officer shall establish a policy to monitor and evaluate the effectiveness of BWC investments.

R.C. 4123 441: (A) The bureau of workers' compensation, with the advice and consent of the workers' compensation oversight commission shall employ a person or designate an employee of the bureau who is designated as a chartered financial analyst by the CFA institute and who is licensed by the division of securities in the department of commerce as a bureau of workers' compensation chief investment officer to be the chief investment officer for the bureau of workers' compensation. After ninety days after the effective date of this section, the bureau of workers' compensation may not employ a bureau of workers' compensation chief investment officer, as defined in section 1707.01 of the Revised Code, who does not hold a valid bureau of workers' compensation chief investment officer license issued by the division of securities in the department of commerce. The oversight commission shall notify the division of securities of the department of commerce in writing of its designation and of any change in its designation within ten calendar days after the designation or change.

(B) The bureau of workers' compensation chief investment officer shall reasonably supervise employees of the bureau who handle investment of assets of funds specified in this chapter and Chapters 4121., 4127., and 4131. of the Revised Code with a view toward preventing violations of Chapter 1707. of the Revised Code, the "Commodity Exchange Act," 42 Stat. 998, 7 U.S.C. 1, the "Securities Act of 1933," 48 Stat. 74, 15 U.S.C. 77a, the "Securities Exchange Act of 1934," 48 Stat. 881, 15 U.S.C. 78a, and the rules and regulations adopted under those statutes. This duty of reasonable supervision shall include the adoption, implementation, and enforcement of written policies and procedures reasonably designed to prevent employees of the bureau who handle investment of assets of the funds specified in this chapter and Chapters 4121., 4127., and 4131. of the Revised Code, from misusing material, nonpublic information in violation of those laws, rules, and regulations.

For purposes of this division, no bureau of workers' compensation chief investment officer shall be considered to have failed to satisfy the officer's duty of reasonable supervision if the officer has done all of the following:

(1) Adopted and implemented written procedures, and a system for applying the procedures, that would reasonably be expected to prevent and detect, insofar as practicable, any violation by employees handling investments of assets of the funds specified in this chapter and Chapters 4121., 4127., and 4131. of the Revised Code;

(2) Reasonably discharged the duties and obligations incumbent on the bureau of workers' compensation chief investment officer by reason of the established procedures and the system for applying the procedures when the officer had no reasonable cause to believe that there was a failure to comply with the procedures and systems;

(3) Reviewed, at least annually, the adequacy of the policies and procedures established pursuant to this section and the effectiveness of their implementation.

(C) The bureau of workers' compensation chief investment officer shall establish and maintain a policy to monitor and evaluate the effectiveness of securities transactions executed on behalf of the bureau.

R.C. 1707.164 and R.C. 1707.165 provide that the BWC Chief Investment Officer shall be licensed by the Division of Securities in the Department of Commerce.

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R.C. 1707.164: (A) No person shall act as a bureau of workers' compensation chief investment officer unless the person is licensed as a bureau of workers' compensation chief investment officer by the division of securities.

(B) No bureau of workers' compensation chief investment officer shall act as a dealer, salesperson, investment advisor, or investment advisor representative.

R.C. 1707.165: (A) Application for a bureau of workers' compensation chief investment officer's license shall be made in accordance with this section by filing with the division of securities the information, materials, and forms specified in rules adopted by the division.

(B) The division may investigate any applicant for a license and may require any additional information as it considers necessary to determine the applicant's business repute and qualifications to act as a chief investment officer. If the application for a bureau of workers' compensation chief investment officer's license involves investigation outside of this state, the applicant may be required by the division to advance sufficient funds to pay any of the actual expenses of the investigation. The division shall furnish the applicant with an itemized statement of the expenses the applicant is required to pay.

(C) The division shall by rule require an applicant for a bureau of workers' compensation chief investment officer's license to pass an examination designated by the division or achieve a specified professional designation unless the applicant meets both of the following requirements:

(1) Acts as a bureau of workers' compensation chief investment officer on the effective date of this section;

(2) Has experience or education acceptable to the division.

(D) If the division finds that the applicant is of good business repute, appears to be qualified to act as a bureau of workers' compensation chief investment officer, and has complied with this chapter and rules adopted by the division under this chapter, the division, upon receipt of the fees prescribed by division (B) of section 1707.17 of the Revised Code, shall issue to the applicant a license authorizing the applicant to act as a bureau of workers' compensation chief investment officer.

V. Investment Manager Requirements

R.C. 4123.444 and R.C. 4123.445 require the Administrator, prior to awarding a contract to an investment manager, to have criminal background checks conducted on the investment manager's employees who will be investing BWC funds. The statutes prohibit BWC from entering into a contract with an investment manager if any employee of that manager who will be investing assets of BWC funds has been convicted of or pleaded guilty to a financial or investment crime.

R.C. 4123.444: (A) As used in this section and section 4123.445 of the Revised Code:

(1) "Bureau of workers' compensation funds" means any fund specified in Chapter 4121., 4123., 4127., or 4131. of the Revised Code that the administrator of workers' compensation has the authority

to invest, in accordance with the administrator's investment authority under section 4123.44 of the Revised Code.

(2) "Investment manager" means any person with whom the administrator of workers' compensation contracts pursuant to section 4123.44 of the Revised Code to facilitate the investment of assets of bureau of workers' compensation funds

(3) "Business entity" means any person with whom an investment manager contracts for the investment of assets of bureau of workers' compensation funds.

(4) "Financial or investment crime" means any criminal offense involving theft, receiving stolen property, embezzlement, forgery, fraud, passing bad checks, money laundering, drug trafficking, or any criminal offense involving money or securities, as set forth in Chapters 2909., 2911., 2913., 2915., 2921., 2923., and 2925. of the Revised Code or other law of this state, or the laws of any other state or the United States that are substantially equivalent to those offenses.

(B)(1) Before entering into a contract with an investment manager to invest bureau of workers' compensation funds, the administrator shall do both of the following:

(a) Request from any investment manager with whom the administrator wishes to contract for those investments a list of all employees who will be investing assets of bureau of workers' compensation funds. The list shall specify each employee's state of residence for the five years prior to the date of the administrator's request.

(b) Request that the superintendent of the bureau of criminal investigation and identification conduct a criminal records check in accordance with this section and section 109.579 of the Revised Code with respect to every employee the investment manager names in that list.

(2) After an investment manager enters into a contract with the administrator to invest bureau of workers' compensation funds and before an investment manager enters into a contract with a business entity to facilitate those investments, the investment manager shall request from any business entity with whom the investment manager wishes to contract to make those investments a list of all employees who will be investing assets of the bureau of workers' compensation funds. The list shall specify each employee's state of residence for the five years prior to the investment manager's request. The investment manager shall forward to the administrator the list received from the business entity. The administrator shall request the superintendent to conduct a criminal records check in accordance with this section and section 109.579 of the Revised Code with respect to every employee the business entity names in that list. Upon receipt of the results of the criminal records check, the administrator shall forward a copy of those results to the investment manager.

(3) If, after a contract has been entered into between the administrator and an investment manager or between an investment manager and a business entity for the investment of assets of bureau of workers' compensation funds, the investment manager or business entity wishes to have an employee who was not the subject of a criminal records check under division (B)(1) or (B)(2) of this section invest assets of the bureau of workers' compensation funds, that employee shall be the subject of a criminal records check pursuant to this section and section 109.579 of the Revised Code prior to handling the investment of assets of those funds. The investment manager shall submit to the administrator the name of that employee along with the employee's state of residence for the five years prior to the date in which the administrator requests the criminal records check. The administrator shall request that the superintendent conduct a criminal records check on that employee pursuant to this section and section 109.579 of the Revised Code.

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(C)(1) If an employee who is the subject of a criminal records check pursuant to division (B) of this section has not been a resident of this state for the five-year period immediately prior to the time the criminal records check is requested or does not provide evidence that within that five-year period the superintendent has requested information about the employee from the federal bureau of investigation in a criminal records check, the administrator shall request that the superintendent obtain information from the federal bureau of investigation as a part of the criminal records check for the employee. If the employee has been a resident of this state for at least that five-year period, the administrator may, but is not required to, request that the superintendent request and include in the criminal records check information about that employee from the federal bureau of investigation.

(2) The administrator shall provide to an investment manager a copy of the form prescribed pursuant to division (C)(1) of section 109.579 of the Revised Code and a standard impression sheet for each employee for whom a criminal records check must be performed, to obtain fingerprint impressions as prescribed pursuant to division (C)(2) of section 109.579 of the Revised Code. The investment manager shall obtain the completed form and impression sheet either directly from each employee or from a business entity and shall forward the completed form and sheet to the administrator, who shall forward these forms and sheets to the superintendent.

(3) Any employee who receives a copy of the form and the impression sheet pursuant to division (C)(2) of this section and who is requested to complete the form and provide a set of fingerprint impressions shall complete the form or provide all the information necessary to complete the form and shall complete the impression sheets in the manner prescribed in division (C)(2) of section 109.579 of the Revised Code.

(D) For each criminal records check the administrator requests under this section, at the time the administrator makes a request the administrator shall pay to the superintendent the fee the superintendent prescribes pursuant to division (E) of section 109.579 of the Revised Code.

R.C. 4123.445: (A) The administrator of workers' compensation shall not enter into a contract with an investment manager for the investment of assets of the bureau of workers' compensation funds if any employee of that investment manager who will be investing assets of bureau of workers' compensation funds has been convicted of or pleaded guilty to a financial or investment crime.

(B) An investment manager who has entered into a contract with the bureau of workers' compensation for the investment of assets of bureau of workers' compensation funds shall not contract with a business entity for the investment of those assets if any employee of that business manager who will be investing assets of bureau of workers' compensation funds has been convicted of or pleaded guilty to a financial or investment crime.

(C) The administrator shall not enter into a contract with an investment manager who refuses to submit the list of the investment manager's employees required under division (B) of section 4123.444 of the Revised Code. An investment manager shall not enter into a contract with a business entity that refuses to submit the list of the business entity's employees required under division (B) of section 4123.444 of the Revised Code.

(D) If, after a contract has been awarded to an investment manager or business entity for the investment of assets of bureau of workers' compensation funds, the investment manager or business entity discovers that an employee who is handling the investment of those assets has been convicted of or pleaded guilty to a financial or investment crime, the investment manager or business entity immediately shall notify the administrator.

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R.C. 3517.13(Y) and (Z) prohibits the BWC from conducting business with or awarding a contract, other than by competitive bidding, for goods or services costing more than $500 entities who, within the two previous calendar years, have made contributions totaling more than $1,000 to the campaign committees of the Governor or Lieutenant Governor or candidates for those offices.

R.C. 3517.13: (Y) The administrator of workers' compensation and the employees of the bureau of workers' compensation shall not conduct any business with or award any contract, other than one awarded by competitive bidding, for the purchase of goods costing more than five hundred dollars or services costing more than five hundred dollars to any individual, partnership, association, including, without limitation, a professional association organized under Chapter 1785. of the Revised Code, estate, or trust, if the individual has made, or the individual's spouse has made, or any partner, shareholder, administrator, executor, or trustee, or the spouses of any of those individuals has made, as an individual, within the two previous calendar years, one or more contributions totaling in excess of one thousand dollars to the campaign committee of the governor or lieutenant governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

(Z) The administrator of workers' compensation and the employees of the bureau of workers' compensation shall not conduct business with or award any contract, other than one awarded by competitive bidding, for the purchase of goods costing more than five hundred dollars or services costing more than five hundred dollars to a corporation or business trust, except a professional association organized under Chapter 1785. of the Revised Code, if an owner of more than twenty per cent of the corporation or business trust, or the spouse of the owner, has made, as an individual, within the two previous calendar years, taking into consideration only owners for all of such period, one or more contributions totaling in excess of one thousand dollars to the campaign committee of the governor or lieutenant governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

VI. Fiduciary Requirements

R.C. 4121.126 prohibits BWC employees and WCOC members from having any interest in any investment made by the Administrator or receiving any pay for the employee's or member's services. The statute prohibits any member or person connected with the BWC from borrowing any of its funds or using the funds except to make necessary payments authorized by the Administrator. The Administrator shall not make investments or purchases from or do any business with an entity that is owned or controlled by a person who within the preceding three years was employed by BWC or was a WCOC member, or was employed by or was an officer holding a fiduciary position in which the person was involved in decisions affecting the investment policy of BWC.

R.C. 4121.126: Except as provided in this chapter, no member of the workers' compensation oversight commission or employee of the bureau of workers' compensation shall have any direct or indirect interest in the gains or profits of any investment made by the administrator of workers' compensation or shall receive directly or indirectly any pay or emolument for the member's or employee's services. No member or person connected with the bureau directly or indirectly, for self or as an agent or partner of others, shall borrow any of its funds or deposits or in any manner use the funds or deposits except to make current and necessary payments that are authorized by the administrator. No member of the

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oversight commission or employee of the bureau shall become an indorser or surety or become in any manner an obligor for moneys loaned by or borrowed from the bureau.

The administrator shall make no investments through or purchases from, or otherwise do any business with, any individual who is, or any partnership, association, or corporation that is owned or controlled by, a person who within the preceding three years was employed by the bureau, a board member of, or an officer of the oversight commission, or a person who within the preceding three years was employed by or was an officer holding a fiduciary, administrative, supervisory, or trust position, or any other position in which such person would be involved, on behalf of the person's employer, in decisions or recommendations affecting the investment policy of the bureau, and in which such person would benefit by any monetary gain.

R.C. 4121.127 prohibits a BWC fiduciary from engaging in a transaction if the fiduciary knows that the transaction constitutes a prohibited activity, prohibits a fiduciary from engaging in certain activities concerning the fiduciary acting with the fiduciary's own interest, and specifies circumstances in which a fiduciary will be liable to the BWC for a breach of fiduciary duty.

R.C. 4121.127: (A) Except as provided in division (B) of this section, a fiduciary shall not cause the bureau of workers' compensation to engage in a transaction, if the fiduciary knows or should know that such transaction constitutes any of the following, whether directly or indirectly:

(1) The sale, exchange, or leasing of any property between the bureau and a party in interest;

(2) Lending of money or other extension of credit between the bureau and a party in interest;

(3) Furnishing of goods, services, or facilities between the bureau and a party in interest;

(4) Transfer to, or use by or for the benefit of a party in interest, of any assets of the bureau;

(5) Acquisition, on behalf of the bureau, of any employer security or employer real property.

(B) Nothing in this section shall prohibit any transaction between the bureau and any fiduciary or party in interest if both of the following occur:

(1) All the terms and conditions of the transaction are comparable to the terms and conditions that might reasonably be expected in a similar transaction between similar parties who are not parties in interest.

(2) The transaction is consistent with fiduciary duties under this chapter and Chapters 4123., 4127., and 4131. of the Revised Code.

(C) A fiduciary shall not do any of the following:

(1) Deal with the assets of the bureau in the fiduciary's own interest or for the fiduciary's own account;

(2) In the fiduciary's individual capacity or in any other capacity, act in any transaction involving the bureau on behalf of a party, or represent a party, whose interests are adverse to the interests of the bureau or to the injured employees served by the bureau;

(3) Receive any consideration for the fiduciary's own personal account from any party dealing with the bureau in connection with a transaction involving the assets of the bureau.

(D) In addition to any liability that a fiduciary may have under any other provision, a fiduciary, with respect to bureau, shall be liable for a breach of fiduciary responsibility in any the following circumstances:

(1) If the fiduciary knowingly participates in or knowingly undertakes to conceal an act or omission of another fiduciary, knowing such act or omission is a breach;

(2) If, by the fiduciary's failure to comply with this chapter or Chapter 4123., 4127., or 4131. of the Revised Code, the fiduciary has enabled another fiduciary to commit a breach;

(3) If the fiduciary has knowledge of a breach by another fiduciary of that fiduciary's duties under this chapter and Chapters 4123., 4127., and 4131. of the Revised Code, unless the fiduciary makes reasonable efforts under the circumstances to remedy the breach.

(E) Every fiduciary of the bureau shall be bonded or insured for an amount of not less than one million dollars for loss by reason of acts of fraud or dishonesty.

(F) As used in this section, "fiduciary" means a person who does any of the following:

(1) Exercises discretionary authority or control with respect to the management of the bureau or with respect to the management or disposition of its assets;

(2) Renders investment advice for a fee, directly or indirectly, with respect to money or property of the bureau;

(3) Has discretionary authority or responsibility in the administration of the bureau.

R.C. 109.981 authorizes the Attorney General to maintain a civil action against a voting member of the WCOC who breaches the member's fiduciary duty to the BWC for harm resulting from that breach, and allows the WCOC to retain independent legal counsel if informed of an allegation that the entire WCOC has breached its fiduciary duty to the BWC.

If a voting member of workers' compensation oversight commission breaches the member's fiduciary duty to the bureau of workers' compensation, the attorney general may maintain a civil action against the board member for harm resulting from that breach. Notwithstanding section 4121.128 of the Revised Code, after being informed of an allegation that the entire oversight commission has breached its fiduciary duty, the oversight commission may retain independent legal counsel, including legal counsel provided by the oversight commission's fiduciary insurance carrier, to advise the board and to represent the board. The attorney general may recover damages or be granted injunctive relief, which shall include the enjoinment of specified activities and the removal of the member from the board. Any

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damages awarded shall be paid to the bureau. The authority to maintain a civil action created by this section is in addition to any authority the attorney general possesses under any other provision of the Revised Code.

APPENDIX XIII: CAMPAIGN CONTRIBUTION POLICY

It is the policy of the Ohio Bureau of Workers' Compensation ("OBWC") and the Workers' Compensation Oversight Commission ("WCOC") to ensure that the selection of investment management firms to provide investment management services, or the selection of consulting firms to provide consulting services, or the selection of independent auditors to provide auditing services, to the State Insurance Fund (the "Fund") is based on the merits of such firms and not on the political contributions made by such firms. This policy is designed to protect the beneficiaries of the Fund by prohibiting investment management firms, consulting firms or auditing firms, or such other persons who may contract with the Administrator or WCOC to provide services, from being engaged to provide such services to the Fund if certain political contributions have been made.

In furtherance of this goal, those individuals and firms conducting business with the Administrator or the WCOC, and those desiring to do business with the Administrator and the WCOC, shall adhere to the political contribution requirements that are set forth in Ohio Revised Code Chapter 3517. Such individuals and firms should pay particular attention to the restrictions set forth in O.R.C. 3517.13 (Y) and (Z), which expressly restrict the Administrator of OBWC from doing business with persons or business entities that had made contributions to candidates for Ohio Governor or Lt. Governor. These provisions are set forth below:

> (Y) The administrator of workers' compensation and the employees of the bureau of workers' compensation shall not conduct any business with or award any contract, other than one awarded by competitive bidding, for the purchase of goods costing more than five hundred dollars or services costing more than five hundred dollars to any individual, partnership, association, including, without limitation, a professional association organized under Chapter 1785. of the Revised Code, estate, or trust, if the individual has made, or the individual's spouse has made, or any partner, shareholder, administrator, executor, or trustee, or the spouses of any of those individuals has made, as an individual, within the two previous calendar years, one or more contributions totaling in excess of one thousand dollars to the campaign committee of the governor or lieutenant governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

(Z) The administrator of workers' compensation and the employees of the bureau of workers' compensation shall not conduct business with or award any contract, other than one awarded by competitive bidding, for the purchase of goods costing more than five hundred dollars or services costing more than five hundred dollars to a corporation or business trust, except a professional association organized under Chapter 1785. of the Revised Code, if an owner of more than twenty per cent of the corporation or business trust, or the spouse of the owner, has made, as an individual, within the two previous calendar years, taking into consideration only owners for all of such period, one or more contributions totaling in excess of one thousand dollars to the campaign committee of the governor or lieutenant governor or to the campaign committee of any candidate for the office of governor or lieutenant governor.

This campaign contribution policy is not intended to limit participation in the political process by individuals and business entities doing business with the Administrator or the WCOC, or those who may seek to do so in the future. However, such individuals and business entities should be aware that there are restrictions on political contributors, and also upon the award of contracts by officials who receive campaign contributions, in addition to those provisions of Ohio law that are specifically cited in this statement of policy. Any individual or business entity that makes political contributions and also seeks to do business with Ohio governmental agencies should review those provisions carefully. In particular, O.R.C. 3599.03 expressly forbids the payment of corporate funds or use of corporate assets to support a candidate for office, a political party or legislative campaign fund, while O.R.C. 3517.082 and O.R.C. 3599.031 allow bona fide political action committees to make campaign contributions to Ohio candidates.

The Ohio Bureau of Workers' Compensation
Statement of Investment Policy and Guidelines

Appendix XIV: Investment Committee – Financial and Operational Requirements

Model of infrastructure data to be provided to the IC

To· The Commissioners of the Investment Committee

The following is a model of portfolio and operational information that is needed by Investment Committee in order that the body can function effectively and comply with its fiduciary duties. The Chief Investment Office will be responsible for the delivery of such information.

Based upon my experiences, of being chairman, committee member and CIO of various insurance companies, pensions and foundations, these reports are standard and ordinary.

It is anticipated that the CIO may not be fully compliant with the first reporting, but that with the passage of a reporting cycle the reports will be compliant and will continue to improve over the ensuing years.

I will be bringing the following motion to the next Investment Committee:
I move that the Investment Committee direct the CIO report the following information. Such list can be modified to meet the needs of the organization, but the theme of full portfolio and operational disclosure is maintained.

Respectfully submitted,

Michael C. Koetters

Monthly Report to IC - 12 reports annually

- CIO written staff report - activities, issues, concerns and action plan
- Portfolio Performance vs. Benchmark by Asset Class by Manager
- Asset changes by manager - monthly, YTD

Quarterly Report to IC – 4 reports annually

- Review Progress on Goals and Action Plan
- Sarbanes-Oxley report – CIO Certification and report
- Economic Review
- Budget vs. Actual -
    - Qtr and YTD
    - For Cash Flow, Investment Income, Dept Expenses

1st Quarter Reporting - July, August and September

- Auditor Report
    - Internal auditor
    - External Auditor
- B-Team list – Managers in the wings
- CIO's Annual Report
    - Year in Review – portfolio performance

Appendix XIV: Investment Committee – Financial and Operational Requirements

- Environment
- Outlook
- Progress on last year's goals – outlook for next year's goals

2nd Quarter Reporting - October, November and December

- Annual Manager Review
- Annual Staff Personal Review
- Annual Fee and Performance Review
    - Managers, Consultants, Custodian vs. Benchmark
- Legal Review
- IT Review

3rd Quarter Reporting - January, February and March

- Review of investment duties and authorities of
    - WCOC, IC, CEO, and CIO
- Annual Economic and interest rate outlook
- Annual Review of customized benchmark for fixed income
    - Sensitivity analysis

4th Quarter Reporting - April, May and June

- Portfolio asset allocation review and recommendation
- Asset/Liability study review and recommendation
- Investment Policy and Mission statement review and recommendation
- Annual Goals and Action for next fiscal year
    - Need to support the mission of the BWC
- Annual Budget for next fiscal year
    - Net Income
    - Cash Flow
    - Assets under management
    - Operational Expenses
        - Staff expenses
        - Consultants
        - Custodian
        - Others
    - Capital Expenditures
    - Personnel staffing positions (additions/deductions)
- Review of Internal and External Auditor
    - Pre- audit preparation report on audit focus and review of prior audit
- Certification by Staff and CIO of no-conflict of interest

Ohio Bureau of Workers' Compensation
Comparison of Workers Compensation Fund Policies and Procedures

	California SCIF	Colorado SCIF (Pinnacle Assurance)	Maryland	New York NYSIF
Board	Five Member Board of Directors appointed by the Governor. Board members are required to be policyholders or employees of policyholders. There are three ex-officio members on the board including the Director of the State Dept of Industrial Regulations, a Senate Designee and an Assembly Designee.	Nine Member Board appointed by Governor and approved by Senate	Nine Member Board appointed by the Governor.	13 Commissioners appointed by the Governor and confirmed by the Senate
Funding	Employer Premiums	Funded through policyholder premiums and investment income. Do not receive any taxpayer revenue and are exempt from corporate income taxes.	Funding is from premiums and investment income.	Funded through a budget submitted to the Governor and approved by the Legislature The Board recovers expended funds through an assessment levied on State's covered employers.
Investment Committee	Subset of the Board of Directors	4 members	4 members of the Board	not specified
Frequency of Meetings				
Board	Bi-monthly	Monthly	Monthly	Monthly
Investment Committee	not specified	Quarterly	Monthly	Weekly
Investment Policy	Yes	Yes	Yes	Yes
Manager Guidelines	Yes	Yes	Yes	Yes
Monitor Investments				
vs. Peers	Yes	Yes	Yes	No
vs. Benchmark	Yes	Yes	Yes	Yes

Ohio Bureau of Workers' Compensation
Comparison of Workers Compensation Fund Policies and Procedures

	California SCIF	Colorado SCIF (Pinnacle Assurance)	Maryland	New York NYSIF
Internal Asset Mgmt	No	No	Yes	Yes
External Asset Mgmt	Yes	Yes	Yes	Yes
Outside Consultant	Yes	Yes	Yes	Yes
Year Ending 2004 Data:				
Duration of Portfolio	4.07	5.4	4.9	7.2
Duration of Liabilities	4.02	4.5	4.9	8.1
Return	3.84%	6.65%	5.13%	n/a
Benchmarks				
Equity	-	S&P 500, S&P 600	-	-
Fixed Income	Custom	LB Government/Credit	-	LB Aggregate
Asset Allocation Targets				
Equity	0%	30% of Surplus	0%	-
Fixed Income	100%	5% - 100%	100%	-
Comments	Very stringent guidelines, no equity allowed.	Pinnacle Assurance operates as a political subdivision of the state. Subject to high-level oversight by the legislature through annual audits.	No equity investments.	Board is overseer to Investment Committee. Monthly meetings contain review of activity. When asset allocation and manager selection/termination decisions occur Board has final say.

Ohio Bureau of Workers' Compensation
Comparison of Workers Compensation Fund Policies and Procedures

	North Dakota WSI	Ohio BWC	Oregon SAIF	Washington WSIB
Board	The WSI has an 11 person Board. When a vacancy arises the WSI Board submits a list of 3 people to the governor for his selection.	The BWC is a state agency managed by an administrator/ CEO and advised by an eleven member Workers' Compensation Oversight Commission. Five members are appointed by the governor. There are two investment experts appointed one by the State Treasurer and one jointly by the Ohio Senate President and Ohio House Speaker, lastly there are 4 non-voting legislative members.	Five Member Board of Directors appointed by the Governor, subject to confirmation by the State Senate.	Board is comprised of 15 members 10 of which are voting members. The 10 voting members include 3 ex-officio members, 2 legislators, and five members from different plans in the public employee pension system in Washington.
Funding	Funded through policyholder premiums and investment income.	Direct Premiums paid by employers	Direct Premiums paid by employers	Funding comes from earnings on assets invested by WSIB. There is a biennial budget approved from the Legislature that covers departmental operations and comes from the earnings on investments
Investment Committee	There is no individual investment committee	Consists of a minimum of 4 members appointed by the Chairperson of the WCOC. At least 2 members are investment experts and at least 2 members are voting members of WCOC.	State Treasury governs investment of all State Funds including Workers Comp under the direction of the Oregon Investment Council.	State Treasury governs investment of all State Funds including Workers Compensation under the direction of the Washington State Investment Board and the Public Markets Committee.
Frequency of Meetings				
Board	Quarterly	Quarterly	Quarterly	Quarterly
Investment Committee	-	Quarterly	Quarterly	Quarterly
Investment Policy	Yes	Yes	Yes	Yes
Manager Guidelines	Guidelines are set by the State Investment Board.	Yes, broad guidelines in investment policy. In addition each manager will have their own guidelines attached to their contracts	Yes, incorporated in the Investment Policy	Yes, incorporated in the Investment Policy

Ohio Bureau of Workers' Compensation
Comparison of Workers Compensation Fund Policies and Procedures

	North Dakota WSI	Ohio BWC	Oregon SAIF	Washington WSIB
Monitor Investments				
vs. Peers	Yes	Yes	Yes	Yes
vs. Benchmark	Yes	Yes	Yes	Yes
Internal Asset Mgmt	No	No	No	Yes - Fixed Income Only
External Asset Mgmt	Yes	Yes	Yes	Yes
Outside Consultant	Yes	Yes	Yes	Yes
2004 Data				
Duration of Portfolio	-	4.23	4.15	7.17
Duration of Liabilities	8.4	10	12 2	9.86
Return	7.85%	10.27%	5.44%	10.3%
Benchmarks				
Equity	S&P 500, Russell 2000,EAFE	Wilshire 5000, MSCI ACWI	Russell 3000 Index	85% Wilshire 5000/15 % EAFE
Fixed Income	LB Aggr, LB TIPS, ML T-Bills	LB Aggregate	Custom Benchmark	Depending on required duration target of Fund
Asset Allocation Targets				
Equity	21%	0%	15%	0% - 30% (Depending on Fund)
Fixed Income	79%	96%	85%	70% - 100%
Other	-	1% - Cash, 3% Alternatives	-	-
Comments	WSI is required to invest its assets through the State Investment Board. In addition, the State Investment Board is used to select and monitor the money managers as well as to provide oversight regarding performance versus peers and benchmarks.			Labor & Industry Fund represent 15% of total Funds managed by WSIB.

U.S. Allocation Summary
AASCIF Asset Allocation Summary
Listed by Size of Total Investment Portfolio in 2004

Portfolio Composition in 2004 ($000)

	Total Investment Portfolio	Bonds	Mortgages	Real Estate	Equities		Cash & Equivalents	Other
California	17,913,897	16,428,679	0	0	0	0%	1,485,218	0
Ohio	16,353,623	7,884,223	0	0	5,852,456	36%	1,617,907	999,037
New York	9,366,244	8,347,821	0	13,267	966,628	10%	38,528	0
Washington	8,828,384	6,923,024	0	0	1,656,180	19%	249,180	0
Oregon	2,980,389	2,348,204	602	19,395	374,798	13%	231,692	6,121
Arizona	2,872,804	2,182,194	156,595	24,294	339,968	12%	189,622	0
Texas	2,425,166	1,636,334	0	0	726,361	30%	62,471	0
Pennsylvania	1,623,924	1,274,823	0	0	187,356	12%	159,813	1,932
Colorado	1,613,614	1,292,728	0	23,702	140,698	9%	142,925	13,560
Puerto Rico	1,188,828	763,975	0	0	375,396	32%	49,457	0
Maryland	1,140,131	963,651	0	0	0	0%	176,480	0
North Dakota	1,139,827	828,548	95	0	269,823	24%	41,361	0
West Virginia	1,088,093	1,022,336	0	0	55,010	5%	10,747	0
Utah	1,001,398	705,881	7,278	28,124	204,499	20%	37,968	0
Oklahoma	873,976	624,955	0	0	150,742	17%	98,279	0
Louisiana	802,291	596,014	0	0	183,882	23%	22,395	0
Montana	591,913	499,090	0	0	72,138	12%	20,685	0
Maine	489,240	426,836	0	0	46,002	9%	13,736	2,666
Rhode Island	425,423	347,904	0	14,771	53,467	13%	9,052	229
Kentucky	270,967	238,154	0	0	20,759	8%	12,054	0
Missouri	230,083	196,198	0	1,651	14,008	6%	18,226	0
Minnesota	190,306	178,291	0	0	5,820	3%	6,170	25
Hawaii	130,795	111,250	0	0	10,856	8%	8,689	0
Total	73,541,316	55,821,114	# 164,570	# 125,204	# 11,706,846	14%	4,702,656	# 1,023,570

OBWC State Insurance Fund Asset-Liability Valuation – Draft

Investment Committee Presentation

May 25, 2006

Mark E. Brubaker, CFA
Managing Director

Dimitry D. Mindlin, ASA, MAA, PhD
Managing Director

WILSHIRE CONSULTING

Agenda

I. Executive Summary

What is Asset Allocation?

- Wilshire believes that the core business of a workers' compensation insurance fund is to provide the benefits promised to injured workers.
- Asset Allocation is the process of selecting a policy portfolio - allocating a portfolio's assets among asset classes that have the potential to serve the financial objectives of the fund.
- The role of asset allocation is to manage the risk to the fund's core business.
- The goal of asset allocation is to maximize the safety of promised benefits at a minimum cost (premiums).

A Multitude of Risks

- Workers' compensation funds face a multitude of risks. Prioritizing those risks is crucial in determining a proper methodology for selection of the policy portfolio.

Example 1 - Risk of an Asset Loss

- It is undesirable to lose money.

Example 2 - Risk of Mismatch Between Assets and "Accounting" Liabilities

- It is undesirable to have a negative surplus as defined by GASB accounting standards.

Example 3 - Insufficient Asset Risk

- It is undesirable to have insufficient assets to pay benefits promised to injured workers.
- Wilshire believes this is the primary risk.
- This risk is directly related to the Fund's core business.
- This risk can be managed through Asset Liability Valuation.

A Long Term Capital Market Perspective

	1802-2005	1926-2005	*High Inflation* 1970-1979	*Bull Market* 1980-1999	*Wilshire* Forecast
Total Returns					
Stocks	8.2%	10.4%	5.9%	17.8%	8.3%
Bonds	4.9	5.7	7.2	10.0	5.0
T-Bills	4.3	3.8	6.4	7.2	3.0
Inflation	1.4	3.0	7.4	4.0	2.3
Real Returns					
Stocks	6.8	7.4	-1.5	13.8	6.0
Bonds	3.5	2.7	-0.2	6.0	2.8
T-Bills	2.9	0.8	-1.0	3.2	0.8
Risk (Std. Dev.)					
Stocks		19.3	16.0	15.0	17.0
Bonds		5.2	6.4	6.5	5.0
T-Bills		1.0	0.6	1.0	1.0
Stocks minus Bonds	3.3	4.7	-1.3	7.8	3.3

Wilshire's 10-Year Capital Market Assumptions

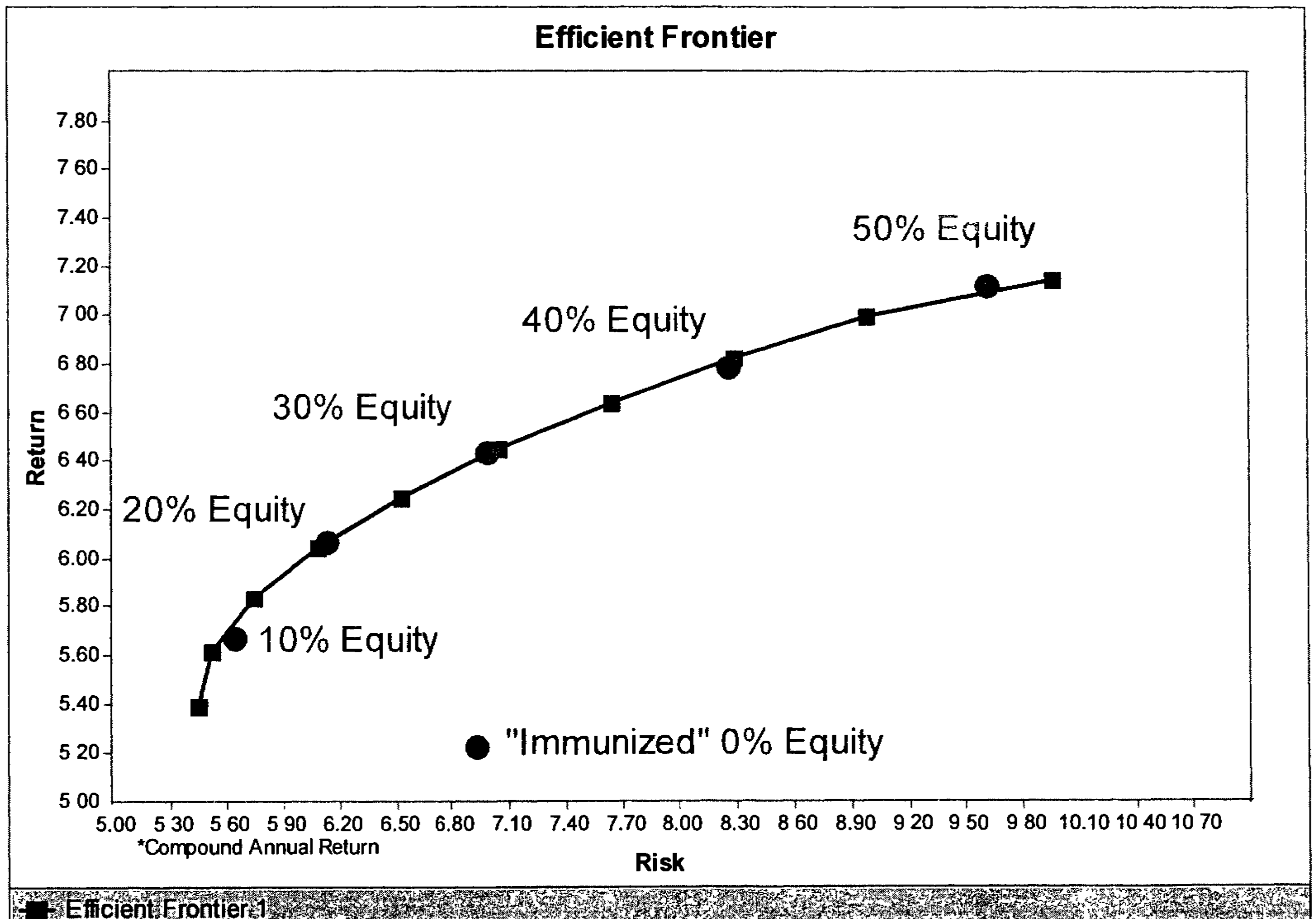
Asset Class	U.S. Equity	Non-U.S. Equity	Fixed Income - Core	Fixed Income - Long Duration/Dedicated	Fixed Income - High Yield	Fixed Income - Inflation Protected	Cash Equivalents
Return	8.25	8.25	5.00	5.25	6.50	4.75	3.00
Risk	17.00	19.00	5.00	7.00	10.00	6.00	1.00
Yield	1.80	2.50	5.00	5.25	6.50	2.50	3.00
Correlations							
U.S. Equity	1.00						
Non-U.S. Equity	0.78	1.00					
Fixed Income - Core	0.29	0.08	1.00				
Fixed Income - Long Duration/Dedicated	0.34	0.09	0.95	1.00			
Fixed Income - High Yield	0.48	0.29	0.39	0.40	1.00		
Fixed Income - Inflation Protected	0.00	0.10	-0.01	0.00	0.01	1.00	
Cash Equivalents	0.00	-0.10	0.10	0.10	0.00	0.25	1.00

- **The above figures represent Wilshire's 10-year forward-looking risk, return and correlation assumptions.**
  - Risk represents the expected standard deviation of each portfolio – in two out of three years, the asset class is expected to produce returns that are within +/- one standard deviation of the expected return.

Source: Wilshire Consulting: 2006 Asset Allocation Return and Risk Assumptions

Efficient Frontier

- **The efficient frontier is comprised of portfolios that generate the highest level of expected return for a given level of risk in *asset-only space* – SIF liabilities are not considered in this exhibit:**



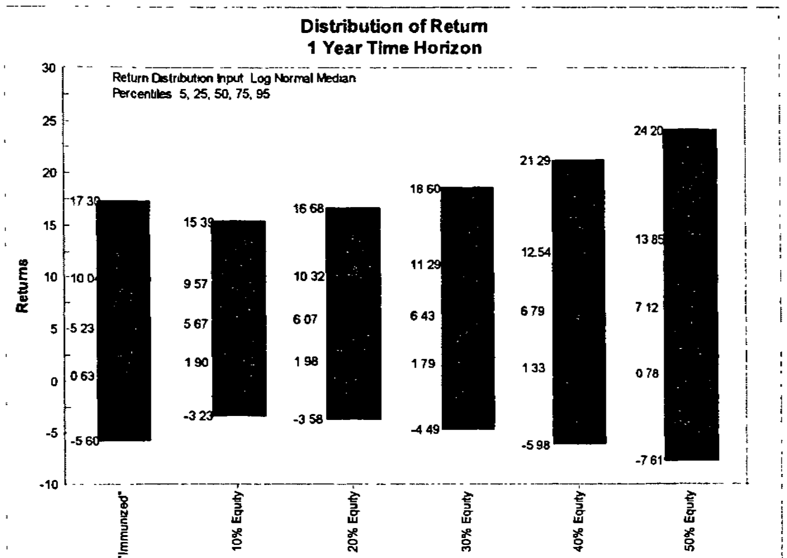
Efficient Portfolios

	Portfolio Weights					
	"Immunized"	Total Return				
Asset Class	***0% Equity***	***10% Equity***	***20% Equity***	***30% Equity***	***40% Equity***	***50% Equity***
U.S. Equity	0	8	15	22	30	38
Non-U.S. Equity	0	2	5	8	10	12
Total Equity	***0***	***10***	***20***	***30***	***40***	***50***
Fixed Income - Core	0	0	0	0	0	0
Fixed Income - Long Duration/Dedicated	99	65	54	44	39	34
Fixed Income - High Yield	0	4	5	5	5	5
Fixed Income - Inflation Protected	0	20	20	20	15	10
Total Fixed Income	***99***	***89***	***79***	***69***	***59***	***49***
Cash Equivalents	1	1	1	1	1	1
Return	**5.23**	**5.67**	**6.07**	**6.43**	**6.79**	**7.12**
Risk	**6.93**	**5.64**	**6.13**	**6.99**	**8.25**	**9.62**

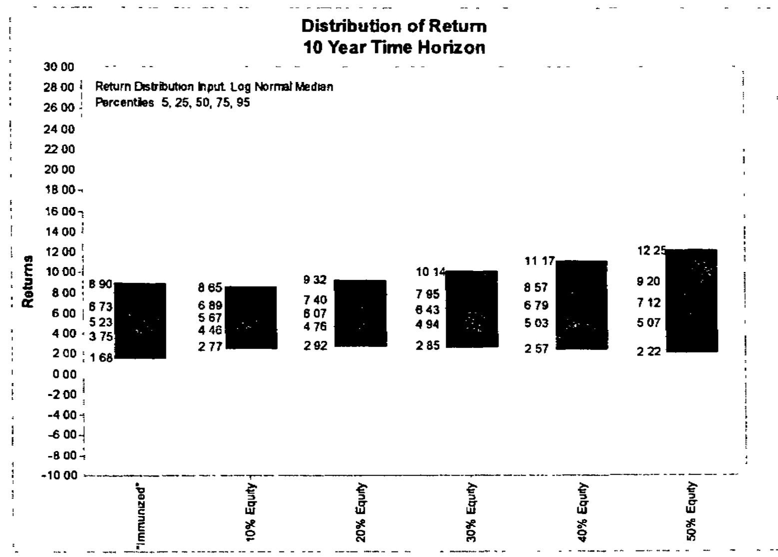
- **Constraints:**
  - Total Equity < 50%; High Yield < 5%; Inflation Protected < 20%; Cash Equivalents < 1%
- **Long Duration Bonds and Inflation-Protected Securities are favored by the ALV model due to the long term and embedded medical and wage inflation components of the claim payment stream.**
- **Risk represents the expected standard deviation of each portfolio – in two out of three years, the asset mix is expected to produce returns that are within +/- one standard deviation of the expected return.**

1 and 10-Year Distribution of Expected Returns

- **Distributions of returns are quite wide for any one year period...**

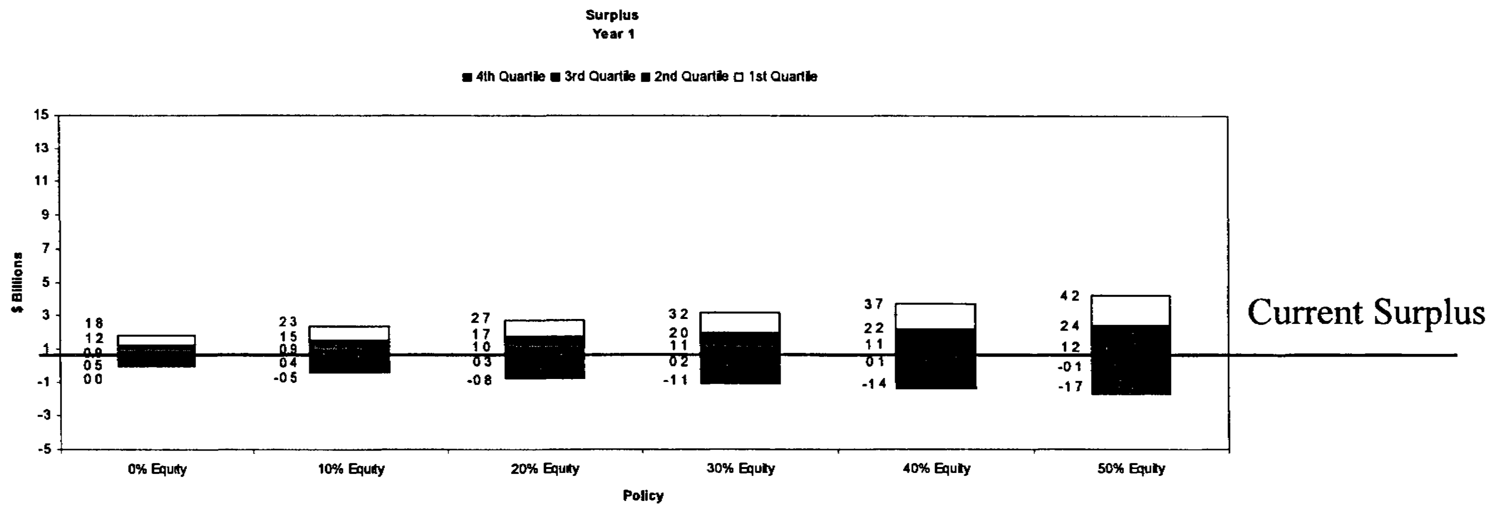


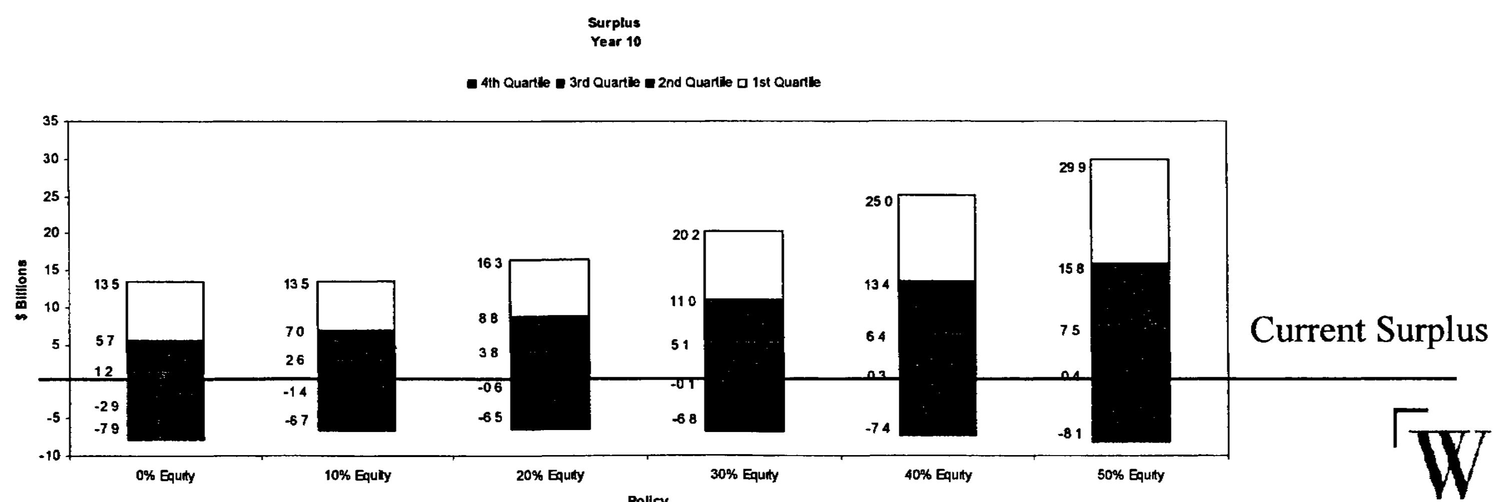
- **...but they narrow considerably over a 10-year period**



Stochastic Simulation of Surplus: Year 1 and Year 10

- The floating bar charts incorporate a stochastic simulation of assets, premiums, claims and reserves under potential interest rate, inflation and capital market environments and illustrate the potential SIF surplus under various asset mixes over short and long-term time horizons:





 Source: Mercer and Wilshire

Observations

- **The optimal asset mix is highly dependent on the Fund's ultimate objective and time horizon:**
  - If minimizing short term volatility of the accounting surplus is the sole objective, then the "Immunized" fixed income portfolio is optimal
  - If minimizing the long-term (10-year) downside risk of the accounting surplus is the objective, then a 20% equity allocation is optimal
  - If maximizing the safety of benefit claims is the objective (and the Fund can withstand downside risk to the accounting surplus), then an equity allocation greater than 20% may be justified (please see slide 45)
- **The immunized bond portfolio will not likely preserve the surplus in periods when medical and/or wage inflation exceed current expectations**
  - There is no financial instrument that can effectively hedge this inflation risk
- **Regardless of the asset mix selected, Wilshire recommends that OBWC build a larger surplus before considering future premium refunds to employers**
  - Under any asset allocation policy mix, there exists the probability of a shortfall (please see slide 45) in the future
  - Because of the positive cash flow characteristics (slide 44) of the SIF, any shortfall would likely not be an issue until well into the future

Recommendation

- **If the OBWC's time horizon is longer-term (i.e. 10-years), then Wilshire recommends a 20% equity allocation and the specific asset mix as detailed below:**

	Portfolio Weights	
	"Immunized"	*Recommended*
Asset Class	***0% Equity***	***20% Equity***
U.S. Equity	0	15
Non-U.S. Equity	0	5
Total Equity	***0***	***20***
Fixed Income - Core	0	0
Fixed Income - Long Duration/Dedicated	99	54
Fixed Income - High Yield	0	5
Fixed Income - Inflation Protected	0	20
Total Fixed Income	***99***	***79***
Cash Equivalents	1	1
Return	**5.23**	**6.07**
Risk	**6.93**	**6.13**

- **This mix provides a balance between the long-term growth of the surplus with the preservation of the surplus over intermediate time horizons**

Investment Structure

- **Wilshire recommends the following investment structure for implementing the asset allocation policy:**

	SIF Allocation		
Asset Class	*%*	*$ mm*	*Benchmark*
U.S. Equity	**15**	**2,265**	**Wilshire 5000**
Large Cap	*12*	*1,812*	*S&P 500*
Active (0%)	0	-	
Passive (100%)	12	1,812	
Small/Mid Cap	*3*	*453*	*Wilshire 4500 / Russell 2500*
Active (100%)	3	453	
Passive (0%)	0	-	
Non-U.S. Equity	**5**	**755**	**MSCI ACWI ex-U.S.**
Active (80%)	4	604	
Passsive (20%)	1	151	
Fixed Income - Long Duration	**54**	**8,153**	**Lehman Long Government/Credit**
Active (50%)	27	4,076	
Passive (50%)	27	4,076	
High Yield	**5**	**755**	**Merrill Lynch High Yield Master II**
Active (100%)	5	755	
Passive (0%)	0	-	
Inflation-Protected Securities	**20**	**3,020**	**Lehman U.S. TIPS**
Active (0%)	0	-	
Passive (100%)	20	3,020	
Cash Equivalents	**1**	**151**	**90-Day T-Bill**

Please refer to the following page for an analysis of the long-duration fixed income benchmark.

Long-Duration Fixed Income Benchmark

- **Due to the marginal benefit derived from Customized Benchmark 2 (yield-to-maturity of 5.8% vs. 5.6%) and the credit risk that it entails, Wilshire recommends that OBWC utilize the Lehman Long Government/Credit Index for the fixed income allocation**
- **The Lehman Long Government/Credit index sector allocation as of March 31, 2006 was approximately 55% government / 45% credit**
  - Active fixed income managers may elect to overweight credit sectors when they present relative value

Customized Benchmark 1:	
99%	Lehman Long-Term Gov't/Corp
1%	91 Day T-Bill

Customized Benchmark 2:	
40%	Lehman Long-Term Gov't
56%	Lehman Long-Term Corporate
4%	Lehman Int-Term Corporate

Portfolio Statistics	Lehman Aggregate	Customized Benchmark 1	Customized Benchmark 2	Liability Stream
Effective duration	4.59	10.38	10.30	10.38
Effective d2	2.87	8.70	8.61	8.67
Effective d3	3.57	6.43	6.24	6.06
Yield to Maturity	5.48	5.57	5.81	--
Cash flow yield	5.46	5.56	5.79	--
Current yield	5.19	5.90	6.08	--
Average coupon	5.24	6.79	6.80	--
Average price	100.04	100.00	110.27	--
Years to maturity	12.91	19.77	20.55	--
Est. Annual Income ($)	$900,446,055	$916,937,742	$954,868,619	--

Optimized portfolio duration, D2, D3

Effective duration: measures risk to changes in level of the yield curve
Effective D2: measures risk to changes in slope of the yield curve
Effective D3: measures risk to changes in the curvature of the yield curve

Illustrative Transition Timeline

Jun-06
Present asset allocation recommendation to WCOC Present revised Investment Policy Statement to WCOC for approval Issue RFPs for transition management and index managers Issue RFPs for long-duration fixed income active managers

Jul-06
Issue RFP for non-U.S. equity active managers

Aug-06
Evaluate RFP responses for transition management and index managers Evaluate RFP responses for active long-duration fixed income managers Issue RFP for small cap U.S. equity active managers

Sep-06
Evaluate RFP responses for transition management and index managers Evaluate RFP responses for active long-duration fixed income managers Evaluate RFP responses for non-U.S. equity active managers Issue RFP for high yield active managers

Oct-06
Present transition management and index manager recommendations to WCOC Commence allocating assets to U.S. equity, non-U.S. equity, fixed income and TIPS index manager(s) (6 months) Present long-duration fixed income active manager recommendations to WCOC Evaluate RFP responses for non-U.S. equity active managers Evaluate small cap U.S. equity active managers

The above calendar is for illustrative purposes only. Actual implementation may differ due to a variety of factors. Expected completion during Q2 2007.

Illustrative Transition Timeline

Nov-06
Present non-U.S. equity active manager recommendations to WCOC **Commence implementing active long-duration fixed income allocation (4 months)** **Evaluate small cap U.S. equity active managers** **Evaluate high yield active managers**

Dec-06
Present small cap U.S. equity active manager recommendations to WCOC **Commence implementing non-U.S. equity active manager allocation (4 months)** **Evaluate high yield active managers**

Jan-07
Commence implementing small cap U.S. equity allocation (3 months) **Present high yield active manager recommendations to WCOC**

Feb-07
Commence implementing high yield allocation (3 months)

The above calendar is for illustrative purposes only. Actual implementation may differ due to a variety of factors. Expected completion during Q2 2007.

Biographies

Mark E. Brubaker, CFA
Managing Director

Mark joined the Pittsburgh, PA office of Wilshire Associates as a Senior Consultant in 1997. Mark works with a broad range of fund sponsors including public and corporate pensions, endowments and foundations and insurance companies. In addition to his client responsibilities, he serves on Wilshire's investment committee and chairs Wilshire's small cap value and growth manager research committees. He is a frequent speaker on investment-related topics including asset/liability management, alternative investments and emerging markets.

Mark earned a B.A. from Yale University and an MBA from Carnegie Mellon University with a concentration in finance. Before joining Wilshire, Mark worked at Westinghouse Electric Corporation, where he was responsible for over $9 billion in defined benefit, defined contribution and foundation assets and at PNC Bank where he managed pension client relationships for the Investment Management and Trust Division.

He holds the Chartered Financial Analyst designation and is a member of the CFA Institute and Pittsburgh Society of Financial Analysts.

Dimitry D. Mindlin, ASA, MAAA, PhD
Managing Director

Dimitry Mindlin joined Wilshire in 1998 and is responsible for the development and maintenance of Wilshire's asset allocation models. Dr. Mindlin works closely with Wilshire's investment research group in the development of capital market assumptions. Prior to joining Wilshire, he spent several years as an actuary with an insurance company and an actuarial consulting company. He earned his Ph.D. from Academy of Sciences of USSR. Dr. Mindlin is an Associate of the Society of Actuaries and a member of the American Academy of Actuaries.

II. Background

Background

- **The OBWC was established by the Ohio Constitution, Article II, Section 35:**
  - "For the purpose of providing compensation to workmen and their dependents, for death, injuries or occupational disease, occasioned in the course of such workmen's employment, laws may be passed establishing a state fund to be created by compulsory contribution thereto by employers, and administered by the state…"

- **Ohio Revised Code Section 4123.34:**
  - "The administrator of workers' compensation, in the exercise of the powers and discretion conferred upon him in section 4123.29 of the Revised Code, shall fix and maintain, with the advice and consent of the workers' compensation oversight commission…the lowest possible rates of premium consistent with the maintenance of a solvent state insurance fund and the creation and maintenance of a reasonable surplus…"

OBWC - Roles and Fiduciary Standard

- **Ohio Revised Code Section 4123.44**
  - "The voting members of the workers' compensation oversight commission, the administrator of workers' compensation, and the bureau of workers' compensation chief investment officer are the trustees of the state insurance fund. The administrator of workers' compensation, in accordance with (the Ohio Revised Code) and the investment objectives, policies and criteria established by the workers' compensation oversight commission pursuant to section 4121.12 of the Revised Code, and in consultation with the bureau of workers' compensation chief investment officer, may invest any of the surplus or reserve belonging to the state insurance fund."
  - "The administrator and other fiduciaries shall discharge their duties with respect to the funds with the 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 with like aims, and by diversifying the investments of the assets of the funds so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so."

What is Ohio Bureau of Workers' Compensation?

Insurance Company

- OBWC's primary role is to pay compensation and medical expenses for injured workers, but…
  - It is not subject to statutory accounting standards and capital requirements
  - It is not subject to regulation by the state insurance department
  - It incurs longer-tailed liabilities than typical workers' compensation insurance company
  - It is run solely for the benefit of Ohio employers and employees – there is no profit motive

Public Policy Tool

- Ohio employers benefit from premium refunds when the assets of the Fund perform well
- Ohio employees benefit from enhanced safety programs when the assets of the Fund perform well

Is it more similar to a Pension Fund?

- 10.4 year duration of claims stream comparable to the benefit stream of pension funds, which typically have a duration of 11-13 years
- Medical claims and indemnity claims each account for roughly 50% of the discounted loss reserves

Insurance and Pension Comparison

- **OBWC is thinly capitalized when compared to other workers' compensation insurance funds; however, OBWC's "funded status" is very high when compared to state pension funds**
- **The duration (using a market AA yield curve) of the OBWC claim payment stream is higher than the typical workers' compensation fund (due primarily to their use of reinsurance) and more comparable to the benefit payment stream of public pension funds**

	OBWC Financials	Insurance Industry Comparison[3]		Public Pension Fund Comparison	
	OBWC	**OBWC**	**Industry Average**	**OBWC**	**Industry Average**
Discount Rate	5.25%		0.00%		8.00%
Assets[1]	18,918	18,918		18,918	
Liabilities[2]	18,048	35,733		13,359	
Surplus	870	(16,815)		5,559	
Assets/Liabilities	1.05	0.53	1.45	1.42	0.87
Equity as % of Total Investments	**2.4%**	**2.4%**	**7.0%**	**2.4%**	**67.7%**
Duration of Liabilities		10.4	~4.0	10.4	13.0

Sources: BWC Financial and Operational Report - March 2006
AM Best and BlackRock
2006 Wilshire Report on State Retirement Systems: Funding and Asset Allocation
Mercer Oliver Wyman

[1] Assets are as reported under GASB by BWC. Not adjusted to reflect statutory accounting.

[2] Liabilities under the Insurance Industry Comparison and Public Pension Fund Comparison are approximated using the discount rates indicated.

[3] Insurance Industry Comparison represents 72 private insurance companies that wrote 75% or more of 2004 net premiums in workman's compensatior

What is Asset Allocation?

- Wilshire believes that the core business of a workers' compensation insurance fund is to provide the benefits promised to injured workers.
- Asset Allocation is the process of selecting a policy portfolio - allocating a portfolio's assets among asset classes that have the potential to serve the financial objectives of the fund.
- The role of asset allocation is to manage the risk to the fund's core business.
- The goal of asset allocation is to maximize the safety of promised benefits at a minimum cost (premiums).

A Multitude of Risks

- Workers' compensation funds face a multitude of risks. Prioritizing those risks is crucial in determining a proper methodology for selection of the policy portfolio.

Example 1 - Risk of an Asset Loss

- It is undesirable to lose money.

Example 2 - Risk of Mismatch Between Assets and "Accounting" Liabilities

- It is undesirable to have a negative surplus as defined by GASB accounting standards.

Example 3 - Insufficient Asset Risk

- It is undesirable to have insufficient assets to pay benefits promised to injured workers.
- Wilshire believes this is the primary risk.
- This risk is directly related to the Fund's core business.
- This risk can be managed through Asset Liability Valuation.

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A Long Term Capital Market Perspective

	1802-2005	1926-2005	*High Inflation* 1970-1979	*Bull Market* 1980-1999	*Wilshire* Forecast
Total Returns					
Stocks	8.2%	10.4%	5.9%	17.8%	8.3%
Bonds	4.9	5.7	7.2	10.0	5.0
T-Bills	4.3	3.8	6.4	7.2	3.0
Inflation	1.4	3.0	7.4	4.0	2.3
Real Returns					
Stocks	6.8	7.4	-1.5	13.8	6.0
Bonds	3.5	2.7	-0.2	6.0	2.8
T-Bills	2.9	0.8	-1.0	3.2	0.8
Risk (Std. Dev.)					
Stocks		19.3	16.0	15.0	17.0
Bonds		5.2	6.4	6.6	5.0
T-Bills		1.0	0.6	1.0	1.0
Stocks minus Bonds	3.3	4.7	-1.3	7.8	3.3

Wilshire's 10-Year Capital Market Assumptions

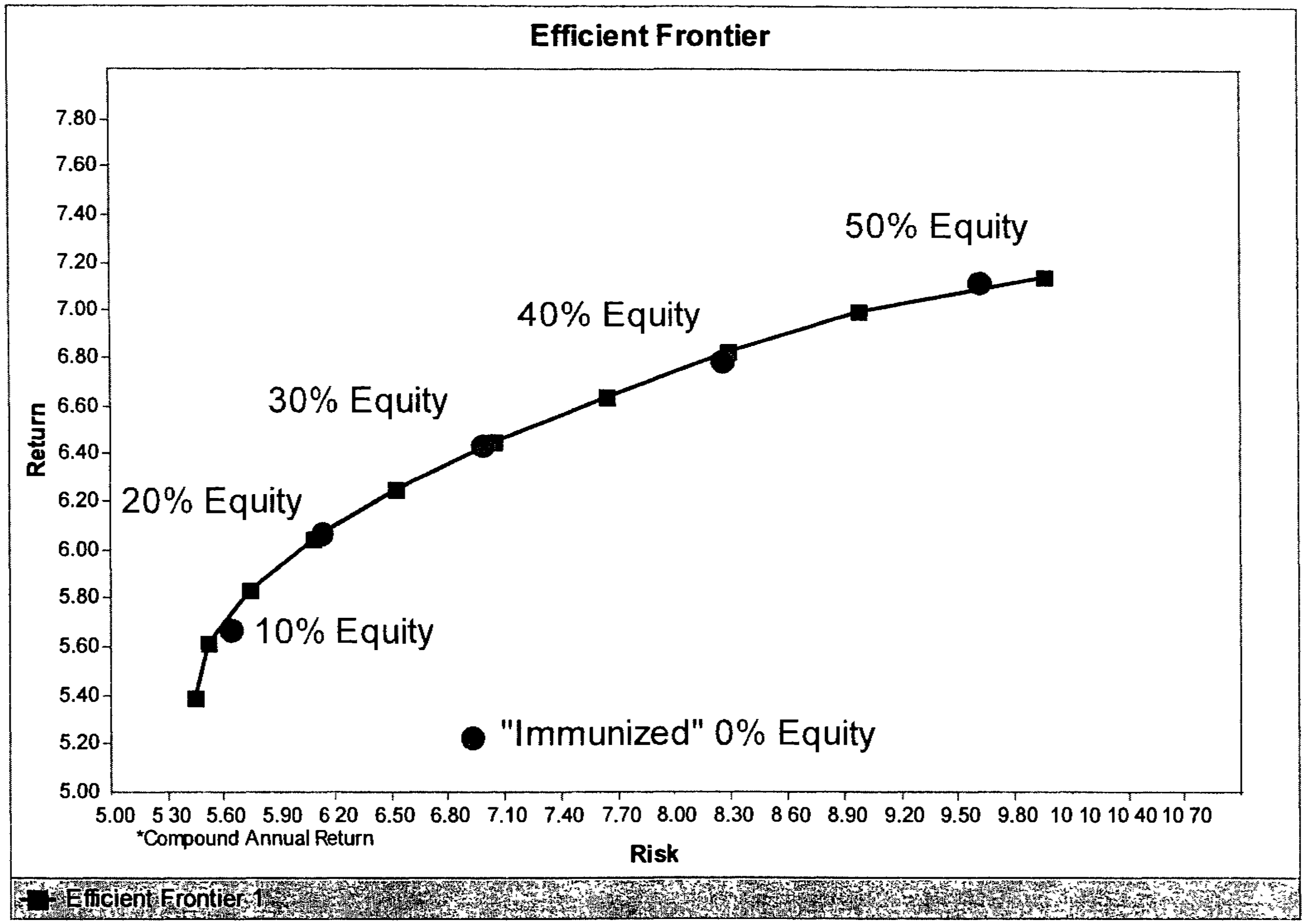
Asset Class	U.S. Equity	Non-U.S. Equity	Fixed Income - Core	Fixed Income - Long Duration/Dedicated	Fixed Income - High Yield	Fixed Income - Inflation Protected	Cash Equivalents
Return	8.25	8.25	5.00	5.25	6.50	4.75	3.00
Risk	17.00	19.00	5.00	7.00	10.00	6.00	1.00
Yield	1.80	2.50	5.00	5.25	6.50	2.50	3.00
Correlations							
U.S. Equity	1.00						
Non-U.S. Equity	0.78	1.00					
Fixed Income - Core	0.29	0.08	1.00				
Fixed Income - Long Duration/Dedicated	0.34	0.09	0.95	1.00			
Fixed Income - High Yield	0.48	0.29	0.39	0.40	1.00		
Fixed Income - Inflation Protected	0.00	0.10	-0.01	0.00	0.01	1.00	
Cash Equivalents	0.00	-0.10	0.10	0.10	0.00	0.25	1.00

- **The above figures represent Wilshire's 10-year forward-looking risk, return and correlation assumptions.**
  - Risk represents the expected standard deviation of each portfolio – in two out of three years, the asset class is expected to produce returns that are within +/- one standard deviation of the expected return.

Source: Wilshire Consulting: 2006 Asset Allocation Return and Risk Assumptions

Efficient Frontier

- **The efficient frontier is comprised of portfolios that generate the highest level of expected return for a given level of risk in *asset-only space* – SIF liabilities are not considered in this exhibit:**



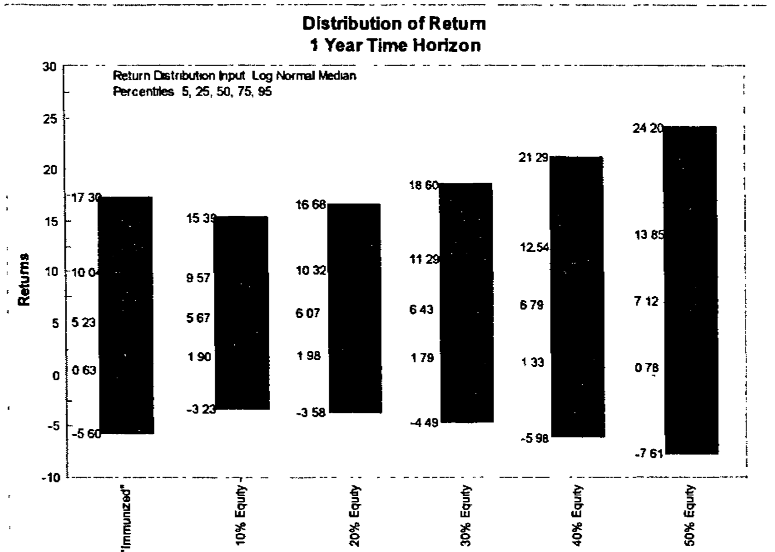
Efficient Portfolios

	Portfolio Weights					
	"Immunized"	Total Return				
Asset Class	*0% Equity*	*10% Equity*	*20% Equity*	*30% Equity*	*40% Equity*	*50% Equity*
U.S. Equity	0	8	15	22	30	38
Non-U.S. Equity	0	2	5	8	10	12
Total Equity	***0***	***10***	***20***	***30***	***40***	***50***
Fixed Income - Core	0	0	0	0	0	0
Fixed Income - Long Duration/Dedicated	99	65	54	44	39	34
Fixed Income - High Yield	0	4	5	5	5	5
Fixed Income - Inflation Protected	0	20	20	20	15	10
Total Fixed Income	***99***	***89***	***79***	***69***	***59***	***49***
Cash Equivalents	1	1	1	1	1	1
Return	**5.23**	**5.67**	**6.07**	**6.43**	**6.79**	**7.12**
Risk	**6.93**	**5.64**	**6.13**	**6.99**	**8.25**	**9.62**

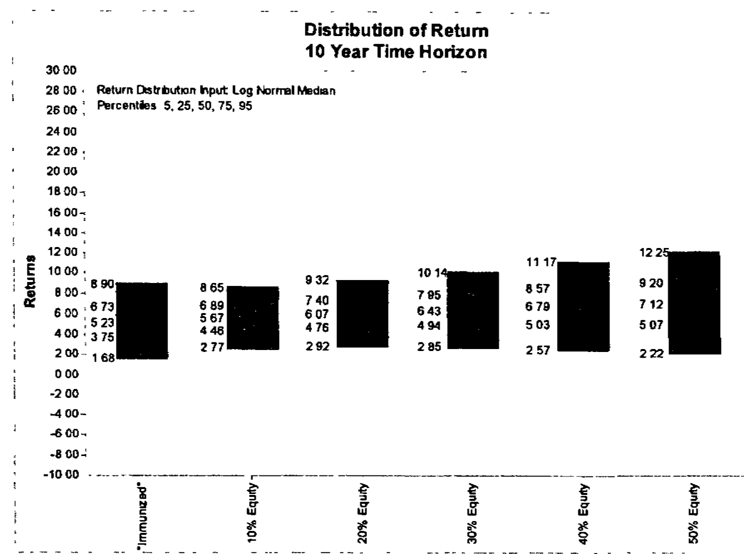
- **Constraints:**
  - Total Equity < 50%; High Yield < 5%; Inflation Protected < 20%; Cash Equivalents < 1%
- **Long Duration Bonds and Inflation-Protected Securities are favored by the ALV model due to the long term and embedded medical and wage inflation components of the claim payment stream.**
- **Risk represents the expected standard deviation of each portfolio – in two out of three years, the asset mix is expected to produce returns that are within +/- one standard deviation of the expected return.**

1 and 10-Year Distribution of Expected Returns

- **Distributions of returns are quite wide for any one year period...**



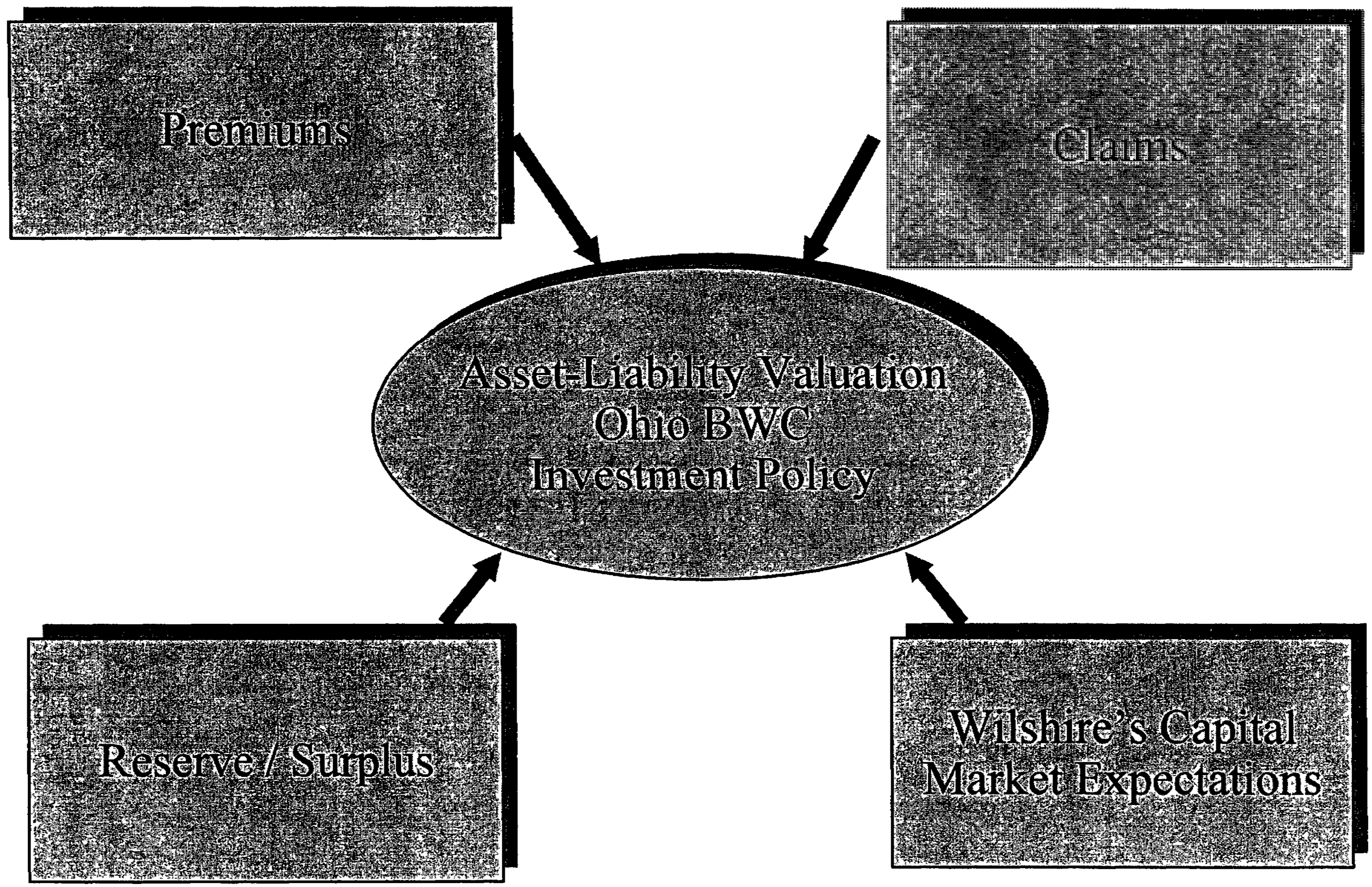
- **...but they narrow considerably over a 10-year period**



IV. Inputs to Asset-Liability Valuation Model

Asset-Liability Valuation Methodology

- **Wilshire's Asset-Liability Model integrates key economic and accounting data**

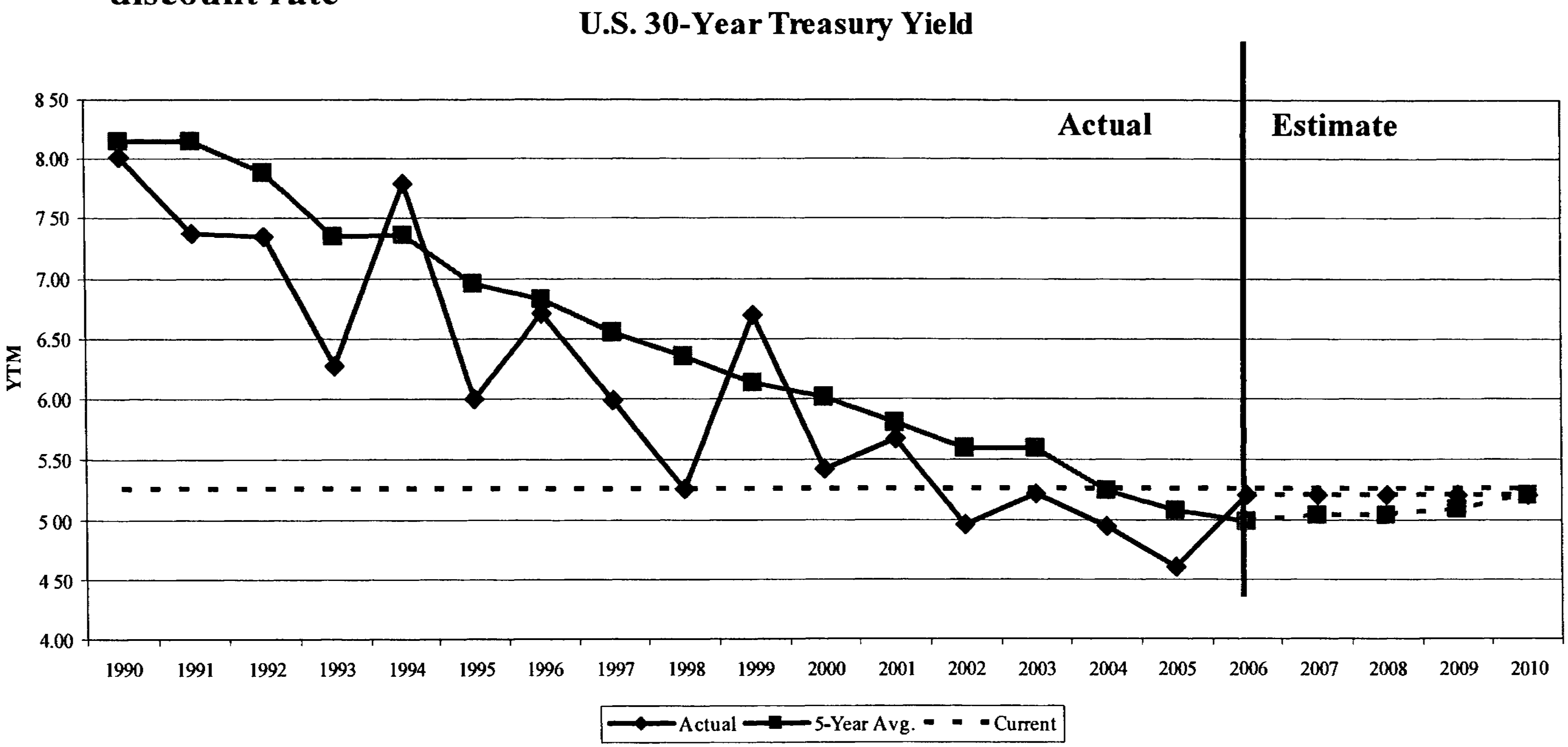


Key Actuarial Assumptions

- **Medical Inflation = 9%**
  - Expectation for 2006 and beyond
  - A 1% unexpected increase in the rate of medical inflation (i.e. to 10%), would increase reserves by over $1.3 billion over a 10-year timeframe (estimate)
- **Wage Inflation = 3.5%**
- **Discount Rate = 5.25%**
  - 5-year average of 30-year Treasury Constant Maturity Index
- **Premium pricing policy:**
  - Premiums are priced to reflect the current year's future claims (discounted)
- **Population:**
  - Wilshire used an open population consisting of existing claimants plus 30 years of new entrants

Historical Yield Curve

- **BWC currently uses a five year average of the U.S. 30-Year Treasury yield as its discount rate**



Estimate based on 30-Year Treasury YTM as of 4/30/2006

V. Surplus Optimization (Accounting-based)

Current BWC Accounting Status

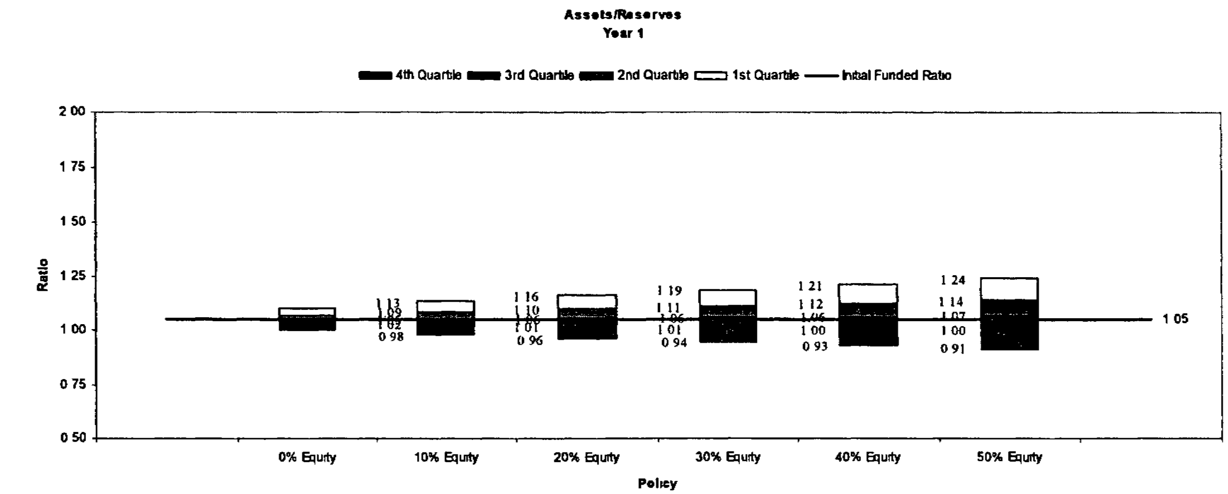
Assets ($ mm)	
Total Cash and Investments	16,458.00
Accrued Premiums	1,981.00
Other Accounts Receivable	349.00
Investment Receivables	2.00
Other Assets	128.00
Total Assets	18,918.00

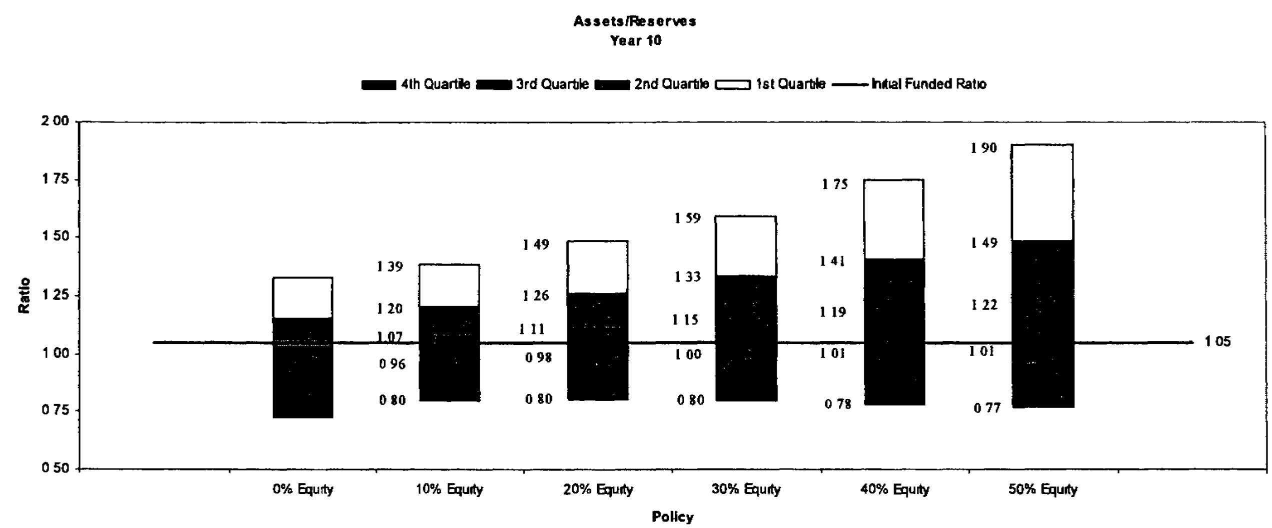
Liabilities ($ mm)	
Reserve	17,308.00
Accounts Payable	39.00
Investment Payables	-
Other Liabilities	701.00
Total Liabilities	18,048.00

Net Assets ($ mm)	870.00

Source: BWC Financial and Operational Report – March 2006

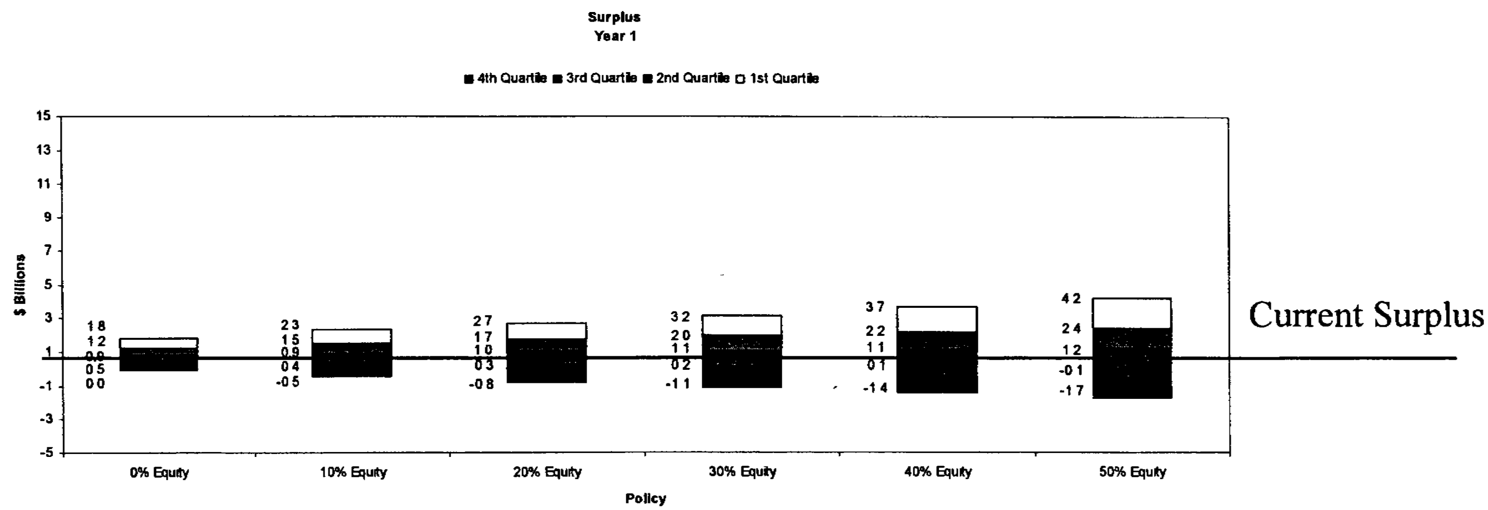
Stochastic Simulation of Assets as a % of Reserves: 1-Year and 10-Year

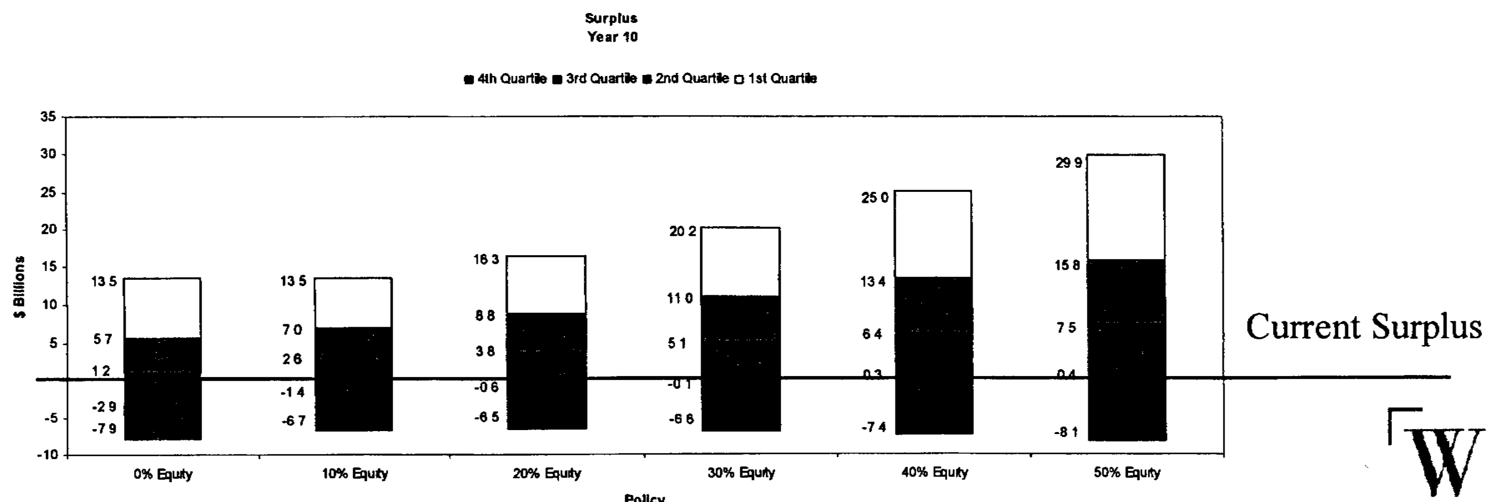




Stochastic Simulation of Surplus: Year 1 and Year 10

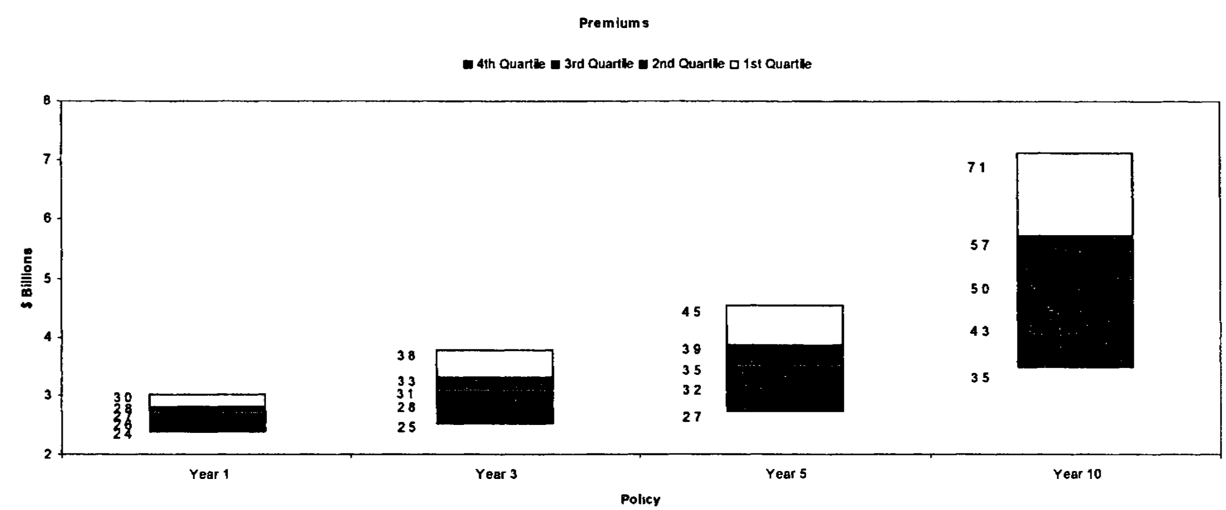
- **The floating bar charts incorporate a stochastic simulation of assets, premiums, claims and reserves under potential interest rate, inflation and capital market environments and illustrate the potential SIF surplus under various asset mixes over short and long-term time horizons:**

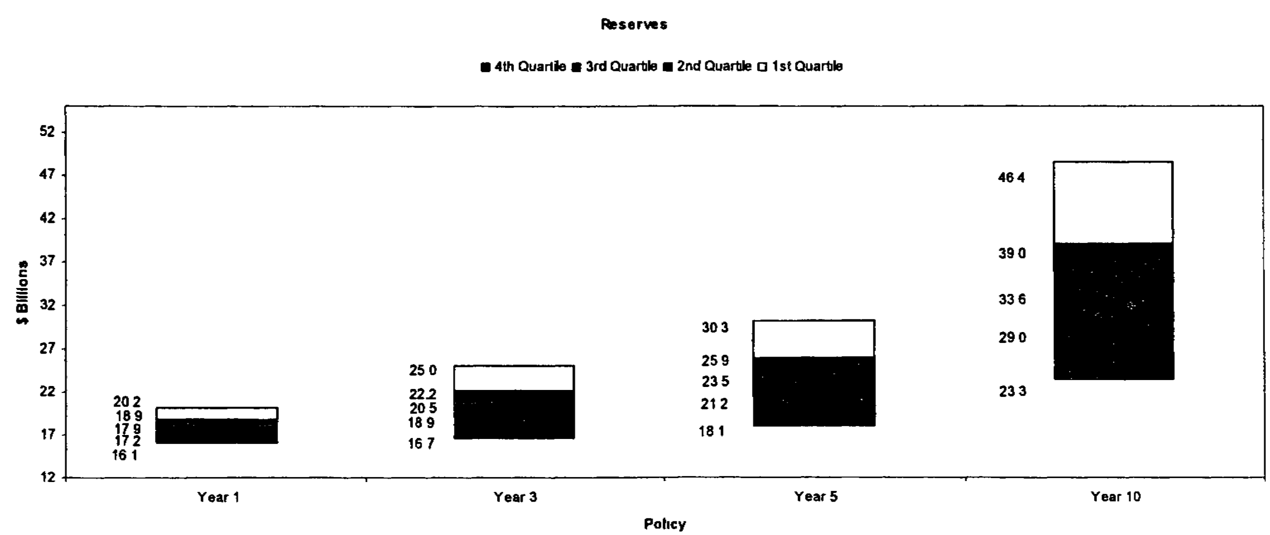




 Source: Mercer and Wilshire

- **Distribution of Expected Premiums and Reserves:**





Surplus Optimization - Observations

- **Surplus Optimization measures the volatility of the difference in accounting assets vs. liabilities**
- **Over a one year time horizon, the "Immunized" Portfolio (i.e. 0% Equity) results in the least downside risk to the surplus of the Fund**
- **Over a longer term horizon (10 years), the 20% Equity portfolio results in the least downside risk to the surplus of the Fund due to time diversification and the inflation risk embedded in the liabilities**

VI. Cost-Risk Optimization (Cash Flow-based)

The Core Business of a Workers' Compensation Fund

- The core business of a workers' compensation insurance fund is to pay claims as promised to injured workers.
- The primary risk to the core business is to have insufficient assets to pay promised benefits.

Stakeholders – Employees

- Given expected premiums, we can maximize the probability that all claims obligations will be met. That is, we can minimize the risk to the core business at a given level of cost.
- For each cost level, there exists a policy portfolio which maximizes the chance that all benefits will be paid.
- Wilshire's asset allocation methodology - Asset Liability Valuation - yields a frontier of portfolios which are in the best interest of Employees

Stakeholders – Employers

- Given a level of benefit security – a probability that all benefits will be paid - we can minimize the cost to the core business.
- For each probability, there exists a policy portfolio which minimizes the cost necessary to pay benefits.
- Asset Liability Valuation yields a frontier of portfolios which are in the best interest of the Employers. It can be shown that this set of policies is identical to the set of policies which are in the best interest of Employees.

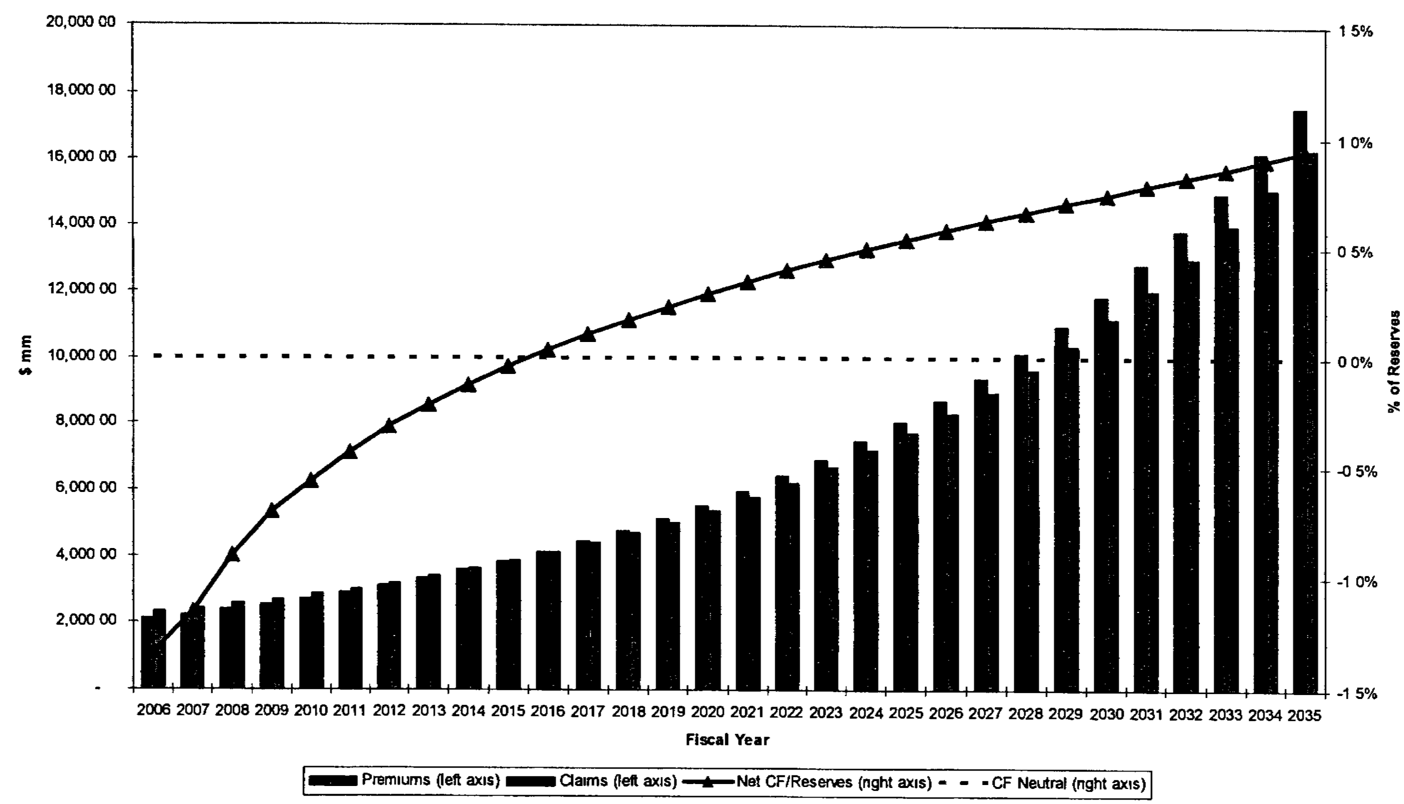
The Role of Asset Allocation

- It is in the best interest of the employees to make promised benefits as secure as possible. Asset Liability Valuation will identify policies which maximize the safety of benefits at a given cost
- It is in the best interest of employers to limit the cost of funding benefits at an appropriate level of risk. Asset Liability Valuation will identify policies which minimize the cost of paying for promised benefits

OBWC Cash Flow Projections

- **Modest negative cash flows (premiums less claims) are expected over the next 10 years, followed by positive cash flows**
- **This illustration excludes expected investment income**

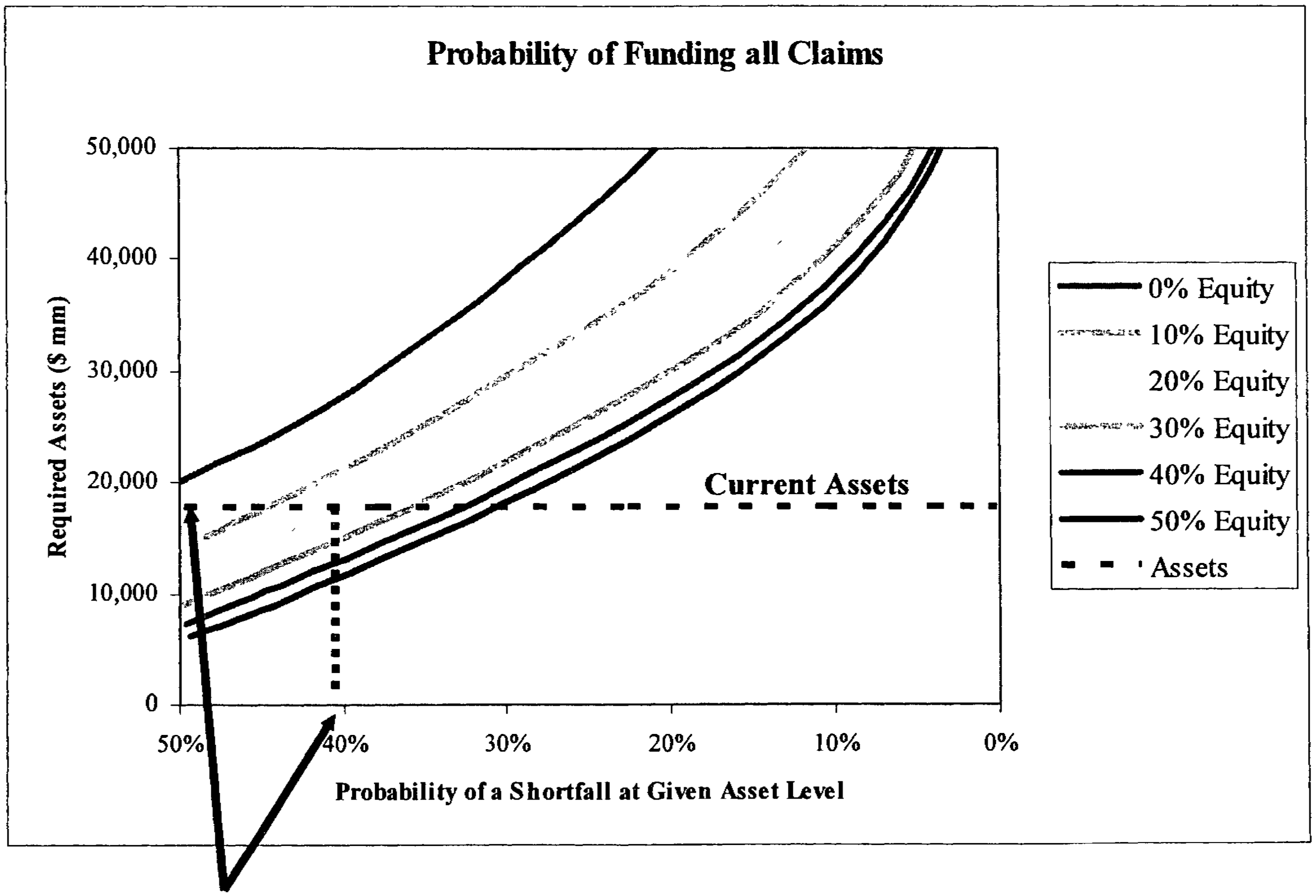
OBWC Cash Flow Projections



Source: Mercer Oliver Wyman Projections

Cost Risk Efficient Frontiers

- **The graph below, based on Wilshire's Asset-Liability Valuation model, illustrates the probability of funding all future claims based on current assets and a stochastic simulation of expected returns and future premiums and claims:**



A 20% equity allocation results in a ~10% greater probability of funding all claims than a 100% fixed income allocation given the current assets and expected premiums.

Observations

- **The cost-risk optimization is a multi-period model that measures the ability of the Fund to pay all claims when due.**
- **The objective is to maximize the safety of claims payments**
- **Due primarily to the expected future positive cash flows to the Fund and the inflation risk embedded in the claims payment streams, asset mixes that include equity result in a higher probability of funding all benefit claims than the "Immunized" fixed income portfolio.**

Observations

- **The optimal asset mix is highly dependent on the Fund's ultimate objective and time horizon:**
  - If minimizing short term volatility of the accounting surplus is the sole objective, then the "Immunized" fixed income portfolio is optimal
  - If minimizing the long-term (10-year) downside risk of the accounting surplus is the objective, then a 20% equity allocation is optimal
  - If maximizing the safety of benefit claims is the objective (and the Fund can withstand downside risk to the accounting surplus), then an equity allocation greater than 20% may be justified (please see slide 45)
- **The immunized bond portfolio will not likely preserve the surplus in periods when medical and/or wage inflation exceed current expectations**
  - There is no financial instrument that can effectively hedge this inflation risk
- **Regardless of the asset mix selected, Wilshire recommends that OBWC build a larger surplus before considering future premium refunds to employers**
  - Under any asset allocation policy mix, there exists the probability of a shortfall (please see slide 45) in the future
  - Because of the positive cash flow characteristics (slide 44) of the SIF, any shortfall would likely not be an issue until well into the future

Recommendation

- **If the OBWC's time horizon is longer-term (i.e. 10-years), then Wilshire recommends a 20% equity allocation and the specific asset mix as detailed below:**

	Portfolio Weights	
	"Immunized"	*Recommended*
Asset Class	***0% Equity***	***20% Equity***
U.S. Equity	0	15
Non-U.S. Equity	0	5
Total Equity	***0***	***20***
Fixed Income - Core	0	0
Fixed Income - Long Duration/Dedicated	99	54
Fixed Income - High Yield	0	5
Fixed Income - Inflation Protected	0	20
Total Fixed Income	***99***	***79***
Cash Equivalents	1	1
Return	**5.23**	**6.07**
Risk	**6.93**	**6.13**

- **This mix provides a balance between the long-term growth of the surplus with the preservation of the surplus over intermediate time horizons**

Investment Structure

- **Wilshire recommends the following investment structure for implementing the asset allocation policy:**

	SIF Allocation		
Asset Class	**%**	***$ mm***	***Benchmark***
U.S. Equity	**15**	**2,265**	**Wilshire 5000**
Large Cap	*12*	*1,812*	*S&P 500*
Active (0%)	0	-	
Passive (100%)	12	1,812	
Small/Mid Cap	*3*	*453*	*Wilshire 4500 / Russell 2500*
Active (100%)	3	453	
Passive (0%)	0	-	
Non-U.S. Equity	**5**	**755**	**MSCI ACWI ex-U.S.**
Active (80%)	4	604	
Passsive (20%)	1	151	
Fixed Income - Long Duration	**54**	**8,153**	**Lehman Long Government/Credit**
Active (50%)	27	4,076	
Passive (50%)	27	4,076	
High Yield	**5**	**755**	**Merrill Lynch High Yield Master II**
Active (100%)	5	755	
Passive (0%)	0	-	
Inflation-Protected Securities	**20**	**3,020**	**Lehman U.S. TIPS**
Active (0%)	0	-	
Passive (100%)	20	3,020	
Cash Equivalents	**1**	**151**	**90-Day T-Bill**

Please refer to the following page for an analysis of the long-duration fixed income benchmark.

2002 Brokerage
Commission Goals

CFO Terry Sasque
10/2004

Ohio [66% of Total]

National

Paine Webber	$620 thou	$620,000
Prudential	620 thou	
Salomon Smith B	620 thou	
Merrill Lynch	600 thou	
SG Cowen	550 thou	
Morgan Stanley	550 thou	
Lehman Bros.	540 thou	7

Regional

Robt. Baird	575 thous.
AG Edwards	575 thous.
McDonald	575 thous.
Ferris Baker	575 thous.
Raymond James	575 thous.
Seasongood Mayer	575 thous.
U.S. Discount	575 thous.
Legg Mason	325 thous.
Midwest Research	275 thous.
Mantor Watson	250 thous.
First Union	225 thous.
Fifth third	75 thous.
Financial Asset	75 thous.
Advest.	70 thous.

14

* projected numbers are based on $14,125,000 in commissions annual

2002 Brokerage
Commission Goals

Minority [12% of Total]

SBK Brooks	$210 thous.
Chapman	210 thous.
Magna	210 thous.
MR Beal	210 thous.
Williams	210 thous.
Greentree	210 thous.
GRW	165 thous
Ormes	135 thous
Berean	135 thous

9

$1695.00
(Based on Total
Commissions of $14,125,

2,135 MM
= NON

2002 Brokerage
Commission Goals

CFO Terry [illegible]
10/2004

Ohio [66% of Total]

National

Paine Webber	$620 thou	$620,000
Prudential	620 thou	
Salomon Smith B	620 thou	
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