

**BWC Board of Directors  
Investment Committee  
Thursday, July 24, 2008, 12:00 PM  
William Green Building  
Neil Schultz Conference Center  
30 W Spring St., 2<sup>ND</sup> Floor (Mezzanine)  
Columbus, OH 43215**

Members Present: Robert Smith, Chair  
Alison Falls, Vice Chair  
David Caldwell  
James Harris  
Larry Price  
William Lhota, ex officio member

Other Members Present:  
James Hummel  
James Matesich  
Philip Fulton  
Kenneth Haffey

Others Present: John Williams, Assistant Attorney General

**CALL TO ORDER**

Mr. Smith called the meeting to order at 12:00 pm and the roll call was taken. All members were present.

**MINUTES OF JUNE 26, 2008**

Motion was made by Ms. Falls, and seconded by Mr. Price, to approve the June 26, 2008 minutes.

**NEW BUSINESS / ACTION ITEMS**

**Alternative Investment Options Update for Public Work Relief Employees' Compensation Fund and Marine Industry Fund – Commingled Index Manager RFQ Alternative Next Steps**

Mercer conducted research regarding alternative investment options at the request of the Board. Guy Cooper of Mercer Consulting provided an update, including a two page letter dated July 15, 2008, incorporated into the minutes, on this matter. There are two ancillary funds at issue: the first fund has approximately twenty-two and one-half million dollars, and the other fund has sixteen million seven hundred thousand dollars. These funds are the Public Work Relief Employees' Compensation Fund and the Marine Industry Fund, respectively. Mercer Consulting evaluated four firms as possible candidates for management of these funds. Two of the firms are essentially the same entity, therefore there were three different entities evaluated. Miln Asset Management is a viable candidate. Their fees are reasonable, and their tracking error is ten to

fifteen basis points. Bruce Dunn, Chief Investment Officer, indicated that he is sensitive to tracking error, but there are trade offs. Mr. Dunn continued to emphasize State Street, and the fact that they have never used derivatives. For small funds, like the two ancillary funds in question, separate account management is not a reasonable alternative in the opinion of Mr. Dunn. Mr. Dunn recommends continued discussion with State Street and possible amendment to the Investment Policy permitting derivatives. Guy Cooper suggested possible options, including an RFQ for a separate account manager, the modification of the Investment Policy Statement to permit the use of derivatives, and to not do anything until the comprehensive five step review of the investment policy has been completed. It is important to evaluate the Board's risk tolerance. The third option has the highest cost, but is the most conservative. Mr. Fulton expressed concern over the difficulty in finding an entity that does not use derivatives, and suggested the possibility of using State Street, unless and until the Board finds a firm that does not use derivatives at all. Mr. Cooper said it was not a good idea to enter into an agreement that contradicts policy. Mr. Caldwell inquired as to the probability of State Street using derivatives, and the amount of risk to which BWC would be subjected through the use of derivatives. Mr Cooper indicated that the educational session on derivatives at the August meeting will address the risks and possible losses from derivatives.

Mr. Smith raised the issue of amending the policy and taking a look at best practices. Mr. Cooper indicated that the use of derivatives is well accepted within the financial markets. Ms. Falls noted that although derivative use might be a common financial practice, she still expressed concern given the current economic environment. Mr. Matesich inquired as to whether or not derivatives were rated. Mr. Cooper stated no. Mr. Smith inquired as to what derivatives State Street uses, and what will the risk be? Mr. Dunn doesn't believe that State Street will be specific about any particular ones to be used. There is potential for all forms of derivatives to be used, including options, swaps, and futures as stated in the Fund Declaration of State Street for its commingled fund product offered. Ms. Falls emphasized the importance of Board education on this issue. Mr. Price asked how easily the agency could get out of investments with State Street if there is a negative impact. Ms. Falls further inquired how many of the Bureau's peers in Ohio have investment policies that permit investments with derivatives. Mr. Cooper indicated that on the national level, many of the Bureau's peers do use derivatives, and it is believed that the various Ohio retirement funds do so as well. Mr. Lhota inquired whether the pending legislation that outlines the Bureau's permissible investment options addresses derivative use. Administrator Ryan responded that it is her understanding that derivatives are not specifically excluded in the pending legislation at this time.

Chairman Smith state it is important for the committee and the public to understand the best practices and risk involved with derivatives.

For next month's Investment Committee meeting, Mercer Consulting was asked to provide an educational session on types of derivatives to be used, as well as the positives and negatives concerning the use of derivatives. In addition, proposed language to change the IPS to permit the use of derivatives should be prepared for the Committee's consideration and deliberation. Finally, at the request of Mr. Harris, Mercer Consulting will provide confirmation as to whether the other Ohio retirement funds use derivatives. As a result of this rigorous discussion there will be future consideration of the management of the Public Work Relief Employees' Compensation Fund and the Marine Industry Fund.

## **DISCUSSION ITEMS**

### **Monthly and Fiscal Year to Date Portfolio Value Comparisons**

Discussion was made by Mr. Dunn concerning portfolio values. A handout was included in the presentation, and is incorporated into the minutes. Discussion was made of reports for June of 2008, May of 2008, and June of 2007. Mr. Dunn reported that the preliminary unaudited total rate of return of Bureau invested assets for fiscal year 2008 was approximately 4.3%.

### **CIO Report – June 2008**

Mr. Dunn provided the Board with highlights from his report, which is incorporated into the minutes. Mr. Dunn reported that the Investment Department is recruiting a senior investment manager. Mr. Dunn's license as Bureau chief investment officer has been renewed.

Ms. Ryan discussed recovery from the coin funds. The net recovery to date has exceeded the original amount invested totaling \$50 million. There is an estimated \$53.5 million to \$55 million total net recovery. This is positive news, but does not include lost opportunity costs of \$13.5 to \$16 million.

Mr. Dunn's report next month shall include deliverables with regard to investment asset class performance and values and a summary of investment policy statement changes for fiscal year 2008.

### **Mercer Investment Topics for Education**

Mercer Consulting presented on asset and liability matching, along with a discussion of equity investments. The presentation concentrated on asset and liability modeling, management and matching. A power point presentation, along with a handout, was included and is incorporated into the minutes by reference. It is important to manage assets to meet the stream of liabilities. The fundamental theorem of asset and liability management was discussed in detail. The discussion included such issues as matching the market value of the asset to the market value of the liability and matching the duration of the asset to the duration of the liability.

There was an educational session of equities by Mercer. The discussion included the characteristics of equities. Cyclical and non-cyclical stocks were discussed. Capitalization and performance ranges were discussed. In addition, discussion was made of various equity indices. There was further discussion on active and passive management, top down vs. bottom up investing, as well as a discussion of various portfolio management construction methods. Mr. Lhota asked what diluted shares are. Mercer Consulting indicated that they are total shares already issued and outstanding as well as shares eligible for conversion to shares outstanding. Discussion was made of non-U.S. equities. The global share of non-U.S. equity markets is increasing. There are various types of foreign markets. The risk and return profile is different for foreign equity as opposed to domestic equity.

## **ADJOURNMENT**

Upon motion by Mr. Caldwell, seconded by Mr. Harris, the meeting was adjourned at 2:00 pm. Roll call was taken, and the motion passed 5-0.

Prepared by Tom Woodruff, BWC staff counsel.

August 2008

# **Strategies Utilized by Other Plans**

## Ohio Bureau of Workers' Compensation

**MERCER**



MARSH MERCER KROLL  
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**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

Fund	Securities Lending (yes/no)	Derivatives (yes/no)	Alternative Investments (yes/no)	Derivative Types	Alternative Types
<b>Ohio Public Employee Retirement System (OPERS)</b> Total AUM- \$77,788 As of June 30, 2008	yes	yes	yes	<u>Futures contracts</u> , swaps, options	Hedge funds, private equity, and real estate
<b>State Teachers Retirement System of Ohio (STRS)</b> Total AUM- \$70,382 As of June 30, 2008	yes	yes	yes	<u>Futures contracts</u> , equity swaps, credit default swaps, option contracts and option contracts on futures for market indexes	Distressed debt, hedge funds, private equity, real estate
<b>School Employees' Retirement System of Ohio (SERS)</b> Total AUM- \$11,677 As of June 30, 2007	yes	yes	yes	Forwards, <u>futures contracts</u> , option contracts, swaps	Hedge funds, private equity, real estate
<b>Ohio Police and Fire</b> Total AUM- \$12,422 As of December 31, 2007	yes	yes	yes	Forwards, <u>futures contracts</u> , mortgage and asset-backed securities, option contracts	Hedge funds, private equity, real estate
<b>Commonwealth of Pennsylvania State Employees' Retirement System</b> Total AUM- \$35,542 As of December 31, 2007	yes	yes	yes	<u>Futures contracts</u> , swaps	Hedge funds, private equity, real estate, venture capital

Total AUM = Total Assets Under Management in millions of dollars

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

Fund	Securities Lending (yes/no)	Derivatives (yes/no)	Alternative Investments (yes/no)	Derivative Types	Alternative Types
<b>Pennsylvania Public School Employees' Retirement System (PSERS)</b> Total AUM- \$68,527 As of June 30, 2007	yes	yes	yes	Forwards, <u>futures contracts</u> , mortgage loan related tranches, options	Commodities, hedge funds, private equity, real estate
<b>Arizona State Retirement System (AZ)</b> Total AUM- \$28,476 As of June 30, 2007	yes	yes	yes	Currency forwards, <u>futures contracts</u>	Private equity (being scaled in), real estate,
<b>Texas Teachers</b> Total AUM- \$107,500 As of March 31, 2008	yes	yes	yes	Forwards, <u>futures contracts</u> , options, swaps	Commodities, hedge funds, private equity (does not state individual types), real estate
<b>California Public Employees' Retirement System (CALPERS)</b> Total AUM- \$248,400 As of April 30, 2008	yes	yes	yes	Currency forwards, credit default swaps futures, options, swaps, structured notes (usually prohibited), warrants (usually prohibited)	Buyout, commodities, expansion capital, forestland, hedge funds, infrastructure, mezzanine, real estate, VC
<b>California State Teachers' Retirement System (CALSTERS)</b> Total AUM- \$162,226 As of June 30, 2008	yes	yes	yes	Convertibles, option contracts, stock futures, swaps, warrants	Buyout, distressed debt, expansion capital, mezzanine, real estate, VC

Total AUM = Total Assets Under Management in millions of dollars

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

Fund	Securities Lending (yes/no)	Derivatives (yes/no)	Alternative Investments (yes/no)	Derivative Types	Alternative Types
<b>State of Connecticut</b> Total AUM- \$25,928 As of December 31, 2007	yes	yes	yes	Adjustable rate, asset backed, CMO, CMO residuals, IO, index treasury, options, FX contracts, currency exchange options and swaps	Corporate buyouts, fund of funds, international private, mezzanine private equity, real estate, special situations, VC
<b>State of Wisconsin Investment Board</b> Total AUM- \$93,826 As of June 30, 2007	yes	yes	yes	Asset backed securities, credit default swaps, currency forwards and options, <u>futures contracts</u> , options, (others may be used in commingled accounts)	Private equity, real estate, VC
<b>State Employees' Retirement System of Illinois</b> Total AUM- \$12,552 As of June 30, 2007	yes	yes	yes	Currency forwards, CMO, <u>futures contracts</u> , options, mortgage-backed securities	Hedge funds, real estate, private equity, infrastructure, VC
<b>Indiana Public Employees' Retirement Fund ( PERF)</b> Total AUM- \$17,058 As of June 30, 2007	yes	yes	yes	<u>Futures contracts</u> , options, swaps	Absolute return strategies, commodities, private equity, real estate
<b>State Universities Retirement System of Illinois (IL SURS)</b> Total AUM- \$14,585 As of June 30, 2008	yes	yes	yes	Forwards, <u>futures contracts</u> , mortgage and asset-backed securities, option contracts, swaps	Private equity, real estate

Total AUM = Total Assets Under Management in millions of dollars

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

Fund	Securities Lending (yes/no)	Derivatives (yes/no)	Alternative Investments (yes/no)	Derivative Types	Alternative Types
<b>Missouri State Employees' Retirement System (MOSERS)</b> Total AUM- \$8,129 As of June 30, 2007	yes	yes	yes	<u>Futures contracts</u> , swaps	Commodities, private debt, private equity, real estate, timber
<b>Michigan Public School Employees' Retirement System</b> Total AUM- \$49,139 As of September 30, 2007	yes	yes	yes	Collateralized mortgages, <u>futures contracts</u> , options, swaps	Hedge funds, private equity, real estate, venture capital
<b>Municipal Employees' Retirement System of Michigan</b> Total AUM- \$6,465 As of December 31, 2007	yes	yes	yes	<u>Futures contracts</u> , swaps	Commodities, hedge funds, private equity, real estate

Total AUM = Total Assets Under Management in millions of dollars

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

<b>Fund</b>	Ohio Public Employee Retirement System (OPERS)
<b>Website Link</b>	<a href="https://www.opers.org">https://www.opers.org</a>
<b>Other Links</b>	<a href="https://www.opers.org/investments/inv-policies.shtml">https://www.opers.org/investments/inv-policies.shtml</a>
<b>Fund</b>	State Teachers Retirement System of Ohio (STRS)
<b>Website Link</b>	<a href="http://www.strsoh.org/about/CAFR07.html">http://www.strsoh.org/about/CAFR07.html</a>
<b>Other Links</b>	<a href="http://www.strsoh.org/about/cafr2007/cafrinvest.html">http://www.strsoh.org/about/cafr2007/cafrinvest.html</a>
<b>Fund</b>	School Employees' Retirement System of Ohio (SERS)
<b>Website Link</b>	<a href="http://www.ohsers.org/GD/Templates/Pages/Sers/gdPageTemplate001.aspx?page=163">http://www.ohsers.org/GD/Templates/Pages/Sers/gdPageTemplate001.aspx?page=163</a>
<b>Other Links</b>	<a href="http://www.ohsers.org/GD/DocumentManagement/DocumentDownload.aspx?DocumentID=746">http://www.ohsers.org/GD/DocumentManagement/DocumentDownload.aspx?DocumentID=746</a>
<b>Fund</b>	Ohio Police and Fire
<b>Website Link</b>	<a href="http://www.op-f.org/downloads/default.asp?cat=reports">http://www.op-f.org/downloads/default.asp?cat=reports</a>
<b>Other Links</b>	<a href="http://www.op-f.org/Downloads/Reports/AnnualReport2007.pdf">http://www.op-f.org/Downloads/Reports/AnnualReport2007.pdf</a>
<b>Fund</b>	Commonwealth of Pennsylvania State Employees' Retirement System
<b>Website Link</b>	<a href="http://www.sers.state.pa.us/sers/cwp/view.asp?a=539&amp;q=255587&amp;sersSPNav= #6479">http://www.sers.state.pa.us/sers/cwp/view.asp?a=539&amp;q=255587&amp;sersSPNav= #6479</a>
<b>Other Links</b>	<a href="http://www.sers.state.pa.us/sers/lib/sers/images/PDFicon.gif">http://www.sers.state.pa.us/sers/lib/sers/images/PDFicon.gif</a>
<b>Fund</b>	Pennsylvania Public School Employees' Retirement System (PSERS)
<b>Website Link</b>	<a href="http://www.psers.state.pa.us/invest/guide/index.htm">http://www.psers.state.pa.us/invest/guide/index.htm</a>
<b>Other Links</b>	<a href="http://www.psers.state.pa.us/publications/cafr/cafr07/fin.pdf">http://www.psers.state.pa.us/publications/cafr/cafr07/fin.pdf</a>

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

<b>Fund</b>	Arizona State Retirement System (AZ)
<b>Website Link</b>	<a href="http://www.azasrs.gov/web/AboutUs.do">http://www.azasrs.gov/web/AboutUs.do</a>
<b>Other Links</b>	<a href="http://www.azasrs.gov/web/pdf/financials/2007_54th_Annual_Financial_Report.pdf">http://www.azasrs.gov/web/pdf/financials/2007_54th_Annual_Financial_Report.pdf</a>
<b>Fund</b>	Texas Teachers
<b>Website Link</b>	<a href="http://www.trs.state.tx.us/info.jsp?submenu=investments&amp;page_id=/investments/investments">http://www.trs.state.tx.us/info.jsp?submenu=investments&amp;page_id=/investments/investments</a>
<b>Other Links</b>	<a href="http://www.trs.state.tx.us/investments/documents/investment_policy_statement.pdf">http://www.trs.state.tx.us/investments/documents/investment_policy_statement.pdf</a>
<b>Fund</b>	California Public Employees' Retirement System (CALPERS)
<b>Website Link</b>	<a href="http://www.calpers.ca.gov/index.jsp?bc=/investments/home.xml">http://www.calpers.ca.gov/index.jsp?bc=/investments/home.xml</a>
<b>Other Links</b>	<a href="http://www.calpers.ca.gov/eip-docs/investments/policies/invo-risk-mang/derivatives/derivatives-external.pdf">http://www.calpers.ca.gov/eip-docs/investments/policies/invo-risk-mang/derivatives/derivatives-external.pdf</a>
<b>Fund</b>	California State Teachers' Retirement System (CALSTERS)
<b>Website Link</b>	<a href="http://www.calstrs.com/index.aspx">http://www.calstrs.com/index.aspx</a>
<b>Other Links</b>	<a href="http://www.calstrs.com/Investments/portfolio/privequityperformance.pdf">http://www.calstrs.com/Investments/portfolio/privequityperformance.pdf</a>
<b>Fund</b>	State of Connecticut
<b>Website Link</b>	<a href="http://www.state.ct.us/ott/aboutpension.htm">http://www.state.ct.us/ott/aboutpension.htm</a>
<b>Other Links</b>	<a href="http://www.state.ct.us/ott/pfmreports/2007CIFCAFR.pdf">http://www.state.ct.us/ott/pfmreports/2007CIFCAFR.pdf</a>
<b>Fund</b>	State of Wisconsin Investment Board
<b>Website Link</b>	<a href="http://www.swib.state.wi.us/annual_reports.asp">http://www.swib.state.wi.us/annual_reports.asp</a>
<b>Other Links</b>	<a href="http://www.swib.state.wi.us/FY07annual.pdf">http://www.swib.state.wi.us/FY07annual.pdf</a>

**Strategies Utilized By Other Plans**

Ohio Bureau of Workers' Compensation

<b>Fund</b>	State Employees' Retirement System of Illinois
<b>Website Link</b>	<a href="http://www.state.il.us/srs/sers/Home_sers.htm">http://www.state.il.us/srs/sers/Home_sers.htm</a>
<b>Other Links</b>	<a href="http://www.state.il.us/srs/PDFILES/ISBI2007%20.pdf">http://www.state.il.us/srs/PDFILES/ISBI2007%20.pdf</a>
<b>Fund</b>	Indiana Public Employees' Retirement Fund (PERF)
<b>Website Link</b>	<a href="http://www.in.gov/perf/">http://www.in.gov/perf/</a>
<b>Other Links</b>	<a href="http://www.in.gov/perf/files/investment_final010308.pdf">http://www.in.gov/perf/files/investment_final010308.pdf</a>
<b>Fund</b>	State Universities Retirement System of Illinois (IL SURS)
<b>Website Link</b>	<a href="http://www.surs.com/shepherd.surs?flk=Invst&amp;shp=76">http://www.surs.com/shepherd.surs?flk=Invst&amp;shp=76</a>
<b>Other Links</b>	<a href="http://www.surs.com/pdfs/invinfo/invinfo.pdf">http://www.surs.com/pdfs/invinfo/invinfo.pdf</a>
<b>Fund</b>	Missouri State Employees' Retirement System (MOSERS)
<b>Website Link</b>	<a href="http://www.mosers.org/about/annu_report.asp">http://www.mosers.org/about/annu_report.asp</a>
<b>Other Links</b>	<a href="http://www.mosers.org/assets/pdfs/2007_annual_report/summary.pdf">http://www.mosers.org/assets/pdfs/2007_annual_report/summary.pdf</a>
<b>Fund</b>	Michigan Public School Employees' Retirement System
<b>Website Link</b>	<a href="http://www.michigan.gov/orsschools/0,1607,7-206-36585-117850--,00.html">http://www.michigan.gov/orsschools/0,1607,7-206-36585-117850--,00.html</a>
<b>Other Links</b>	<a href="http://www.michigan.gov/documents/orsschools/CAFR_PublicSchools_221900_7.pdf">http://www.michigan.gov/documents/orsschools/CAFR_PublicSchools_221900_7.pdf</a>
<b>Fund</b>	Municipal Employees' Retirement System of Michigan
<b>Website Link</b>	<a href="http://www.mersinvestments.com/index.php?option=com_content&amp;task=view&amp;id=32&amp;Itemid=61">http://www.mersinvestments.com/index.php?option=com_content&amp;task=view&amp;id=32&amp;Itemid=61</a>
<b>Other Links</b>	<a href="http://www.mersofmich.com/formfiles/07financialsection.pdf">http://www.mersofmich.com/formfiles/07financialsection.pdf</a>

# MERCER



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28 August 2008

## Overview of Derivatives Investment Committee Meeting Ohio Bureau of Workers' Compensation

Guy M. Cooper

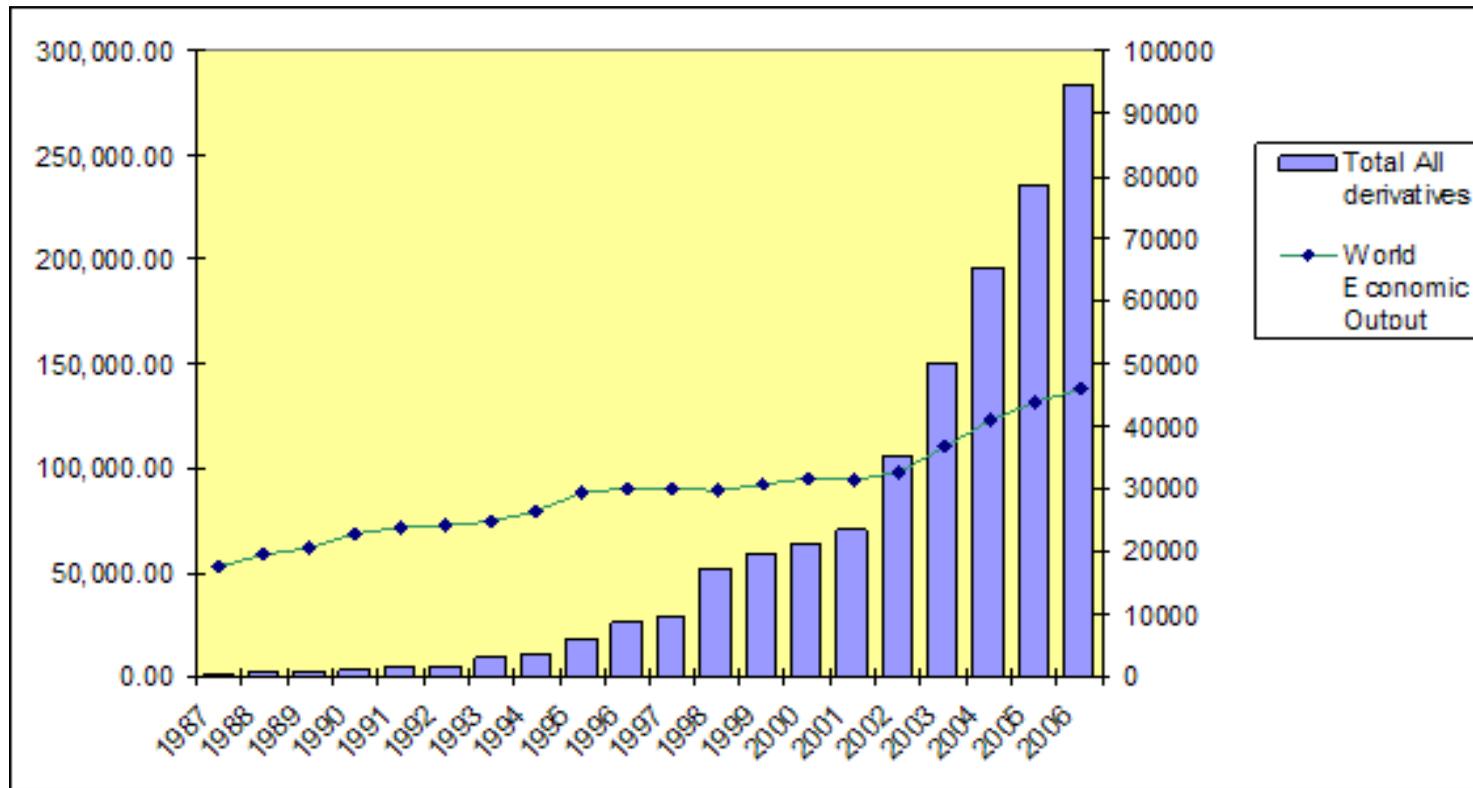
Kristin Finney-Cooke

## Definition: Derivatives

- A derivative is a financial instrument that offers a return based on some other underlying asset.
- A derivative usually has a defined and limited life.
- A derivative is usually bought on margin.

## Size of the World Derivatives Market (Millions)

- The size of the U.S. stock market is estimated at \$51 trillion. The world derivatives market has been estimated at about \$480 trillion face or nominal value, 30 times the size of the U.S. economy, and 12 times the size of the entire world economy. Nominal value is the value of the underlying assets and not necessarily the amount of money invested.



## Types of Derivatives

- Futures Contracts (usually traded on organized futures exchanges)
- Interest Rate Options
- Swaps (Interest Rate Swaps, Total Return Swaps, Credit Default Swaps)
- Swaptions
- Forward Contracts
- Options on Futures
- Options on Stock (Exchange Traded and Over the Counter)
- Warrants, Callable Bonds, Convertible Bonds
- Mortgage-Backed and Asset-Backed Securities

## Futures and Options Contracts Volume (2001)

<u>Contract Type</u>	Number of Contracts Traded (millions) <u>(2001)</u>
Equity Indices	1470
Interest Rates	1216
Individual Stocks	1113
Energy	167
Agricultural	157
Nonprecious metals	70
Currencies	49
Precious Metals	39
Other	1
Total	4282

Source: *Futures Industry* (Jan/Feb 2002)

## Futures Exchanges around the World

(Data from 2002)

- There are 14 Futures Exchanges in North America, including:
  - Chicago Mercantile Exchange
  - Chicago Board of Trade
  - New York Mercantile Exchange
  - Winnipeg Commodity Exchange
- There are 17 Futures Exchanges in Asia, including the world's largest options exchange: Korea Stock Exchange
- There are 21 Futures Exchanges in Europe, including the world's largest futures exchange: Eurex
- There are Futures Exchanges in South America, Africa, and Australia

# Types of Futures Contracts

## Commodity Futures

- Corn, Oats, Soybeans, Wheat, Lumber, Sugar, Cotton
- Copper, Gold, Palladium, Orange Juice, Milk
- Crude Oil, No. 2 Heating Oil, Unleaded Gasoline, Natural Gas

## Currency Futures

- British Pound, Canadian Dollar, Swiss Franc, Japanese Yen, Mexican Peso, U.S. Dollar

## Index Futures

- S&P 500 Index, Dow Jones Industrial Average, NASDAQ 100 Index

# Types of Futures Contracts

## Financial Futures

- U.S Treasury Bonds, Bills, and Notes
- 10-Year Agency Notes, Federal Funds
- 1-Month LIBOR, Eurodollar, Euroyen, 3-Month Euroswiss
- Canadian Bankers Acceptances
- 5-Year German Euro Government Bond
- Many others

## How a Futures Contract Works – Corn

- The buyer of 1 Corn Futures contract on July 1<sup>st</sup> pays \$30,000 for the right to take delivery of 5,000 bushels of corn on December 31<sup>st</sup>. This is \$6.00 a bushel.
- The seller of the Corn Futures contract agrees to deliver to the buyer 5,000 bushels of corn at the expiration of the contract (December 31<sup>st</sup>).
- The value of this Futures contract will go up and down as the price of corn goes up and down.
- If corn rises to \$7 a bushel, the contract is worth \$35,000. If it falls to \$5 a bushel, the contract is worth \$25,000. Buyer and seller are free to sell the contract anytime before it expires on December 31<sup>st</sup> and almost always will.
- At any point in time, there will be a dozen or more Corn Futures contracts, each representing a different expiration date.

## Who would buy or sell a Corn Futures Contract?

- Speculators – investors betting on what happens to the price of corn
- Farmers and other producers of corn
  - In July, they can lock in the price that they sell their corn for when it is harvested in the fall by selling Corn Futures Contracts
- Corn Users
  - Cattle feed lots
  - Companies who use corn in their production process
  - Ethanol makers
- Someone who only has \$1,500 but wants to control an asset worth \$30,000. This is the margin deposit required to buy 1 corn futures contract.

## Effect of Margin – Corn Futures

- The investor pays \$1,500 to buy 1 corn contract for 5,000 bushels of corn at \$6.00 a bushel.
- If corn goes from \$6.00/bushel to \$7.00/bushel, the investor makes a \$5,000 profit on an investment of \$1,500.
- If he had bought 1000 contracts, and corn goes from \$6.00/bushel to \$7.00/bushel, the investor makes a \$5,000,000 profit on an investment of \$1,500,000.
- If corn goes from \$6.00/bushel to \$5.00/bushel, the investor incurs a \$5,000 loss on an investment of \$1,500 – all his money and then some.
- If he had bought 1000 contracts, and corn goes from \$6.00/bushel to \$5.00/bushel, the investor has a \$5,000,000 loss.

## Financial Futures

- A Financial Futures Contract is analogous to a Corn Futures Contract.
- The buyer of 1 contract on a 5 year U.S. Treasury Note agrees to take delivery of a \$100,000 5 year U.S. Treasury Note at expiration of the contract.
- The value of this contract will fluctuate until its expiration as interest rates change.
- The buyer could just as well have bought the actual Treasury Note except:

## Why some investors prefer Futures contracts to the actual security

- Actual Treasury Notes may be hard to find or unavailable in sufficient quantity
- Sizeable transactions in the actual security may take unusual time and effort
- The buyer of a Treasury Note has to pay the full price for the Treasury Note
- The buyer of a futures contract only pays a fraction of the actual price because Futures Contracts can be bought on margin – about \$1,000 to control one contract on a \$100,000 U.S. Treasury Note.

## Effect of Margin – U.S. Treasury Note Future

- The investor pays \$1,000 to buy 1 contract for a \$100,000 U.S. Treasury Note.
- If interest rates rose and caused this bond to fall in value by 5%, the investor would lose \$5,000.
- If he had bought 1000 contracts, and a rise in interest rates had caused a 5% depreciation in the price of the bond, the investor would have incurred a loss of \$5,000,000.
- The investor would have incurred the same loss if he had just bought the bonds themselves. But:
- If he owns the bonds, he can hold onto them until they rise again in price or until they mature.
- The futures contracts expire and there is no way to avoid realizing the loss. It can perhaps be pushed forward into the future but this is one way investors double their trouble.

## Uses of Derivatives (1/3)

- To manage interest rate risk
  - ABC Company knows it has to borrow 150 million in four months for a period of one year. It can lock in the interest rate for this borrowing today using a forward interest rate agreement.
- To manage portfolio duration
  - The Chief Investment Officer believes that interest rates will fall. He buys Treasury Bond Futures as an efficient way to increase portfolio duration.
- To manage asset allocation
  - The Board wishes to increase its equity position. This is easily accomplished using stock index futures.

## Uses of Derivatives (2/3)

- To manage currency risks
  - A pension fund wants to invest in Japanese bonds to take advantage of interest rates there, but wishes to avoid adverse fluctuations in the Japanese currency – the yen. This is a straightforward hedge that can be accomplished using currency futures.
- To overweight a portion of the yield curve
  - Many investment managers today make use of Eurodollar futures to overweight the very short end of the yield spectrum, reducing risk in times of interest rate uncertainty.
- In portfolio transitions
  - Transition managers minimize transition risk by taking temporary positions in various futures of market indices, pending permanent investments in the indices themselves.

## Uses of Derivatives (3/3)

- To manage large cash flows
  - An investor with a large amount of money that she wants to invest in U.S. Government Bonds can often do it quickly using futures contracts. The futures contracts would then be replaced over time with purchases of the actual bonds.
- To speculate while appearing to hedge
  - What an investor describes and documents as a hedge may actually be a speculation in disguise, and properly distinguishing a hedge from a speculation is more difficult than it would appear. Textbook descriptions of hedges sound simple enough, but implementation of hedges under real time conditions, in changing market conditions, can encounter many imperfections and leave room for what amounts to dangerous speculation.

## Risks of Derivatives – 1

- **April 1994. Procter & Gamble Co. loses \$157 million when interest rates turn against it.** The company had been protecting itself against swings in international interest and currency rates for years by plain vanilla swaps of fixed for floating-rate debt or vice-versa and occasional use of options, futures, and currency trades to hedge the company's bets. The swaps were based on borrowed money, which exaggerated market swings tremendously and meant big money if P&G was right - as it had been on many previous derivative deals. But the two losing contracts, which were for floating-rate notes in dollars and Deutsche marks, were written on the assumption that U.S. and German interest rates would continue to fall and the opposite happened. Although not catastrophic for a \$30 billion company like P&G, it was one of the largest ever suffered by an American company.

*"Derivatives like these are dangerous and we were badly burned,"*  
Edwin Artzt, P&G CEO said. *"We won't let that happen again."*

## Risks of Derivatives - 2

- **December 1994. Orange County announces losses of 1.5 billion.** The County's short term investment fund of \$7.4 billion suffered losses of \$1.5 billion, the result of a confluence of sharply higher interest rates and an investment strategy that relied primarily on derivatives and enormous leverage. County Treasurer Robert L. Citron borrowed \$14 billion, investing the money in interest-sensitive derivatives contracts, hoping to increase returns for his fund. When rates turned up, Orange County was forced to pay more on its borrowings than it was earning on its investments.
- **September 2006. Amaranth Advisors loses \$6 billion.** The U.S. based hedge fund suffers enormous losses trading in natural gas futures.

### Southwest Airlines

- When oil prices dipped in 2007 into the \$50 a barrel range, Southwest Airlines took positions in oil futures to guarantee the price they would pay for jet fuel in 2008.
- This resulted in fuel cost savings that has enabled Southwest in 2008 to continue to expand and to maintain low air fares while other airlines are fighting for their existence.
- It is estimated that Southwest locked in 70% of the fuel it expected to use in 2008 at a price of \$51 a barrel while other large airlines have only 20% to 30% of their fuel hedged at an average cost of \$100 a barrel. This is a huge competitive advantage. The current market price of jet fuel is over \$125 a barrel.

### PIMCO Total Return Fund

- Bill Gross, manager of the \$100 billion PIMCO Total Return Fund, began preparing in 2006 for the series of interest rate cuts that finally took place in the fall of 2007.
- Gross positioned almost half of the Total Return Fund in the short end of the maturity spectrum by taking large positions in Eurodollar futures. Eurodollar futures are an alternative to U.S. Treasury bills. They are an efficient way to invest large amounts of money and receive the short term interest rate.
- When the Federal Reserve governors reduced short term interest rates in 2007, the Total Return Fund profited from the increase in price of the futures. The Total Return Fund earned 8.8% in 2007 versus its peers at 4.7%.

# Recommended Policies

# Other Types of Financial Derivatives

## EuroDollar Futures

- U.S. dollars that are on deposit in banks outside the United States are called eurodollars. (Eurodollars could be on deposit in Japan. The term also has nothing to do with the euro currency.)
- A futures contract whose value is based on the interest rate paid on these eurodollar deposits is a very popular derivative. It is used by many bond managers as a substitute for investing in U.S. Treasury bills.
- The value of a eurodollar future is based on the interest rate paid on a 90-day dollar-denominated time deposit issued by a bank in London. This rate is known as the 90 day LIBOR (London Interbank Offered Rate.)

# Interest Rate Swaps

An interest rate swap is an agreement between two parties to exchange cash flows in the future. A typical agreement entails the payment of a fixed rate of interest by one party and a floating rate of interest by the other party, calculated on a defined amount of notional principal and having a defined maturity.



- “Pay Fixed”
- Position analogous to owning a floater, borrowing fixed
- Duration-shortening position
- “Short”

- “Receive Fixed”
- Position analogous to owning a bond, borrowing floating
- Duration-lengthening position
- “Long”

## Option and Options on Futures

- Most activity in the options market is related to stocks and stock indices.
- However, options on bonds exist, principally options to buy U.S. Government bonds.
- There is a market for options on interest rates, used primarily between banks and other financial intermediaries.
- Options on Futures also exist.

## Swaptions

- A swaption is an option to enter into a swap.
- Swaptions are used by parties who anticipate the need for a swap at a some future date but would like to establish an interest rate today, while allowing for the flexibility to not engage in the swap or to engage in the swap in the future at a more favorable interest rate.

## Forward Contracts

- A forward contract is an agreement between two parties in which one party, the buyer, agrees to buy from the other party, the seller, an underlying asset or other derivative, at a future date at a price established at the start of the contract.
- Forward contracts are mostly made between large banks for their own accounts or for their customers.
- Types of forwards contracts:
  - Forwards on individual stocks, stock portfolios, stock indices
  - Forwards on individual bonds, bond portfolios, bond indices
  - Interest Rate Forwards
  - Currency Forwards
  - Jet Fuel Forwards

## Total Return Swaps

- A Total Return Swap (TRS) is a financial transaction where the counterparties swap the total return of a single asset or basket of assets in exchange for periodic cash flows, typically a floating rate such as LIBOR +/- a basis point spread and a guarantee against any capital losses.
- The TRS market was traditionally between commercial banks where one party (Bank A) had exceeded its balance sheet limits, and the other (Bank B) had balance sheet capacity available. Bank A could shift assets off its balance sheet synthetically and gain additional income with less risk. Bank B could "lease" the assets of Bank A by paying some regular cash flows and offering a guarantee against any capital losses.
- In the last 10 years, hedge funds and special purpose vehicles have become a major force in the TRS market.

## Credit Default Swaps

- A credit default swap (CDS) is similar to an insurance contract.
- An owner of corporate bonds might buy a CDS for protection against a default of one or more of the issuers he owns.
- The owner of the corporate bonds would agree to pay a periodic fee to a counterparty.
- The counterparty agrees to pay the corporate bond owner a set amount if a defined credit event occurs: default, bankruptcy, credit rating downgrades.
- Counterparties include large banks, broker dealers, and re-insurance companies.

# MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

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

### vii. 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 unless specifically approved by the Board. Specific approvals include:

1. Permission is granted to investment managers to use futures on financial contracts in the management of commingled investment funds. The Board anticipates that this use of financial futures may be initiated by investment managers for specific risk-control purposes such as the facilitation of the investment of a large inflow of new money into the commingled fund.

The Board also recognizes that the language of the policies of some commingled funds permits other financial derivatives such as options and swaps. The Board discourages a very low tolerance for the use of other financial derivatives in commingled funds. On the infrequent occasions when financial derivatives such as options and swaps are used in commingled funds, the Board will carefully evaluate whether remaining invested in that commingled fund is appropriate.

2. Permission is granted to investment managers to use futures on financial contracts in the management of portfolio transitions. This use of financial futures will be reported to the Board in advance and will typically begin and end in short periods of time.

In every case where financial derivatives are used, the Board requires the investment staff of the BWC to report the use of the derivatives to the Board at the next scheduled meeting after the derivatives position has been initiated so that the Board may judge the appropriateness of the risks of the derivatives position.

3. Other derivatives that are generally approved for use include: collateralized mortgage obligations (CMOs), asset backed securities (ABS), and TBA mortgaged-backed securities in accordance with the restrictions outlined below and in Section IV.C.ii above. Other broad classes of derivatives may be added in the future as deemed necessary and desirable by the Board.

~~, with the exception of collateralized mortgage obligations (CMOs) and asset backed securities (ABS), and TBA mortgage backed securities in accordance with the restrictions outlined below and in Section IV.C.ii 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

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

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.

TBA ("to be announced") pools are mortgage-backed securities in which the specific underlying mortgage pools are not identified at the time of commitment to purchase, but which share defined characteristics such as coupon and term to stated maturity. TBA pools are sometimes either sold before settlement or extended in settlement from original settlement date to a future settlement date that is typically in the next month. To qualify for investment by the Funds, TBA pools must be issued by Freddie Mac, Federal National Mortgage Association (Fannie Mae), or Government National Mortgage Association (Ginnie Mae).

### viii. **Commission Recapture / Directed Brokerage**

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

### ix. **General Prohibitions**

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

- a. Short selling in any form.
- a.
- b. The use of all forms of leverage or the purchase of securities with borrowed money is prohibited, except that the Board recognizes that financial futures are generally purchased on margin and this is permitted.
- ~~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.

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

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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.

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- 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.

**Ohio Bureau of Workers' Compensation  
Invested Assets Market Value Comparison  
TOTAL FUNDS**

<b>Asset Sector</b>	<b>Market Value July 31, 2008</b>	<b>% Assets</b>	<b>Market Value June 30, 2008</b>	<b>% Assets</b>	<b>Increase (Decrease) Prior Fiscal Year-End</b>	<b>% Change</b>
<b>Bonds</b>	<b>13,804,843,214</b>	<b>79.9%</b>	<b>\$13,917,829,156</b>	<b>79.9%</b>	<b>(112,985,942)</b>	<b>-0.8%</b>
<b>Equity</b>	<b>3,156,855,731</b>	<b>18.3%</b>	<b>3,182,331,834</b>	<b>18.3%</b>	<b>(25,476,103)</b>	<b>-0.8%</b>
<b>Net Cash - OIM</b>	<b>37,376,967</b>	<b>0.2%</b>	<b>31,217,754</b>	<b>0.2%</b>	<b>6,159,213</b>	<b>19.7%</b>
<b>Net Cash - Operating</b>	<b>172,661,198</b>	<b>1.0%</b>	<b>194,988,426</b>	<b>1.1%</b>	<b>(22,327,228)</b>	<b>-11.5%</b>
<b>Net Cash - MIF, PWRF, SIEGF</b>	<b>95,332,566</b>	<b>0.6%</b>	<b>95,980,364</b>	<b>0.6%</b>	<b>(647,798)</b>	<b>-0.7%</b>
<b>Total Net Cash</b>	<b>305,370,731</b>	<b>1.8%</b>	<b>322,186,544</b>	<b>1.8%</b>	<b>(16,815,813)</b>	<b>-5.2%</b>
<b>Total Invested Assets</b>	<b>\$17,267,069,676</b>	<b>100%</b>	<b>\$17,422,347,534</b>	<b>100%</b>	<b>(\$155,277,858)</b>	<b>-0.9%</b>

**OIM:** Outside Investment Managers

**MIF:** Marine Industry Fund; **PWRE:** Public Work-Relief Employees' Fund; **SIEGF:** Self-Insured Employers' Guaranty Fund

Market Value of Bonds and Stocks includes accrued investment income.

Net Cash includes the impact of net trade receivables/payables, accrued money market earnings, and accrued investment manager fees.

**July/June 2008 Comparisons**

- Net investment income in July 2008 was a negative \$132 million representing a net portfolio return of -0.78% (unaudited).
- Bond market value decrease of \$113.0 mm comprised of \$86.9 mm in interest income, (\$195.7) mm in net realized/unrealized losses and \$4.2 mm in OIM net bond sales (increasing net cash balances accordingly).
- Equity market value decrease of \$25.5 mm comprised largely of \$4.6 mm of dividend income, (\$28.0) mm in net realized/unrealized losses and \$2.0 mm in higher OIM net cash balances.
- Net cash balances decreased \$16.8 mm in July 2008 largely due to decreased operating cash balances (\$22.3mm) partially offset by increased OIM cash balances (\$6.2 mm).

JPMorgan US Govt. money market fund had 30-day average yield of 2.19% for July 2008 (2.20% for June08) and 7-day average yield of 2.19% on 7/31/08 (2.23% on 6/30/08).



August 28, 2008

## Ohio Bureau of Workers' Compensation (BWC) Performance Review Second Quarter 2008

Kristin Finney-Cooke, MBA  
Guy Cooper, MBA  
Kweku Obed, CFA

## Executive Summary

- At the end of the second quarter of 2008, the BWC had total assets of \$17.42 billion, representing a decrease of \$498.2 million from the previous quarter's total of \$17.91 billion.
- For the quarter ending June 30, 2008, BWC's Total Assets returned -1.4% slightly ahead of the return for the interim benchmark (-1.5%).
- At the end of the second quarter, relative to the interim policy targets, the BWC Total Portfolio of assets held an underweight position in domestic equities and long duration fixed income and overweight positions in TIPS, short term investments, and miscellaneous investments. All of these departures from policy are small.

## Recommendations and Observations

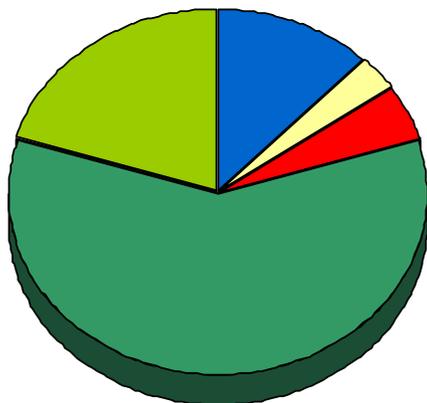
- The portfolio is currently composed of 3 asset classes. We will be reviewing additional ways to diversify the portfolio in the months ahead.
- Inflation Protected Bonds (TIPS) have been a positive contributor to the performance of the portfolio and continue to represent a defensive posture against the current inflationary environment.
- In periods that reward higher quality securities, versus a speculative market as we have seen most recently, manager skill (alpha) can be additive to a portfolio. This suggests that in our future analysis we consider, in conjunction with BWC's objectives, whether gaining exposure to active management would be beneficial.

# Performance Benchmarks

## Policy Weights – Long-Term, Interim, and Actual

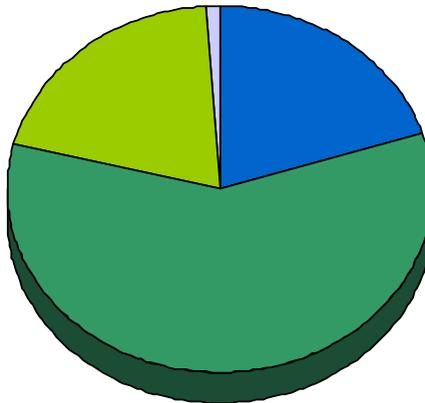
- The Long Term Policy Weights are the long term strategic weights that have been approved by the Board.
- Since the BWC's total portfolio is in the process of fully transitioning to the approved long term strategic weights as set forth in the investment guidelines, the performance of the BWC Total Assets and the State Insurance Fund will be measured against an Interim Policy benchmark. The Interim Policy represents the asset allocation that has been implemented. The benchmark will be reset when the Board approves additional implementation steps in the investment program.

**Asset Allocation  
As of June 30, 2008  
Long Term Policy**



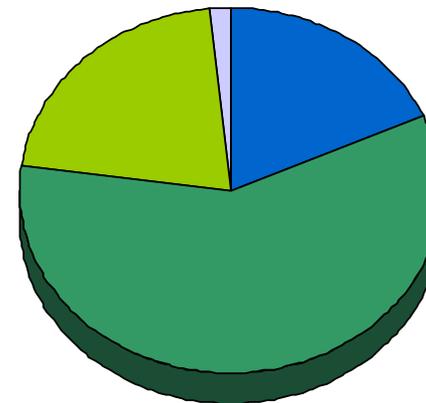
■ Large Domestic Equity	12.0%
■ Small / Mid Dom Equity	3.0%
■ Non US Equity	5.0%
■ Long Duration	59.0%
■ High Yield	0.0%
■ TIPS	20.0%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.0%
■ Miscellaneous	0.0%

**Asset Allocation  
As of June 30, 2008  
Interim Policy**



■ Large Domestic Equity	20.0%
■ Small / Mid Dom Equity	0.0%
■ Non US Equity	0.0%
■ Long Duration	59.0%
■ High Yield	0.0%
■ TIPS	20.0%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.0%
■ Miscellaneous	0.0%

**Asset Allocation  
As of June 30, 2008  
Actual**



■ Large Domestic Equity	18.2%
■ Small / Mid Dom Equity	0.0%
■ Non US Equity	0.0%
■ Long Duration	58.9%
■ High Yield	0.0%
■ TIPS	21.2%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.6%
■ Miscellaneous	0.1%

# BWC Total Assets

## 2Q 2008 Performance Summary

	Market Value	Quarter	Annualized Returns				Inception to Date
			1 Year	2 Years			
<b>BWC Total Assets</b>	<b>\$17,913.9</b>	<b>(1.4)</b>	<b>3.9</b>	<b>4.8</b>	<b>5.2</b>		
<i>BWC Total Assets Policy Benchmark</i>	--	(1.0)	4.9	7.0	4.8		
<i>BWC Total Assets Interim Benchmark</i>		(1.5)					

The TIPS, cash equivalents and miscellaneous segments ended the quarter with overweight positions versus the interim policy weights. Long duration fixed income and domestic equities ended the quarter with underweight positions versus the interim benchmark.

### BWC Total Assets Interim benchmark

The interim benchmark for the BWC Total Assets is calculated by multiplying the asset class weights by the returns of the corresponding asset class benchmarks and summing up the results. Interim Policy Weights are based on the following Board approved allocations: Large Cap Domestic Equity – 19.89% (S&P 500), Long Duration Fixed Income – 58.67% (Lehman Long U.S. Government/Credit Index), Inflation-Protected Securities – 19.89% (Lehman U.S. TIPS), Cash – 1.32% (90-Day T-Bill), Intermediate Duration Fixed Income – 0.22% (Lehman Intermediate US Government/Credit Index).

### BWC Total Assets Policy benchmark

BWC Total Assets Long-Term Policy benchmark is comprised of the following allocations: Large Cap Domestic Equity – 12% (S&P 500), Small/Mid Cap Domestic Equity – 3% (Wilshire 4500), Non-U.S. Equity – 5% (MSCI EAFE), Long Duration Fixed Income – 54% (Lehman Long U.S. Government/Credit Index), Inflation-Protected Securities – 20% (Lehman U.S. TIPS), High Yield – 5% (Merrill Lynch High Yield Master II), Total Alternative Investments – 0% (Wilshire 5000 + 5%), Cash – 1% (90-Day T-Bill).

# Economic Environment

## Overview

### Summary

- The advance estimate of annualized second-quarter GDP growth was 1.9%, following 0.9% growth in the first quarter.
- The Federal Open Market Committee cut the Federal Funds Target Rate from 2.25% to 2.00% in April and then made no changes in June.
- Treasury yields shifted upward during the quarter as 3-month Treasury yields advanced from 1.38% at the end of March to 1.90% at the end of June. Ten-year Treasury yields increased from 3.45% in March to 3.99% at the end of the quarter.
- Consumer prices rose at an annual rate of 7.9% during the second quarter and 5.0% over the past 12 months as measured by the Consumer Price Index
- The unemployment rate rose from 5.1% to 5.5% at the end of the second quarter.
- The Consumer Confidence Index continued to plummet and sits at the fifth-lowest reading ever recorded.
- Oil prices continued their sharp ascent, reaching over \$140/barrel in June.
- The housing market, as measured by the National Association of Home Builders/Wells Fargo Housing Market Index, matched its all-time low in June.

# Economic Environment

## Overview

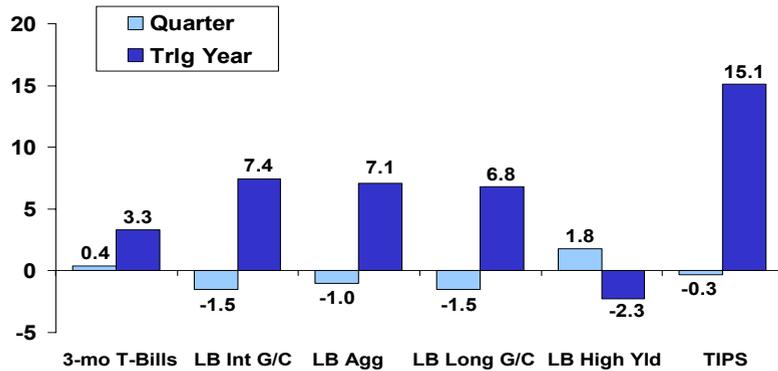
### Key Issues /Potential Risks

- With growth between 0%-1%, we are effectively in a recession once adjustments are made for population growth.
- We expect inflation to moderate in the second half of 2008 to 2009, although we have raised our long run inflation expectations to 2.8% from 2.5% given short term inflation is at 5%
  - There are two types of inflation: pervasive and sector induced. We are facing sector induced inflation caused by energy and food, and this will continue to have a negative effect on the consumer.
- There is a limit to the increases that oil can sustain, as demonstrated in the last month with declining prices, however the era of cheap energy is probably over. The pressure to fight inflation is not as intense, and consequently the Fed will keep short treasury interest rates below 3% into 2009.
- The Fed has put stability of the financial system ahead of inflation and the dollar.
- The U.S. Dollar is still undervalued against the Euro. We anticipate declining growth in Europe to cause the dollar to rally further. Thus, investors in international securities should consider currency hedging programs.

# Capital Markets Overview

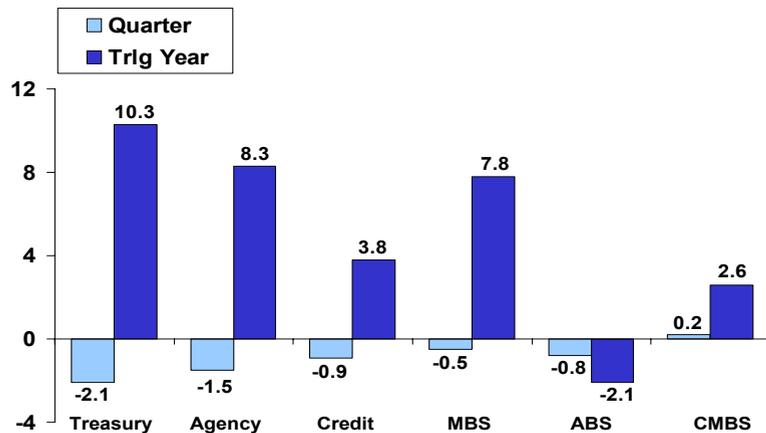
## Fixed Income Market Performance

### Performance by Maturity and Sector

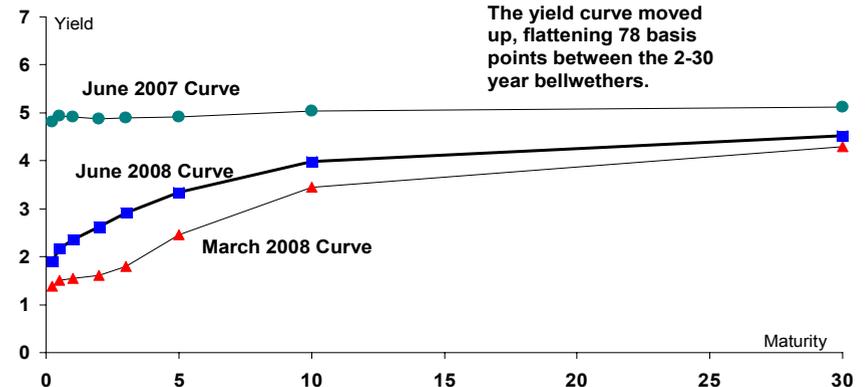


- Investment-grade bonds posted losses during the quarter as weakness in the financials sector and high inflation rattled the market. The Lehman Brothers Aggregate Bond Index fell 1.0%.
- Treasuries, down 2.1% for the quarter, underperformed all spread sectors as rates rose across the yield curve.
- The Lehman Brothers Credit Index lost 0.9% during the quarter. In general, long-term bonds outperformed intermediate-term maturity issues. Lower-rated bonds outperformed high-quality issues as Baa-rated bonds gained 0.1%, while Aaa-rated issues fell 2.0%. On average, credit spreads narrowed 26 basis points during the quarter.
- The Lehman Brothers MBS Index was down 0.5% for the quarter. ABS issues gave up 0.8%, while CMBS issues managed a 0.2% gain.

### Performance by Issuer



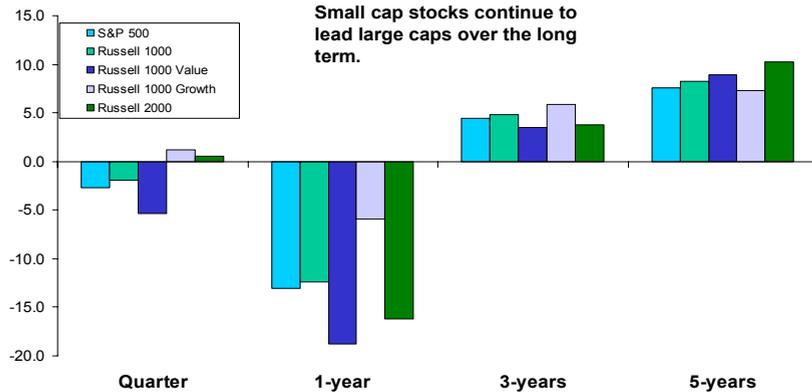
### Treasury Yield Curves



# Capital Markets Overview

## Domestic Equity Market Performance

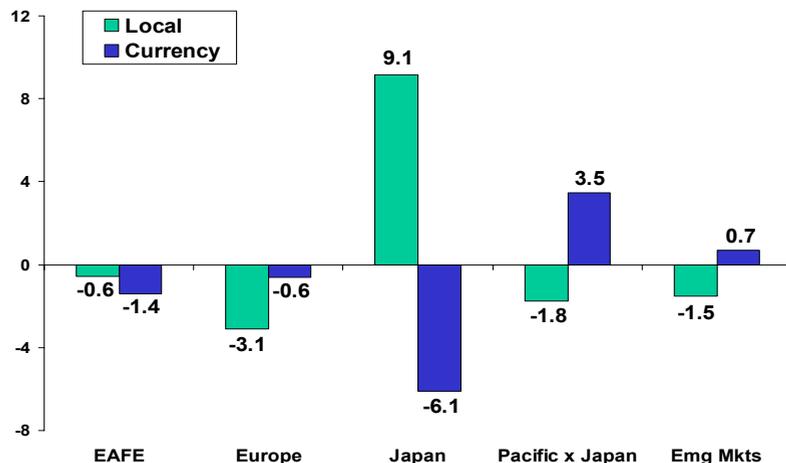
### Market Index Performance



- The stock market posted gains in April and May, but fell sharply in June, as higher oil prices renewed inflation concerns. The S&P 500 Index was down 2.7% for the quarter, while the Russell 1000 Index lost 1.9%.
- Small cap stocks, up 0.6%, outperformed large cap stocks, but trailed mid cap stocks, which gained 2.7%.
- Growth outperformed value across all market capitalizations during the quarter. Large cap growth stocks were up 1.2%, while large cap value stocks lost 5.3%. Mid cap growth stocks, up 4.7%, were the strongest performers.
- Energy, utilities, and materials were the strongest-performing sectors, gaining 19.2%, 8.0%, and 5.8% respectively. Financials, down 16.9%, posted the weakest results.

## International Equity Market Performance

### Regional Performance for the Quarter

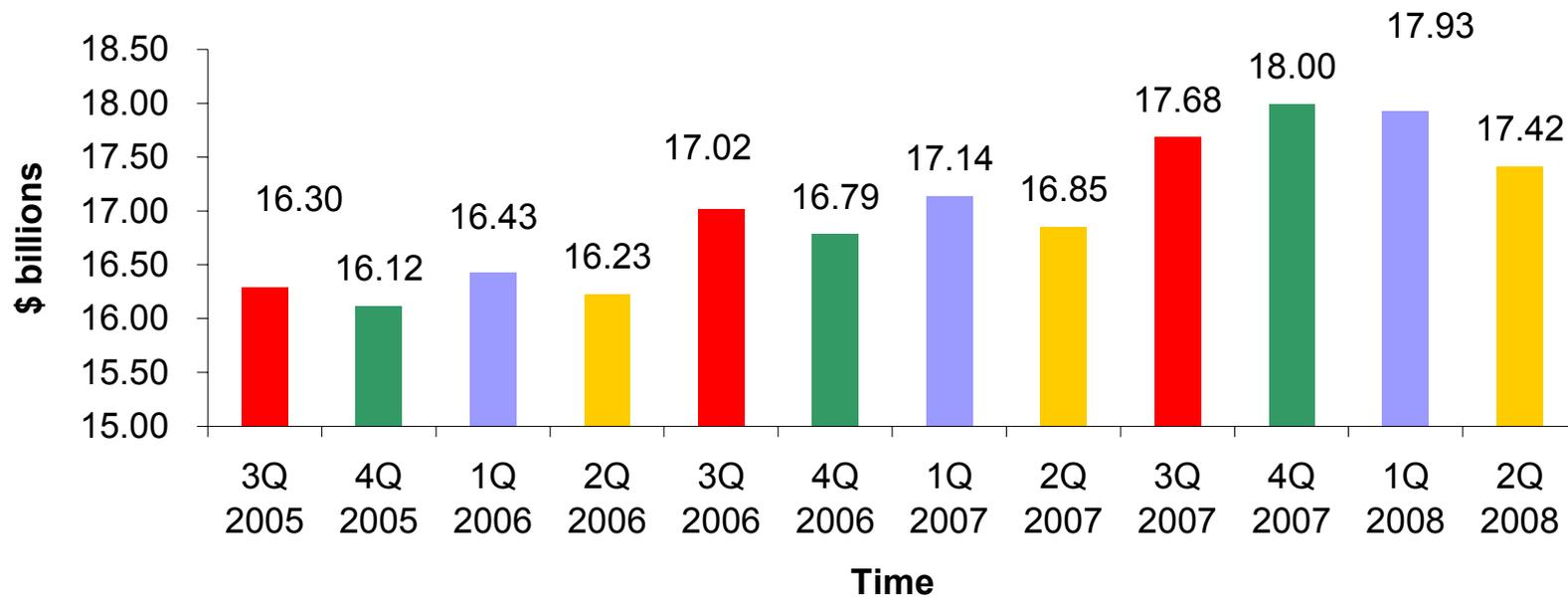


- Most international equity markets posted losses during the quarter as the MSCI EAFE Index fell 1.9% in dollar terms. In local currency terms, the Index was down 0.6%.
- Performance varied widely across the Pacific region, which gained 2.2% for the quarter. Australia and Japan were up 4.3% and 2.5%, while Hong Kong and New Zealand fell 3.9% and 14.3% respectively.
- The European region suffered widespread losses, declining 3.7% during the quarter. Germany was down 1.8%, while the U.K. and France lost 0.8% and 3.2% respectively.
- The emerging markets, down 0.8%, saw mixed results across regions. EM Latin America and EM Europe were the strongest-performing regions, gaining 11.0% and 7.3% respectively. The EM Asia region posted the weakest results, losing 9.1%.

# BWC Total Assets

## 2Q 2008 Performance Summary

Historical Total Market Value (in billions)\*



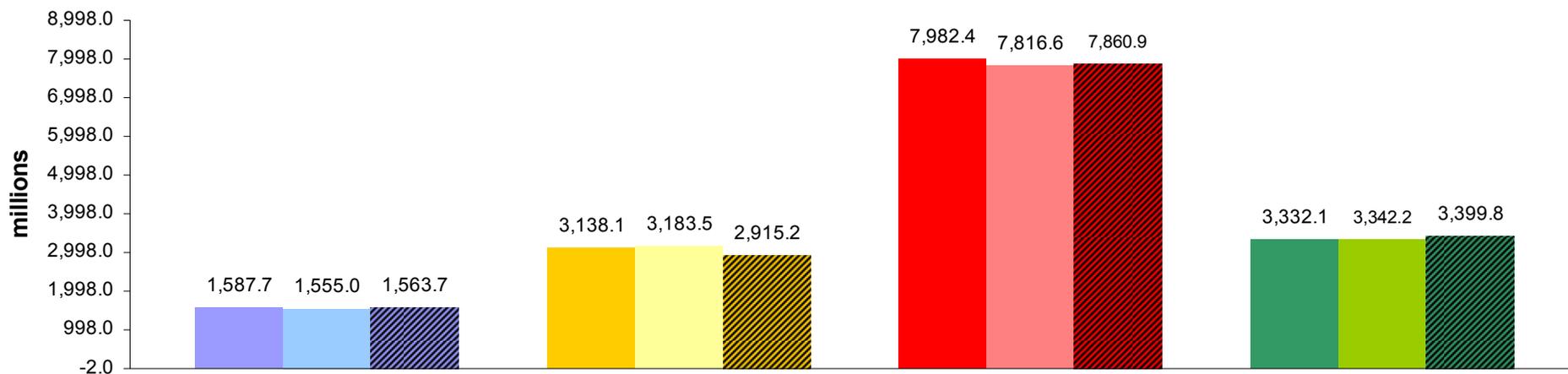
\*Custodian reported market values, including private equity.

# BWC Total Assets – U.S. Equity, Long Duration and TIPS

## 2Q 2008 Performance Summary

April 2008 – June 2008 Monthly Market Values (in millions)

### 2Q08 Market Values

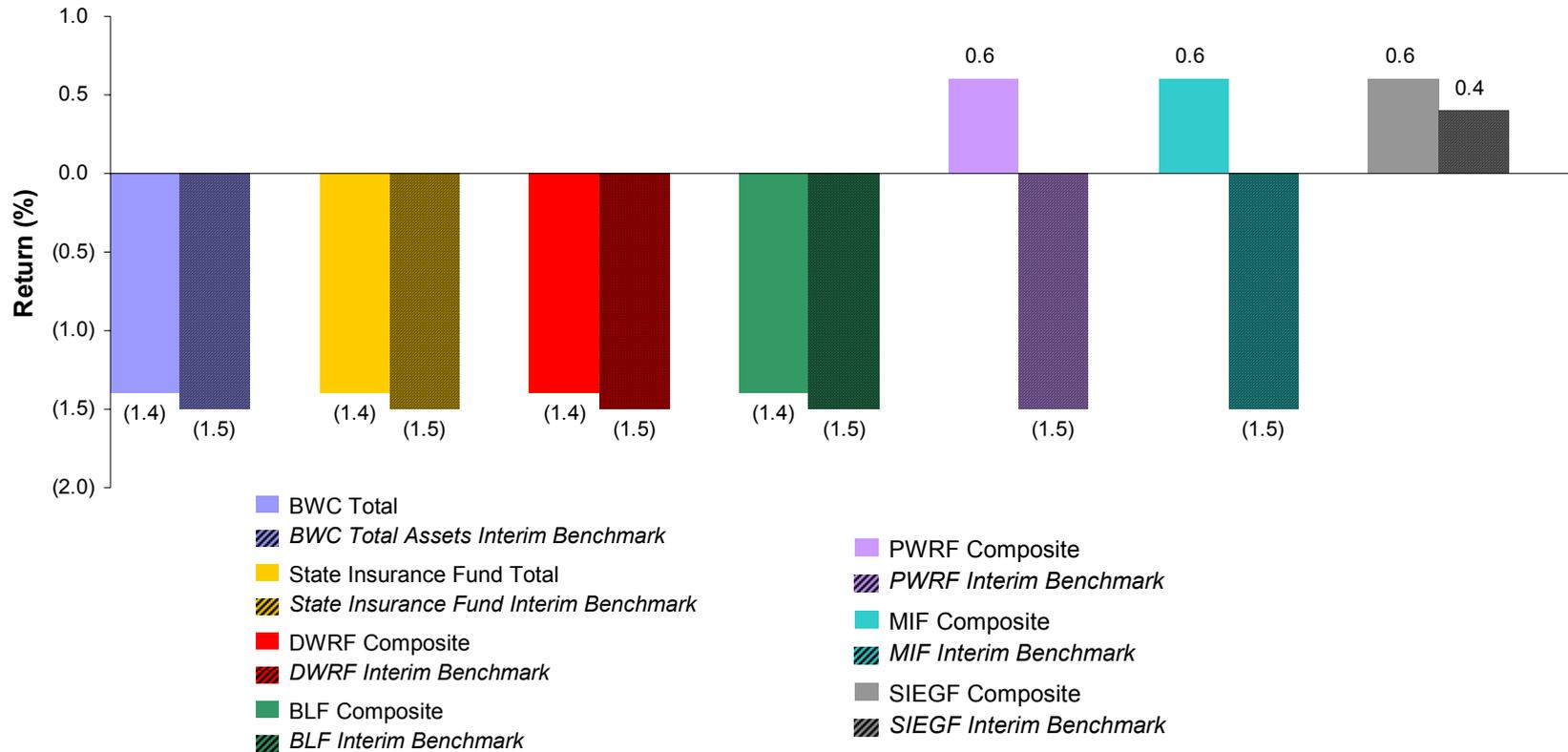


- 4/30/2008 BGI - Long Duration Fixed Income
- 5/31/2008 BGI - Long Duration Fixed Income
- 6/30/2008 BGI - Long Duration Fixed Income
- 4/30/2008 Northern Trust - S&P 500 Index
- 5/31/2008 Northern Trust - S&P 500 Index
- 6/30/2008 Northern Trust - S&P 500 Index
- 4/30/2008 State Street (SSgA) - Long Duration Fixed Income
- 5/31/2008 State Street (SSgA) - Long Duration Fixed Income
- 6/30/2008 State Street (SSgA) - Long Duration Fixed Income
- 4/30/2008 State Street (SSgA) - US TIPS
- 5/31/2008 State Street (SSgA) - US TIPS
- 6/30/2008 State Street (SSgA) - US TIPS

# BWC Total Assets

## 2Q 2008 Performance Summary

Performance 2Q08



# BWC Total Assets

## 2Q 2008 Performance Summary\*\*

	Market Value	% of Total Fund	Annualized Returns*			
			Quarter	1 Year	2 Years	Inception to Date
<b>BWC Total Assets</b>	\$ 17,415.7	100.0 %	(1.4) %	3.9 %	4.8 %	5.2 %
<i>BWC Total Assets Policy Benchmark</i>			(1.0)	4.9	7.0	4.8
<i>BWC Total Assets Interim Benchmark</i>			(1.5)	--	--	--
<b>State Insurance Fund Total</b>	15,943.6	91.5	(1.4)	3.9	4.8	5.2
<i>SIF Policy Benchmark</i>			(1.0)	4.8	7.0	4.9
<i>SIF Interim Benchmark</i>			(1.5)			
<b>Long Duration Bond Total</b>	10,251.7	58.9	(1.5)	--	--	-0.6
SSGA LDFI	7,860.9	45.1	(1.5)	7.4	--	4.0
BGI LDFI	1,563.7	9.0	(1.5)	6.9	--	3.6
<i>Lehman Brothers U.S. Gov/Credit-Long Term</i>			(1.5)	6.8	6.9	-0.7
<b>TIPS Total</b>	3,693.2	21.2	(0.2)	--	--	4.9
SSGA TIPS	3,399.8	19.5	(0.2)	15.1	--	11.7
<i>Lehman Brothers US Treasury: US TIPS</i>			(0.3)	15.1	9.4	4.9
<b>Public Equity Portfolio Total</b>	3,162.4	18.2	(2.7)	--	--	(11.9)
NT S&P 500 Index	2,915.2	16.7	(2.7)	--	--	(10.2)
<i>S&amp;P 500 - Total Return Index</i>			(2.7)	(13.1)	2.4	(11.9)
<b>Miscellaneous Composite</b>	22.3	0.1	(3.4)	--	--	0.3
<b>Cash Composite</b>	284.1	1.6	0.6	--	--	1.5

\* Reported Net-of-fees.

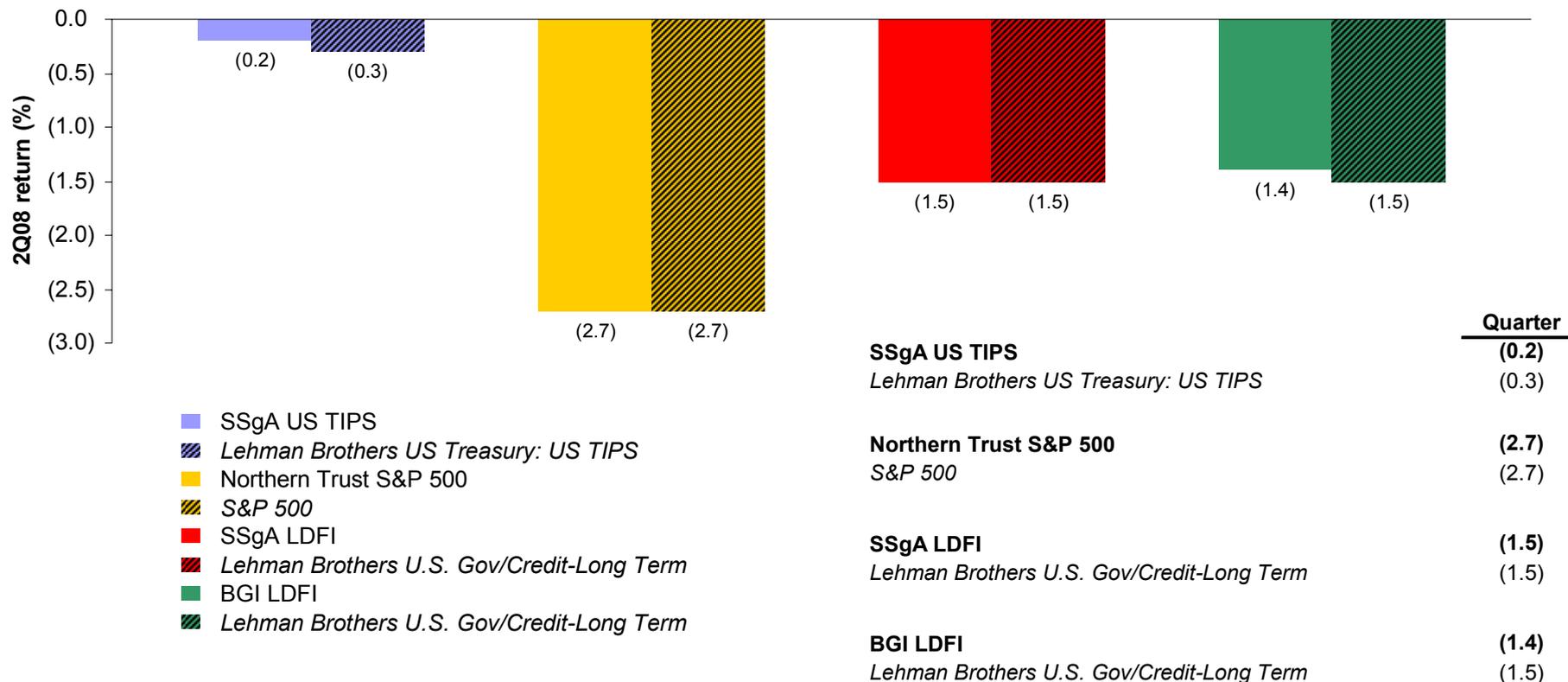
\*\* Performance excludes private equity.

Miscellaneous composite is comprised of a transition account, coin account and miscellaneous holdings account. Please refer to Appendix for composite inception dates.

# BWC Total Assets - U.S. Equity, Long Duration and TIPS

## 2Q 2008 Performance Summary\*

### Performance 2Q08



\*Gross of fees

## BWC Total Assets - U.S. Equity

### 2Q 2008 Performance Summary

- **The Public Equity portfolio** is comprised of the SIF Northern Trust S&P 500 Index Fund, the Black Lung Northern Trust S&P 500 Index Fund and the DWRF Northern Trust S&P 500 Index Fund:
  - During the second quarter, Northern Trust returned -2.7% and approximated the returns of the benchmark (the S&P 500 Index).
  - At the end of the quarter, Northern Trust ranked in the 79th percentile\* of the Mercer US Equity Large Cap Core Universe.
  - In the second quarter, most large capitalization core active managers outperformed the S&P 500 Index, and this caused Northern Trust's performance to fall in the 79<sup>th</sup> percentile.

\* A ranking in the 1<sup>st</sup> percentile denotes strong performance i.e. a manager has outperformed 99 percent of the peer group universe. Conversely, a ranking in the 99<sup>th</sup> percentile denotes lagging performance i.e. a manager has only outperformed 1 percent of the peer group universe. For Index funds a 50<sup>th</sup> percentile is in-line with expectations as an index should perform within a very small tracking error to the benchmark.

## BWC Total Assets - Long Duration Fixed Income

### 2Q 2008 Performance Summary

- **The Long Duration Bond Total** is comprised of the State Insurance Fund Long Duration Composite, the Disabled Workers Long Duration Composite and the Black Lung Long Duration Composite. The Long Duration Bond Total approximated the returns of the index over the quarter:
  - During the quarter, the SSgA Long Duration portfolio returned -1.5% while the Lehman Brothers US Long Govt / Credit index returned -1.5%.
  - At the end of the second quarter, State Street's Long Duration portfolio ranked in the 42nd percentile\* of the Mercer US Fixed Long Duration Universe (in line with our expectations).
  - For the trailing one year period (ending June 30, 2008), SSgA produced a low tracking error of 20bps versus the Lehman Brothers US Long Govt / Credit index.
  - Over the trailing 3 months (ending June 30, 2008) Barclays returned -1.5% and approximated the benchmark's return.
  - At the end of the second quarter, Barclay's Long Duration portfolio ranked in the 42nd percentile\* of the Mercer US Fixed Long Duration Universe (in line with our expectations).
  - For the trailing one year period (ending June 30, 2008), Barclays produced a low tracking error of 10bps versus the Lehman Brothers US Long Govt / Credit index.

\* A ranking in the 1<sup>st</sup> percentile denotes strong performance i.e. a manager has outperformed 99 percent of the peer group universe. Conversely, a ranking in the 99<sup>th</sup> percentile denotes lagging performance i.e. a manager has only outperformed 1 percent of the peer group universe. For Index funds a 50<sup>th</sup> percentile is in-line with expectations as an index should perform within a very small tracking error to the benchmark.

## BWC Total Assets - TIPS

### 2Q 2008 Performance Summary

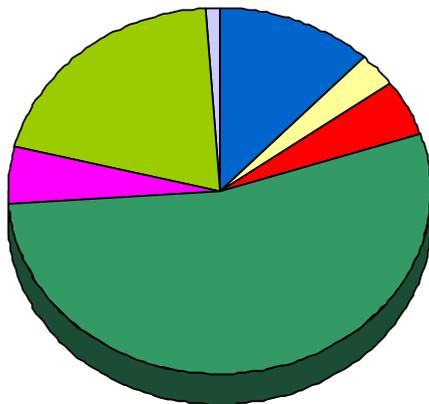
- **The TIPS Total** is composed of the State Insurance Fund TIPS Composite, Disabled Workers Relief Fund TIPS Composite and the Black Lung TIPS Composite. The TIPS Composite is solely invested in the SSgA U.S. TIPS Strategy:
  - Over the trailing 3 months (ending June 30, 2008) the US TIPS Fund returned -0.2% and outperformed the Lehman Brothers US TIPS Index which returned -0.3%.
  - During the second quarter, the SSgA US TIPS Fund ranked in the 46th percentile\* of the Mercer US Fixed Inflation Linked Bonds Universe (in line with our expectations).
  - For the trailing one year period (ending June 30, 2008), SSgA produced a low tracking error of 20bps versus the Lehman Brothers US TIPS benchmark.

\* A ranking in the 1<sup>st</sup> percentile denotes strong performance i.e. a manager has outperformed 99 percent of the peer group universe. Conversely, a ranking in the 99<sup>th</sup> percentile denotes lagging performance i.e. a manager has only outperformed 1 percent of the peer group universe. For Index funds a 50<sup>th</sup> percentile is in-line with expectations as an index should perform within a very small tracking error to the benchmark.

# State Insurance Fund

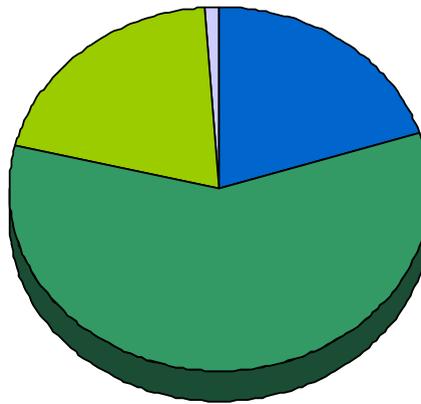
## 2Q 2008 Performance Summary

**Asset Allocation  
As of June 30, 2008  
Long Term Policy**



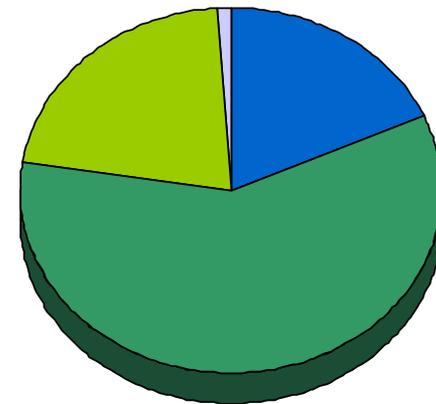
■ Large Domestic Equity	12.0%
■ Small / Mid Dom Equity	3.0%
■ Non US Equity	5.0%
■ Long Duration	54.0%
■ High Yield	5.0%
■ TIPS	20.0%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.0%
■ Miscellaneous	0.0%

**Asset Allocation  
As of June 30, 2008  
Interim Policy**



■ Large Domestic Equity	20.0%
■ Small / Mid Dom Equity	0.0%
■ Non US Equity	0.0%
■ Long Duration	59.0%
■ High Yield	0.0%
■ TIPS	20.0%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.0%
■ Miscellaneous	0.0%

**Asset Allocation  
As of June 30, 2008  
Actual**



■ Large Domestic Equity	18.3%
■ Small / Mid Dom Equity	0.0%
■ Non US Equity	0.0%
■ Long Duration	59.1%
■ High Yield	0.0%
■ TIPS	21.3%
■ Alternative Investments	0.0%
■ Cash Equivalents	1.1%
■ Miscellaneous	0.1%

## State Insurance Fund

### 2Q 2008 Performance Summary

- The State Insurance Fund Total has assets of approximately \$15.94 billion at the end of the second quarter representing a decrease of \$474.5 million over the previous quarter.
- The State Insurance Fund returned -1.4% in the second quarter and outperformed the Interim benchmark (-1.5%).
- At the end of the second quarter, relative to its Interim benchmark, the State Insurance Fund Total held an underweight position in domestic equities and overweight positions in long duration fixed income, TIPS and cash.

# State Insurance Fund

## 2Q 2008 Performance Summary

	Market Value	Quarter	Annualized Returns			
			1 Year	2 Years	Inception to Date	
<b>State Insurance Fund Total</b>	<b>15,943.6</b>	<b>(1.4)</b>	<b>% 3.9</b>	<b>% 4.8</b>	<b>% 5.2</b>	<b>%</b>
<i>SIF Policy Benchmark</i>	--	<b>(1.0)</b>	4.8	7.0	4.9	
<i>SIF Interim Benchmark</i>		<b>(1.5)</b>				

### SIF Interim Benchmark

- The State Insurance Fund interim benchmark is calculated by multiplying the asset class weights by the returns of the corresponding asset class benchmarks and summing up the results. Interim Policy Weights are based on the following Board approved allocations: Large Cap Domestic Equity – 20% (S&P 500), Long Duration Fixed Income – 59% (Lehman Long U.S. Government/Credit Index), Inflation-Protected Securities – 20%(Lehman U.S. TIPS), Cash – 1% (90-Day T-Bill).

### SIF Policy Benchmark

- The State Insurance Fund Long-Term Policy benchmark is comprised of the following allocations: Large Cap Domestic Equity – 12% (S&P 500), Small/Mid Cap Domestic Equity – 3% (Wilshire 4500), Non-U.S. Equity – 5% (MSCI EAFE), Long Duration Fixed Income – 54%(Lehman Long U.S. Government/Credit Index), High Yield – 5% (Merrill Lynch High Yield Master II), Inflation-Protected Securities – 20% (Lehman U.S. TIPS), Total Alternative Investments – 0% (Wilshire 5000 + 5%), Cash – 1% (90-Day T-Bill).

# Private Equity

## 1Q 2008 Performance Summary\*

\*Performance Measurement Periods:  
 Buyout Fund: May 1999 - Mar 2008  
 Fund of Funds: Dec 2000 - Mar 2008  
 Mezzanine Funds: Oct 1998 - Mar2008  
 Venture Capital: Dec 2000 - Mar 2008

Partnership	BWC Commitment	BWC Contributions to		Market Value as of 3/31/08 <sup>2</sup>	Net Annualized IRR	Upper Quartile <sup>3</sup>	Median	Lower Quartile
		Date <sup>1</sup>	Distributions					
Buyout Fund Total	\$282,497,067	\$241,446,524	\$330,717,481	\$0	14.11%	18.10%	7.90%	0.00%
Fund of Funds Total	\$100,000,000	\$79,267,336	\$75,498,844	\$8,229,999	4.22%	0.51%	-5.00%	-12.24%
Mezzanine Total	\$60,000,000	\$63,692,954	\$66,254,425	\$0	-1.46%	12.80%	7.60%	1.30%
Venture Capital Total	\$371,642,000	\$289,419,432	\$232,764,832	\$3,215,947	-11.49%	15.50%	4.90%	-2.10%
<b>Total</b>	<b>\$814,139,067</b>	<b>\$673,826,246</b>	<b>\$705,235,582</b>	<b>\$11,445,946</b>	<b>2.27%</b>	<b>16.10%</b>	<b>6.30%</b>	<b>-1.40%</b>

- As of March 31, 2008, the Ohio BWC's total private equity portfolio had an estimated internal rate of return (IRR) of 2.27%. This return was below the median IRR of 6.30%.\*\*
- The buyout fund's composite IRR (as of March 31, 2008) was 14.11% as compared to an 7.90% median IRR for buyout funds with similar vintage years.
- The Ohio BWC's fund-of-fund composite IRR (as of March 31, 2008) was 4.22% as compared to a -5.00% median IRR for fund-of-funds with similar vintage years.
- The BWC's mezzanine fund composite IRR (as of March 31, 2008) was -1.46% as compared to a 7.60% median IRR for mezzanine funds with similar vintage years.
- The BWC's venture capital partnerships had an overall composite level IRR of -11.49% at the end of the first quarter in 2008 and trailed the 4.90% median IRR for venture capital funds with similar vintage years.

\*\*Calculated using Venture Xpert's IRR data by vintage year for all private equity weighted according to the BWC's weighted average allocation by vintage year. Please refer to the performance disclosures in the Appendix.

# Appendix

## Appendix

### Inception Dates

<b><u>Composite</u></b>	<b><u>Inception Date</u></b> *
BWC Total Assets	July-05
State Insurance Fund Total	July-05
Long Duration Bond Total	January-08
TIPS Total	January-08
Public Equity Portfolio Total	January-08
Miscellaneous Composite	January-08
Cash Composite	January-08

\* Denotes commencement day of performance measurement

# Private Equity

## Performance Disclosures

- 1) BWC contributions to date (March 31, 2008) reflect all contributions made to the general partner for each fund. These amounts may not represent the funded amount against the commitment, as not all contributions are applicable towards the committed amount.
- 2) Market values utilized are provided by the general partner, when available. In the instances when managers did not provide market values as of March 31, 2008, estimates were calculated using actual market values as of the last date the market value was provided rolled forward to March 31, 2008, accounting for contributions and distributions during the interim time period.
- 3) As a benchmarking measure, the upper quartile, median, and lower quartile of IRRs at the composite level is presented for each fund category as taken from Venture Xpert. Data is as of March 31, 2008. Venture Xpert's returns are representative of the following periods:

Buyout Fund: 1999-2008

Fund of Funds: 2000-2008

Mezzanine Funds: 1998-2008

Venture Capital: 2000-2008

Total: The total upper quartile, median quartile, and lower quartile values are weighted average IRRs calculated by taking Venture Xpert's upper, median, and lower quartile by vintage year and weighting those values according to BWC's weighted average allocation by vintage year for their private equity portfolio.

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Percentile rankings for managers, funds or indices in performance floating bar exhibits may not match Universe percentiles due to rounding. Only performance composites submitted by investment managers by Mercer's deadline for a particular quarter are included in that quarter's Manager Universe calculation. Composites submitted after the deadlines are included in the Manager Universe at Mercer's discretion. Because Mercer Manager Universes are based upon information voluntarily provided by investment managers, to the extent higher or lower performing investment managers do not submit information to Mercer, the percentile rankings may not reflect as accurate an indication of an investment manager's performance relative to all of its peers than otherwise would be the case.

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# MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

**INVESTMENT DIVISION**

TO: Marsha Ryan, Administrator  
BWC Investment Committee  
BWC Board of Directors

CORRECTED August 25, 2008

FROM: Bruce Dunn, CFA, Chief Investment Officer

DATE: August 16, 2008

SUBJECT: CIO Report July, 2008

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**Fiscal Year 2009 Goals**

The Investment Division has five major goals for the new fiscal year 2009. These goals and brief comments on action plans for each goal follows:

1. Provide support and execute new BWC Investment Policy resulting from Asset-Liability study
2. Achieve full staffing of BWC Investment Division with continued training of developing staff
3. Continued establishment and execution of investment controls and compliance procedures
4. Complete implementation and utilization of resources provided by new investment accounting and performance system
5. Sell remaining miscellaneous investment assets

## **Strategic Goal One – PORTFOLIO TRANSITION**

BWC investment consultant Mercer will be formulating an asset-liability study and related investment strategy recommendations to be presented to the BWC Investment Committee. The BWC Investment Division will provide whatever support is needed by Mercer in terms of background and information necessary for Mercer to complete its asset-liability study of the Bureau and its investment strategy recommendations. Once a new investment strategy is approved by the BWC Investment Committee and Board of Directors, the Investment Division will assist Mercer and the Investment Committee in developing a new or revised Investment Policy Statement reflecting the newly approved investment strategy.

The Investment Division in consultation with Mercer will employ a thorough and complete RFP process for each new outside investment manager search required to execute the new investment strategy. Given the assumption that multiple RFP processes will be necessary to execute the new investment strategy, a prioritization of the timing of RFP issuances will occur with the approval of the Investment Committee. Each RFP process is expected to result in investment manager recommendations to be presented for approval by the respective RFP evaluation committee to the Investment Committee and Board of Directors.

After each new investment manager for each identified investment asset class mandate is selected and approved, the Investment Division will coordinate the transfer of appropriate invested assets from the legacy investment manager to the new investment manager. It is expected that the Bureau will engage with its approved transition managers (Barclays, Russell, State Street) for the execution of each of its asset manager transfer strategies. The Investment Division will oversee the timing and execution of each targeted transition with the goal of achieving such asset transition with efficiency and at a low economic cost.

## **Strategic Goal Two – INVESTMENT STAFF**

The Investment Division began fiscal year 2009 commencing July 1, 2008 with a staff of ten individuals consisting of the CIO, Director of Investments, Investment Administration Manager, one Senior Investment Manager, one Investment Manager, three Assistant Investment Managers and two administrative assistants. The one current remaining vacancy within the Investment Division is for a second Senior Investment Manager. It is the intention to fill this important position before the end of calendar 2008. First stage interviews with selected candidates were recently completed and second round interviews have been scheduled with finalist candidates.

There will be a proper emphasis on the training of staff investment professionals to become more effective managers. Continuous investment education and an appropriate emphasis on CFA (Chartered Financial Analyst) related programs and study will be encouraged and supported. The cross-training of many duties assigned to respective staff members will occur to broaden skill sets and ensure necessary backup support. Each investment professional on staff is expected to serve the needs of the Bureau and its customers with the highest of integrity, ethics and competence.

### **Strategic Goal Three – INTERNAL INVESTMENT PROCEDURES**

The Investment Division will continue to establish and improve upon internal investment procedures and controls. All such procedures will be written and mapped through the use of the Webmethods schematic process. The BWC Internal Audit Division will be engaged as appropriate in guiding and assisting the Investment Division in the creation and refinement of such internal control procedures.

The Investment Division has focused on the management oversight of the passive style investment managers, performance reporting and other investment activities to support the BWC Investment Policy. Internal procedures will be developed for the monitoring of active style investment managers in advance of the anticipated selection and engagement of such managers as an outcome of any new investment strategy approved. Among new policies and procedures being addressed are brokerage activity, proxy actions, corporate actions, legal class actions and asset allocation rebalancing.

### **Strategic Goal Four – INVESTMENT ACCOUNTING SYSTEM RESOURCES UTILIZATION**

A new investment accounting and reporting system offered by BNY Mellon was selected by the Bureau in 2007 via the RFP process. The Investment Division is focusing on the goal of utilizing this improved investment accounting system for the daily monitoring of investment managers in satisfaction of compliance with the BWC Investment Policy. The investment staff is now well into the process of learning how to utilize many of the compliance and performance measurement tools and resources offered by this accounting system through both formal training sessions and self education.

### **Strategic Goal Five – MISCELLANEOUS INVESTMENT ASSET SALES**

It is a strategy and goal of the Investment Division to sell or liquidate during fiscal year 2009 the remaining miscellaneous investment assets of value owned by the Bureau. Miscellaneous assets are defined to include private equity, coins, stock distributions received from formerly owned private equity partnerships, and illiquid securities inherited and retained from previously terminated outside investment managers. The aggregate carrying value of these miscellaneous assets targeted for disposal was approximately \$12 million on July 31, 2008.

At the end of fiscal year 2008 ending June 30, 2008, a total of 66 private equity partnerships had been sold by BWC since June, 2007 for total proceeds received of \$399.0 million. All such proceeds received from private equity sales were reinvested in the passive indexed Large Cap S&P 500 Equity portfolio currently managed by Northern Trust. There are two remaining private equity fund investments owned by the Bureau, one of which is expected to be sold to an outside buyer and the second of which is anticipated to be liquidated from portfolio asset sales and resulting cash distributions during fiscal year 2009.

A significant distribution of cash totaling approximately \$12.1 million was received by the Bureau in July, 2008 from the coin fund liquidation firm contracted by the State of Ohio to oversee the liquidation of remaining coin fund related assets associated with Tom Noe. As a result of this significant coin fund distribution received last month, the Bureau has now received a total of approximately \$53.5 million, net of coin-related expenses paid directly by the Bureau. Total physical coin-related assets remaining to be liquidated at this time are minimal and will be auctioned for sale over succeeding months.

## **Compliance**

The investment portfolios in the aggregate were in compliance with the BWC Investment Policy at the end of July, 2008. BWC Investment Policy Statement compliance rules have been built into the Mellon compliance monitoring system sufficiently at this time such that the Mellon system is now very useful in monitoring portfolio compliance.

DATE: August 11, 2008

TO: BWC Investment Committee

FROM: Bruce Dunn, CFA, Chief Investment Officer

SUBJECT: **BWC Investment Policy Statement  
Annual Review Summary  
Fiscal Year 2008**

The Investment Policy Statement (formally named “Statement of Investment Policy and Guidelines”) or IPS of the Ohio Bureau of Workers’ Compensation is a document that describes investment objectives, fiduciary standards, roles and responsibilities, asset allocation, asset target mixes and ranges, performance objectives, and investment management styles (passive/active) specific to the BWC investment portfolio and its six separate trust funds.

The following is a summary of the revisions made to the IPS in FY2008 as approved by the BWC Investment Committee as well as by either the former Workers’ Compensation Oversight Commission (for July 2007 revision) or the current BWC Board of Directors (for all subsequent revisions listed herein). The Revision Date reflects the date approved by either the former WCOC or current Board of Directors. The details of all such revisions and the respective wording changes to the IPS are reflected in materials and reports previously submitted to the BWC Investment Committee and Board of Directors by the BWC Chief Investment Officer.

IPS Revision Date	Reason for Revision
April 26, 2007	In effect beginning of FY2008
July 26, 2007	Update Political Campaign Contribution Policy language in Appendix XIV to reflect passage of HB 694 by the Ohio General Assembly. The updated language is consistent with the new political campaign contribution language reflected in Section 3517.13 of the Ohio Revised Code
November 21, 2007	<p>Revise the Intermediate Duration fixed income benchmark in Section V.A from the Lehman Intermediate U.S. Government index to the Lehman Intermediate U.S. Government/Credit index;</p> <p>Revise credit issuer ownership limits in Section IV.C.ii to be applicable only to active managed fixed income mandates and not applicable for passive indexed managed fixed income mandates;</p> <p>Revise the customized Long Duration fixed income benchmark in Section V.A to reflect the elimination of credit issuer ownership limits by credit rating previously in existence for such benchmark</p>
December 20, 2007	<p>Revise Sections I through VIII and Appendix X to reflect changes in Amended Substitute HB 100, most notably to replace all references to the former WCOB with references to the BOD of the Bureau;</p> <p>Revise the customized Long Duration fixed income benchmark in Section V.A. to the widely used non-customized Lehman Long U.S. Government/Credit index benchmark</p>
January 25, 2008	<p>Develop a more condensed IPS by deleting all of Appendices IX through XV excepting Appendix X which becomes new Section VIII;</p> <p>Revise Foreign (non-US) Government bond ownership limits and Yankee bond ownership limits in Section IV.C.ii to accommodate the two recently revised fixed income benchmark indices</p>
February 29, 2008	Revise portions of Section III regarding responsibilities of BWC investment staff and BWC investment consultant to the BWC Board of Directors with respect to providing reports on quarterly investment performance, monthly market value changes by asset class, and information on any significant change in investment strategy by approved outside investment managers

# **BWC INVESTMENT DIVISION FISCAL YEAR 2009 GOALS**

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## **1. Provide support and execute the new BWC Investment Policy resulting from investment consultant Asset-Liability study**

- a) Support investment consultant as necessary to complete asset-liability study
- b) Employ complete RFP or RFQ process for each new manager search required
- c) Provide assistance as desired by BWC Investment Committee in developing new/revised Investment Policy Statement
- d) Oversee and coordinate required asset class transitions to execute new investment policy

# BWC INVESTMENT DIVISION FISCAL YEAR 2009 GOALS

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## **2. Achieve full staffing of BWC Investment Division with emphasis on training and enhancing staff skills**

- a) Complete hiring of final current staff addition (Senior Investment Manager)
- b) Continue training of *developing* staff investment professionals
- c) Encourage continuous investment education for staff members with appropriate emphasis on CFA related programs and study
- d) Further integrate both developed and emerging skill sets of staff with emphasis on cross-training

# **BWC INVESTMENT DIVISION FISCAL YEAR 2009 GOALS**

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## **3. Continued establishment and execution of appropriate internal investment controls and compliance procedures**

- a) Written policies and procedures on each existing and newly developed control/compliance process to include Webmethods schematic mapping process, with newly developed procedures to include active outside managers, brokerage activity, proxy actions, corporate actions, legal class actions and asset allocation rebalancing
  
- b) Refine for improvement as necessary any existing policy and procedure

# **BWC INVESTMENT DIVISION FISCAL YEAR 2009 GOALS**

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## **4. Complete the implementation and utilization of analytical, compliance and performance measurement resources provided by new investment accounting system**

- a) Compliance to involve utilizing this system to assist in the monitoring of the investment policy statement for the trust funds, both in the aggregate as well as separately by each trust fund, investment asset class and investment manager
  
- b) Performance measurement capability to provide performance measurement reports to monitor portfolio performance by fund, asset class, investment manager and designated composites

# **BWC INVESTMENT DIVISION FISCAL YEAR 2009 GOALS**

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## **5. Sell most or all remaining miscellaneous investment assets**

a) Sell remaining private equity investment

b) Sell remaining physical assets of coin fund

c) Sell most or all remaining miscellaneous assets of value received from either terminated legacy outside investment managers or from private equity partnerships

# **Investment Committee**

## **Merce Investment Topics**

**Materials were distributed  
at May meeting**

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

# The Ohio Bureau of Workers' Compensation



## Statement of Investment Policy and Guidelines

Adopted by the BWC Board of Directors: February 29, 2008

Amends Adoption of: January 25, 2008

**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 Workers' Compensation Board of Directors ("Board") 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 as required by Ohio Revised Code Section 4121.12(F).

*The Board 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(F))*

### B. Fiduciary Standard

Under Ohio Revised Code Section (O.R.C.) 4123.44, the voting members of the Board, 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 O.R.C. 4123.44 and any other applicable statutory or administrative rules. A copy of the O.R.C. 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 O.R.C. 4123.44.

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

**III. ROLES AND RESPONSIBILITIES**

**A. Board Responsibilities**

The Board 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 Board, 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 Board 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 Board finds to be contrary to the Investment Objectives of the Funds. In the event that the Board determines that any activity undertaken or proposed to be undertaken pursuant to this Investment Policy is contrary to the Investment Objectives, the Board 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.
- xiii. Advise the Administrator of the Board's criteria for approving proposed dividends submitted to it pursuant to R.C. 4123.32 and Ohio Admin. Code 4123-17-10.

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

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

### **B. OBWC Staff Responsibilities**

The Chief Investment Officer shall be employed by the Administrator, with the advice and consent of the Board, 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 Board 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 Board.
- iii. Monitor and review the investment performance of the Funds on a monthly basis to determine achievement of goals and compliance with Investment Policy. Provide a report of monthly market value changes by investment asset class.
- iv. Consult with and receive approval from the Board on the selection and termination of all Investment Consultants.
- v. Consult with and receive approval from the Board on the selection and termination of all Investment Managers and General Partners.
- vi. Consult with and receive approval from the Board 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 Board.
- 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 Board 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 and report same to the Board on a monthly basis.
- xi. Inform and receive approval by the Board of any significant change in investment strategy of approved Investment Managers and General Partners.
- xii. Monitor manager trade execution.
- xiii. 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.
- xiv. Maintain detailed records of said voting of proxies and related actions and comply with all regulatory obligations related thereto.
- xv. Report to the Board on at least an annual basis summary trade activity by brokerage firm and communicate any unusual trading activity to the Board in a timely manner, including any discussions with Investment Managers regarding such trading activity.

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

**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 as set forth in the Ohio Revised Code (O.R.C.) Section 3517 and provide written evidence of such compliance 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.

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

- 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 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 as set forth in the Ohio Revised Code (O.R.C.) Section 3517 and provide written evidence of such compliance 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 Board, 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 quarterly investment performance results and quarterly risk characteristics of the Funds to the Board.
- vi. Monitor and evaluate Investment Manager performance on an ongoing basis.
- vii. Conduct due diligence on the Funds' current and prospective Investment Managers.

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

- 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 Board 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. A formal asset/liability analysis for each Fund will be conducted annually, or more frequently if conditions warrant.

The Board 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 Section VII.

#### **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 Board 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 Board 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.

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## **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 Board, 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 asset class at the time it is hired. For purposes of this constraint, "asset class" shall be broadly defined to include all styles, sub-sectors, or specialty portfolios managed by a firm within a particular asset class.

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 Board 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 & Poor's (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 in the aggregate shall be diversified as specified below<sup>1</sup> to minimize the risk of losses:

***By Sector:***

<b><u>Sector Allocation</u></b>	<b><u>Max. % of Fixed Income</u></b>
<b>U.S. Governments:</b>	<b>100%</b>
Treasuries	100%
Agencies	100%
<b>Mortgages</b>	<b>40%</b>
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%
<b>Investment Grade Credit</b>	<b>70%</b>
Finance	35%
Industrial	35%
Transportation	35%
Utilities	35%
Yankees	15%
Asset Backed Securities (ABS) (must be rated AA or better)	10%
<b>Foreign Governments</b>	<b>5%</b>
<b>Below Investment Grade Credit</b>	<b>7.5%</b>

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<sup>1</sup> Percentages represent a maximum allocation and will not sum to 100%

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***By Credit Quality:***

<u>Credit Quality</u>	<u>Max. % of Fixed Income</u>	<u>Credit Name Max %</u>
Governments/Agencies	100%	N.A.
Aaa/AAA or below	80%	1.00% (AAA only)
Aa/AA or below	65%	1.00% (AA only)
A/A or below	40%	0.75% (A only)
Baa/BBB or below	25%	0.50% (BBB only)
Ba/BB or below	7.5%	0.25% (BB only)
B/B or below	*	0.10% (B only)
CCC	**	0.05% (CCC only)
Below CCC	0%	0.00%

**\*Maximum of 70% of “Ba/BB or below” securities owned**

**\*\*Maximum of 20% of “Ba/BB or below” securities owned**

Individual credit name limits are applicable for actively managed fixed income mandates, and are not applicable for passively managed (index) fixed income mandates. Credit name is defined as unique ticker symbol, such that each distinct credit name has a different ticker symbol as represented on Bloomberg or other such informational source used by the sponsor of the fixed income benchmark index approved.

Maximum percentages refer to market value of each security or credit name owned for the Funds' Fixed Income portfolio in its aggregate. Credit ratings recognized are Moody's, Standard & Poor's and Fitch. Credit rating applicable is the lower of the two ratings if such security is rated by only two of the three rating agencies. Credit rating applicable is the middle rating if such security is rated by all three rating agencies, as consistent with the rules used by the sponsor of the fixed income benchmark index approved. The Chief Investment Officer will report to the Board the details of any guideline violation at the next scheduled Board meeting, or sooner if warranted in the judgment of the Chief Investment Officer. Each Investment Manager will be required to adhere to this Investment Policy in general and will be provided with specific investment security guidelines by the Chief Investment Officer consistent with these Credit Quality and Sector Allocation guidelines in the aggregate.

In the event that downgraded securities result in a violation of these constraints, the Board shall grant an exemption that would allow the 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 Chief Investment Officer. The Investment Manager shall also provide an action plan to bring the portfolio back in compliance with the applicable guidelines to the Chief Investment Officer. Such action plan will be reflected in the compliance report of the Chief Investment Officer to be presented at the next scheduled Board meeting.

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

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### **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

### **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

### **iv. Alternative Investments**

The State Insurance Fund 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.

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v. **Cash Equivalents**

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

vi. **Securities Lending**

Securities lending shall be engaged by the Funds or their Investment Managers as determined and approved by the Board.

vii. **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), and TBA mortgage-backed securities in accordance with the restrictions outlined below and in Section IV.C.ii 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.

TBA ("to be announced") pools are mortgage-backed securities in which the specific underlying mortgage pools are not identified at the time of commitment to purchase, but which share defined characteristics such as coupon and term to stated maturity. TBA pools are sometimes either sold before settlement or extended in settlement from original settlement date to a future settlement date that is typically in the next month. To qualify for investment by the Funds, TBA pools must be issued by Freddie Mac, Federal National Mortgage Association (Fannie Mae), or Government National Mortgage Association (Ginnie Mae).

viii. **Commission Recapture / Directed Brokerage**

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

ix. **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.

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- 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:

<u><b>Asset Class</b></u>	<u><b>Benchmark</b></u>
<b><i>Total Fixed Income:</i></b>	<b><i>N/A</i></b>
Intermediate Duration	Lehman Intermediate U.S. Government/Credit Index
Long Duration	Lehman Long U.S. Government/Credit Index
High Yield	Merrill Lynch High Yield Master II
Inflation-Protected Securities	Lehman U.S. TIPS
<b><i>U.S. Equity</i></b>	<b><i>Wilshire 5000</i></b>
Large Cap	S&P 500
Small/Mid Cap	Wilshire 4500 / Russell 2500
Alternative Investments	Wilshire 5000 + 5%
<b><i>Non-U.S. Equity</i></b>	<b><i>MSCI EAFE</i></b>
<b><i>Cash Equivalents</i></b>	<b><i>90-Day T-Bill</i></b>

**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.

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## **C. Investment Managers**

On a timely basis, but not less than 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, including, subject to approval by the Board, 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 Board.
- 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.

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**VII. TARGET ASSET MIXES AND RANGES**

**A. State Insurance Fund (SIF)**

The State Insurance Fund 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 Government Accounting Standards Board (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 Board 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 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 Board 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 and the strategic target weights. The allowable range for all target weights is reflected in the following table.

<u>Asset Class</u>	<u>Policy Target<sup>1</sup></u>	<u>Policy Range</u>	<u>Management Style</u>	
			<u>Passive</u>	<u>Active</u>
<b><u>Total Fixed Income:</u></b>	<b><u>79%</u></b>	<b><u>76-82%</u></b>	<b><u>47%</u></b>	<b><u>32%</u></b>
Long Duration	54%	51-57%	27%	27%
High Yield	5%	4-6%	0%	5%
Inflation-Protected Securities	20%	17-23%	20%	0%
<b><u>Cash Equivalents</u></b>	<b><u>1%</u></b>	<b><u>0-6%</u></b>	<b><u>NA</u></b>	<b><u>NA</u></b>
<b><u>Total Equity</u></b>	<b><u>20%</u></b>	<b><u>17-23%</u></b>	<b><u>12%</u></b>	<b><u>8%</u></b>
U.S. Equity				
Large Cap	12%	9-15%	12%	0%
Small/Mid Cap	3%	2-4%	0%	3%
Alternative Investments	0%	NA	NA	NA
Non-U.S. Equity	5%	4-6%	0%	5%

<sup>1</sup> Alternative Investments includes private equity and the coin fund. This asset class targets will be combined with that of Small/Mid Cap U.S. Equity until a final determination has been made regarding the potential liquidation of these assets

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### B. Coal Workers' Pneumoconiosis Fund (CWPF)

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 Board 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 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 Board 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 and the strategic target weights. The allowable range for all target weights is reflected in the following table

<u>Asset Class</u>	<u>Policy Target</u>	<u>Policy Range</u>	<u>Management Style</u>	
			<u>Passive</u>	<u>Active</u>
<b><u>Total Fixed Income:</u></b>	<b><u>79%</u></b>	<b><u>76-82%</u></b>	<b><u>74%</u></b>	<b><u>5%</u></b>
Long Duration	54%	51-57%	54%	0%
High Yield	5%	4-6%	0%	5%
Inflation-Protected Securities	20%	17-23%	20%	0%
<b><u>Cash Equivalents</u></b>	<b><u>1%</u></b>	<b><u>0-6%</u></b>	<b><u>NA</u></b>	<b><u>NA</u></b>
<b><u>Total Equity</u></b>	<b><u>20%</u></b>	<b><u>17-23%</u></b>	<b><u>20%</u></b>	<b><u>0%</u></b>
U.S. Equity	20%			
Large Cap	17%	9-15%	17%	0%
Small/Mid Cap	3%	2-4%	3%	0%
Alternative Investments	0%	NA	NA	NA
Non-U.S. Equity	0%	NA	NA	NA

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**C. Marine Industry Fund (MIF)**

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 Board 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<sup>2</sup> 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 Board 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 and the strategic target weights. The allowable range for all target weights is +/- 10% of the policy target weight.

<u>Asset Class</u>	<u>Policy Target</u>
<u>Total Fixed Income:</u>	<u>99%</u>
Intermediate Duration	99% <sup>3</sup>
<u>Cash Equivalents</u>	<u>1%</u>
<u>Total Equity</u>	<u>0%</u>

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<sup>2</sup> Expected to be implemented by December 31, 2006

<sup>3</sup> Approval to invest the assets of the MIF on an interim basis in the institutional money market fund that is currently utilized for BWC's cash balance assets was passed in the April 26, 2007 Workers' Compensation Oversight Commission meeting.

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### D. Disabled Workers' Relief Fund (DWRF)

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 Board 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 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 Board 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 and the strategic target weights. The allowable range for all target weights is reflected in the following table

<u>Asset Class</u>	<u>Policy Target</u>	<u>Policy Range</u>	<u>Management Style</u>	
			<u>Passive</u>	<u>Active</u>
<b><u>Total Fixed Income:</u></b>	<b><u>79%</u></b>	<b><u>76-82%</u></b>	<b><u>47%</u></b>	<b><u>32%</u></b>
Long Duration	54%	51-57%	27%	27%
High Yield	5%	4-6%	0%	5%
Inflation-Protected Securities	20%	17-23%	20%	0%
<b><u>Cash Equivalents</u></b>	<b><u>1%</u></b>	<b><u>0-6%</u></b>	<b><u>NA</u></b>	<b><u>NA</u></b>
<b><u>Total Equity</u></b>	<b><u>20%</u></b>	<b><u>17-23%</u></b>	<b><u>12%</u></b>	<b><u>8%</u></b>
U.S. Equity	15%			
Large Cap	12%	9-15%	12%	0%
Small/Mid Cap	3%	2-4%	0%	3%
Alternative Investments	0%	NA	NA	NA
Non-U.S. Equity	5%	4-6%	0%	5%

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### **E. Public Work-Relief Employees' Fund (PWRF)**

The Public Work-Relief Employees' Fund ("PWRF") 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 Board 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 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 Board 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 and the strategic target weights. The allowable range for all target weights is +/- 10% of the policy target weight.

<u><b>Asset Class</b></u>	<u><b>Policy Target</b></u>
<u><b>Total Fixed Income:</b></u>	<u><b>99%</b></u>
Intermediate Duration	99% <sup>1</sup>
<u><b>Cash Equivalents</b></u>	<u><b>1%</b></u>
<u><b>Total Equity</b></u>	<u><b>0%</b></u>

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<sup>1</sup> Approval to invest the assets of the PWRF on an interim basis in the institutional money market fund that is currently utilized for BWC's cash balance assets was passed in the April 26, 2007 Workers' Compensation Oversight Commission meeting.

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**F. Self Insured Employers Guarantee Fund (SIEGF)**

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 Board 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 and the strategic target weights. The allowable range for all target weights is +/- 10% of the policy target weight.

<u>Asset Class</u>	<u>Policy Target</u>
<u>Total Fixed Income:</u>	<u>0%</u>
<u>Cash Equivalents</u>	<u>100%</u>
<u>Total Equity</u>	<u>0%</u>

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## **VIII. REVIEW PROCEDURES**

The Board 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.

## **IX. FAIR CONSIDERATION / PUBLIC INTEREST POLICY**

The Board 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 Board's intention to give such firms consideration in their efforts to fulfill the Funds' investment objective; however, the Board 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.