

Commonwealth of Pennsylvania Public School Employees' Retirement System

DATE: January 7, 2009

SUBJECT: Brevan Howard Recommendation

TO: Members of the Board

FROM: James H. Grossman, Jr., CPA, CFA
Managing Director of External Public Markets, Risk & Compliance

At the Finance Committee meeting in January, staff and Wilshire will recommend that PSERS invest \$350 million in the Brevan Howard Master Fund Limited, Class E shares. This is a global macro/relative value absolute return fund. Brevan Howard invests primarily in global fixed income and foreign exchange markets but will also trade in equity, credit, and commodities markets. Brevan Howard is one of the largest hedge funds in Europe, managing in excess of \$27 billion for more than 450 institutional investors in 35 countries. Brevan Howard has had very consistent performance since their inception in 2002, very robust risk controls, and very good diversification characteristics to the existing managers in our absolute return program. We anticipate that Brevan Howard will generate double digit returns with single digit volatility.

Included for your review are a brief synopsis prepared by staff, Wilshire's recommendation, and Brevan Howard's presentation. Representatives of Brevan Howard will be here to make a presentation to the Finance Committee on January 21, 2010.


If you have any questions or comments prior to the meeting, please contact me at 717-720-4703.

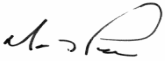


Memorandum

Date: January 7, 2010

To: James H. Grossman, Jr.
Managing Director of External Public Markets, Risk and Compliance
Pennsylvania Public School Employees Retirement System

From: William G. Bensus, Jr., CFA 
Managing Director
Wilshire Associates Incorporated

Marlin D. Pease, CFA 
Managing Director
Wilshire Associates Incorporated

Re: Brevan Howard Asset Management LLP

The purpose of this memorandum is to provide background analysis and recommend Brevan Howard Asset Management LLP to manage an absolute return portfolio that will serve a strategic role in the PSERS investment program. Wilshire believes that Brevan Howard is an experienced, institutionally oriented firm with deep resources and a qualified investment team. However, Wilshire does acknowledge that Staff must be comfortable with the operational and liquidity characteristics of the fund (e.g. a redemption fee payable on redemptions made within three years of investment).

Organization

Brevan Howard Asset Management LLP (“BHAM”) is an English limited liability partnership (40 individual partners). BHAM was founded by former members of Credit Suisse First Boston in 2002 and is now one of the largest hedge funds in the UK / Europe region. The firm manages in excess of \$27 billion in absolute return strategies for more than 450 institutional investors in 35 countries. The firm employs 329 professionals including over 50 traders / PMs in seven international offices.

Investment Approach

The Brevan Howard Master Fund Limited (BHMF) is a global macro / relative value absolute return fund that invests primarily in global fixed income and foreign exchange markets. Philosophically, BHAM believes that a strategic feedback loop exists between the global macro and relative value strategies and that extracting value is fundamentally a function of effective risk management. Use of securities and derivatives across markets with

skewed returns in different event scenarios is intended to generate consistent returns with limited downside.

Global macro trading seeks to take advantage of changes in global economies, and has a natural focus on the formation of monetary policy as determined by the central banks of each country or region. BHAM believes that trends in asset prices are not random, but are a function of business cycles and investor responses to the disequilibrium they produce.

Relative value strategies seek to identify related sets of securities and derivatives which discount a given set of expectations on the dynamics of the global economy differently (i.e., yield curve trades, cross-currency spread positions, currency vs. fixed income positions, equity vs. bond positions). Trades that express directional views with asymmetrical risk / reward characteristics can be constructed by developing an understanding of the structural inefficiencies of capital markets, and the relative value mispricing they create. BHAM implements its investment strategy by combining fundamental research with its core competence of managing risk through trade and portfolio construction. There is a strong preference for trades with a defined time horizon and a limited number of outcomes.

BHAM's Capital Allocation Committee (consisting of Alan Howard, Samir Bouaoudia, Nagi Kawkabani and Aron Landy) allocates capital to individual traders and strategies. Strategy allocation is dependent on the available trading talent, perceived opportunities and risks within an individual trader's area of specialization, and the risk profile across trader books at the BMHF level.

Capital allocations for traders within each of the investment management entities are set out in written trader mandates, which are signed-off by the individual trader and senior management of the respective management entity. Trader mandates include a description of the trading style, markets and instruments traded, as well as defined risk limits / flags (i.e., VaR, concentration, stop-loss, Vega, Gamma, leverage). Risk limits / flags are dependent upon the individual trading strategies. Traders have full discretion as to the trade allocations within their own books, subject to compliance with the parameters of their mandates.

BHAM has a separate Risk Oversight Team to monitor and review trader, position and overall BHMF level risk. The role of the Risk Officers includes:

- Monitoring compliance with trader mandates and overall BHMF risk guidelines
- Communicating risk information to traders and senior management
- Qualitative analysis of individual trader portfolios and strategies, and identifying strengths and weaknesses
- Flagging liquidity and capacity risk

Fees and Terms

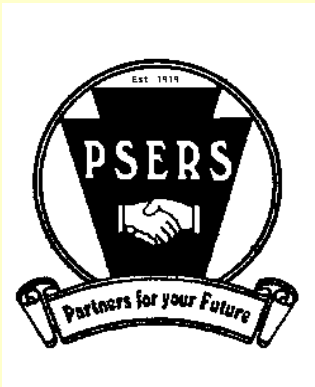
Fund Terms (Class E Shares)

- Management Fee: 1.5%
- Operational Services Charge: 0.5%
- Performance Fee: 20% of the increase in NAV with a high water mark, paid semi-annually
- Redemption Fee
 - 10% payable on redemptions made within three years of acquisition
 - After three years, no redemption fee if redeeming up to 25% of shares within any three month period; 5% redemption fee if redeeming more than 25% in any three month period
- Transparency: Partial

Recommendation

Wilshire recommends that PSERS invest up to \$350 million in BHMF to play an absolute return generating role within the PSERS investment program.

Please let us know if you have any questions regarding this recommendation.



Absolute Return Fund Allocation

Brevan Howard Asset Management LLP

January 7, 2010

See Page 7 for Disclaimer

James H. Grossman, Jr., CPA, CFA
Managing Director of External Public
Markets, Risk & Compliance

Brevan Howard Master Fund Limited – Absolute Return Fund

Overview of Brevan Howard

- One of the largest European hedge funds
- Founded in 2002 by former members of CSFB
- Firm manages in excess of \$27 billion in absolute return strategies for more than 450 institutional investors in 35 countries

Industry Recognition

- Eurohedge
 - Awarded Fund of the Year 2008
 - Awarded Best Macro Fund (2004 and 2007)
- Risk
 - Awarded Best Hedge Fund (Risk Awards 2009)
 - Awarded Best Hedge Fund End User (Risk Awards 2005)
- Financial News
 - Nominated European Asset Management Firm of the Year (2005)
 - Best Operator in Discretionary Global Macro, Single Manager (2007)

Brevan Howard Master Fund Limited – Absolute Return Fund

Fund Strategy

- Brevan Howard Master Fund Limited (BHMF) is a global macro/relative value absolute return fund
- BHMF invests primarily in global fixed income and FX markets
- Asset classes invested in included fixed income, emerging markets (fixed income, FX, and credit), FX, equity, credit, and commodities
- A large portion of positioning is global macro vs. relative value

Investment Team

- 324 employees with offices in 6 international offices (London, New York, Hong Kong, Tel Aviv, Jersey, and Washington, D.C.)
- Over 80 investment professionals, including 50+ traders, 9 quantitative analysts, 10 economists/research, 3 strategists, and 17 market risk specialists

Brevan Howard Master Fund Limited – Absolute Return Fund

Value Proposition

- Brevan Howard has shown consistent performance – no negative rolling 12-month period
- Diversification
 - Brevan Howard has a very low correlation to equity markets (-0.10) and fixed income markets (0.11)
 - Brevan Howard has a very low correlation with our other absolute return managers (see Appendix on page 8)
 - Highest correlation is with Bridgewater at 0.36
- Strong risk management and strict limits on portfolio manager drawdowns
 - At a 12% drawdown, traders are normally terminated
- Strong management team and operational platform
- Brevan Howard met all redemption requests during market turmoil
 - Liquid strategies

Brevan Howard Master Fund Limited – Absolute Return Fund

Performance, net of fees

	2003	2004	2005	2006	2007	2008	2009**
Class A*	4.62%	14.62%	8.03%	11.10%	25.21%	20.43%	18.19%

* - Performance is net of 2% management fee, 0.5% operational service charge, and 25% performance fee

* - through November 30, 2009

History with PSERS

- This would be PSERS first investment with Brevan Howard

Annualized Fund Returns and Volatility Since Inception (3/2003)

- Annualized Annual Return: 15.2%
- Annualized Volatility: 7.4%
- Sharpe Ratio: 1.6

Brevan Howard Master Fund Limited – Absolute Return Fund

Fund Terms (Class E Shares)

- Management fee: 1.5%
- Operational Services Charge: 0.5%
- Performance Fee: 20% of the increase in NAV over the high water mark, paid semi-annually
- Hurdle rate: 0%
- High water mark: Yes
- Administrator: International Fund Services (Ireland) Limited
- Auditor: KPMG
- Redemption Fee
 - 10% payable on redemptions made within 3 years of acquisition
 - After 3 years, no redemption fee if redeeming up to 25% of shares within any 3 month period; 5% redemption fee if redeeming more than 25% in any 3 month period
- Liquidity: Monthly with 3 months notice
- Transparency: Partial

Brevan Howard Master Fund Limited – Absolute Return Fund

Other

- Relationships with Wilshire: None
- Placement Agents: None
- Political Contributions in PA: None

Brevan Howard Master Fund Limited – Absolute Return Fund

Recommendation

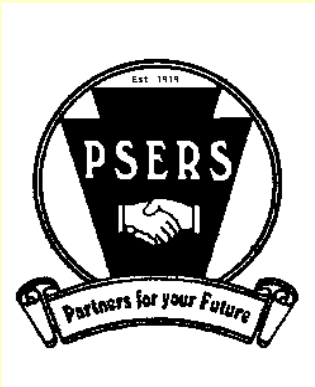
- Staff, together with Wilshire Associates, recommends that the Board invest in the Brevan Howard Fund Limited Class E Shares in an amount within the target ranges established in Exhibit D of the Investment Policy Statement, Objectives and Guidelines.

DISCLAIMER: This document was presented to the Public School Employees' Retirement Board at the public meeting at which the Board acted on the resolution to which the information relates. The sole purpose for posting the presentation information on this website is to enable the public to have access to documents that were utilized at a public meeting of the Public School Employees' Retirement Board, and no other purpose or use is intended.

Appendix: Global Macro Correlations

March 2003 – Nov. 2009

Manager / Index	AQR	Barclays Universal Index	BGI	Brevan Howard	B-Water	First Quadrant	MSCI AC World Index
Return	(1.62)	5.30	18.48	15.16	17.02	10.44	14.31
Risk	11.16	4.06	15.21	7.44	14.14	11.67	19.50
Correlation							
AQR	1.00						
Universal	0.22	1.00					
BGI	0.43	0.24	1.00				
Brevan H	(0.14)	0.11	0.15	1.00			
B-Water	0.03	0.12	0.29	0.36	1.00		
F. Quad.	0.16	0.16	0.20	(0.08)	(0.03)	1.00	
MSCI	0.37	0.39	0.41	(0.10)	0.10	0.16	1.00



Absolute Return Fund Allocation

Brevan Howard Asset Management LLP

January 7, 2010

See Page 7 for Disclaimer

James H. Grossman, Jr., CPA, CFA
Managing Director of External Public
Markets, Risk & Compliance

**Proposed
PSERB Resolution 2010-_____
Re: Brevan Howard Master Fund Limited
January 21, 2010**

RESOLVED, that the Finance Committee of the Public School Employees' Retirement Board (the "Board") hereby recommends that the Board invest in the Brevan Howard Master Fund Limited, Class E shares, in an amount not to exceed the target ranges established in Exhibit D of the Investment Policy Statement, Objectives and Guidelines pursuant to the recommendations of James H. Grossman, Jr., Managing Director of External Public Markets, Risk & Compliance, and Wilshire Associates Incorporated, both dated January 7, 2010.

The final terms and conditions of the investment must be satisfactory to the Investment Office, the Office of Chief Counsel, and the Office of Executive Director, as evidenced either by the appropriate signatures on the implementing investment contract or by a memo to that effect appended to the implementing investment contract.