



Expanded Legislative Authority

Hedged Equity Strategy

November 14, 2011

Agenda

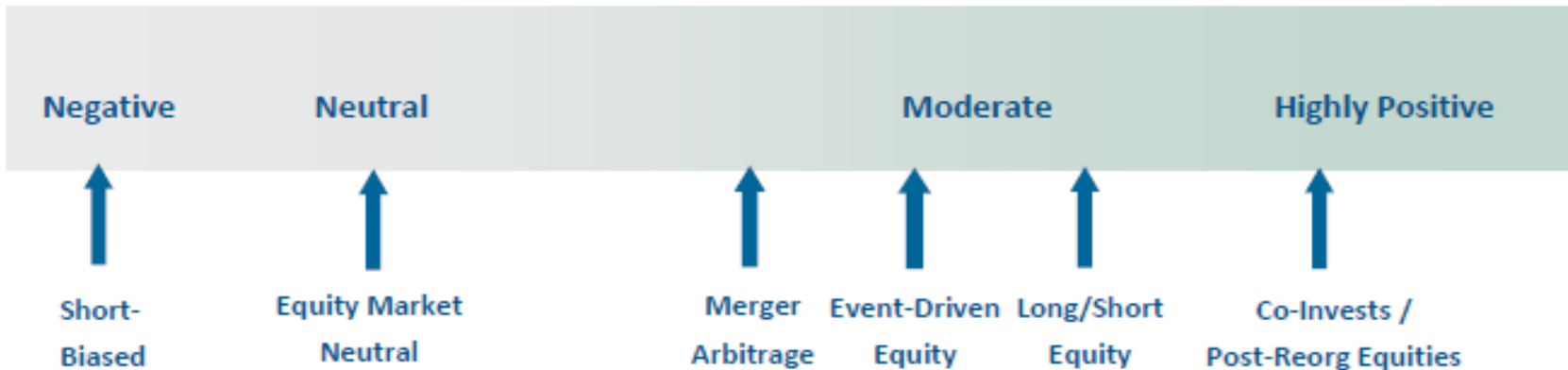
- Background and Portfolio Objectives
- Portfolio Structure and Design
- Manager Selection and Due Diligence
- Hedge Fund Legal Structures

Background and Objective

- NCRS can invest up to 6.5% of total plan assets into hedged equity (\$4 - \$5 billion)
 - Seeks to combine long and short equity positions to benefit from security selection, while reducing systematic market risk (Beta)
 - Strategies will be primarily equity based
- Investment objective:
 - Achieve equity-like returns at lower levels of volatility over a full market cycle

Equity oriented hedge fund strategies

EQUITY BETA CAN BE NEGATIVE TO HIGHLY POSITIVE



Equity oriented strategies employ varying degrees of exposure to the equity market

Beta targets: Low, Medium and High

- Compared the effect of three different hedge fund portfolios on the Global Equity:
 - Low Beta
 - Beta < 0.2
 - Strategies are Relative Value based and low net Equity L/S managers
 - Medium Beta
 - $0.2 < \text{Beta} < 0.6$
 - Focused on Equity L/S only
 - High Beta
 - Beta > 0.6
 - Strategies are Long Biased, Event Driven Activist, and high net Equity L/S
- Allocation of 85% Long Only and 15% to Hedged Equity
- Analysis based on 5-years of historical returns ending July 2011

Quantitative Analysis

	Low	0.2	Medium	0.6	High	Long Only Global Equity
Average Beta of Funds	10%	20%	40%	60%	90%	100%
Portfolio Beta	81%	83%	87%	89%	94%	100%
1 Yr Return	17.3%	17.7%	17.4%	17.8%	18.4%	19.3%
5 Yr Return	3.7%	3.7%	3.6%	3.6%	3.7%	2.6%
Risk	16.3%	16.6%	17.4%	17.9%	18.8%	19.0%
Sharpe*	0.11	0.10	0.10	0.09	0.10	0.04
Maximum Drawdown	-45.8%	-46.5%	-48.3%	-49.4%	-51.4%	-52.2%
Average Fund Correlation	0.32	0.42	0.52	0.65	0.71	

* Portfolio's Excess Return divided by standard deviation of the return (risk)

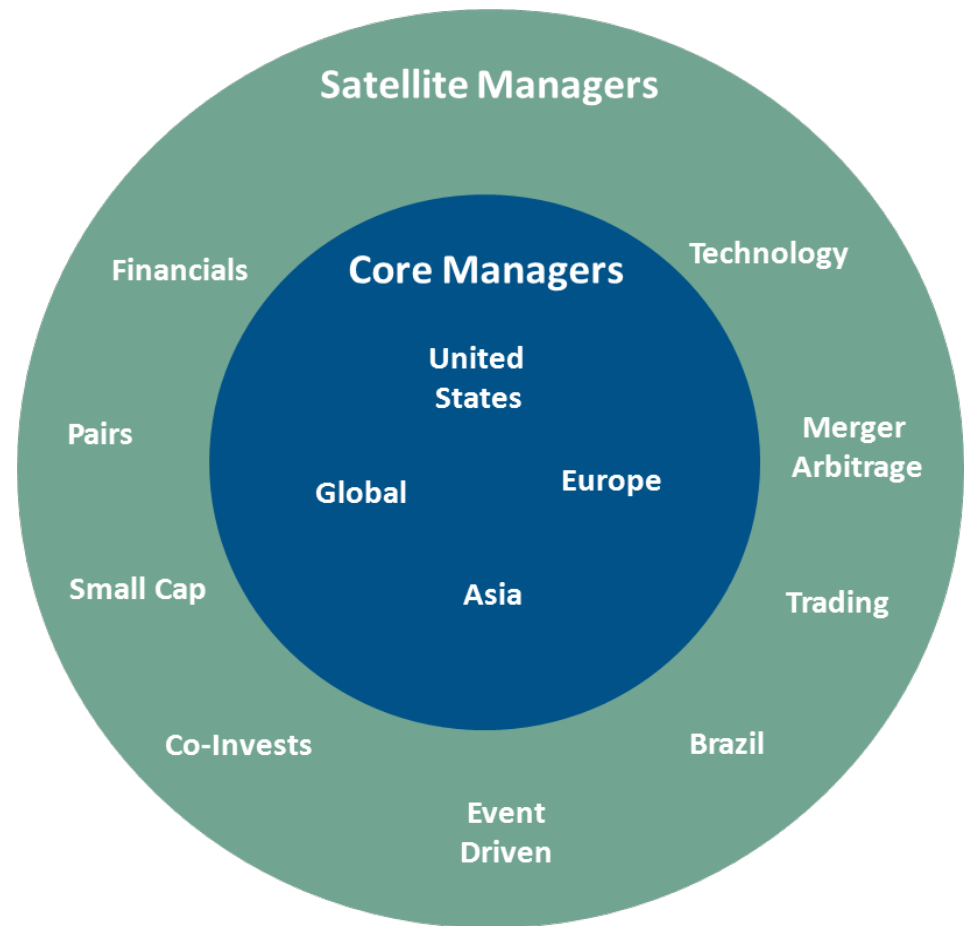
- Adding lower beta hedge funds does improve risk and return profile of the Global Equity portfolio
- Reducing downside risk should more than offset lower upside participation in the long run

Observations and Recommendation

- High Beta portfolio issues:
 - Does not provide the required downside protection
 - Minimal reduction in equity beta exposure
 - Higher correlation among high beta managers
- Low Beta portfolio issues:
 - Lacks the diversification in regional and sector exposures
 - Limited capacity in the funds such as Equity Market Neutral
 - Lack of upside capture
- Suggested target portfolio:
 - Invested across the Beta spectrum, with a target Beta range of 0.4 to 0.6
 - Allocate to various equity-based strategies to attain the best balance between upside capture and downside protection

Core Satellite Approach

- Core managers are characterized by their broad mandates. These managers have the ability to invest in various sectors, geographies and capitalizations.
- Satellite managers have more narrow mandates and typically include sector-focused funds, narrow geographic mandates or particular investment styles
- The allocation between core and satellite opportunities is driven by market opportunities as well as bottom-up manager identification.



Other Considerations/Characteristics

- Manager risk and performance factors
 - Style, sectors, regions
 - Volatility
 - Upside and downside capture
- Leverage
 - L/S – Normal range between 1.5x and 2.0x
- Investments will range from \$100M to \$500M
- 20 – 25 Managers

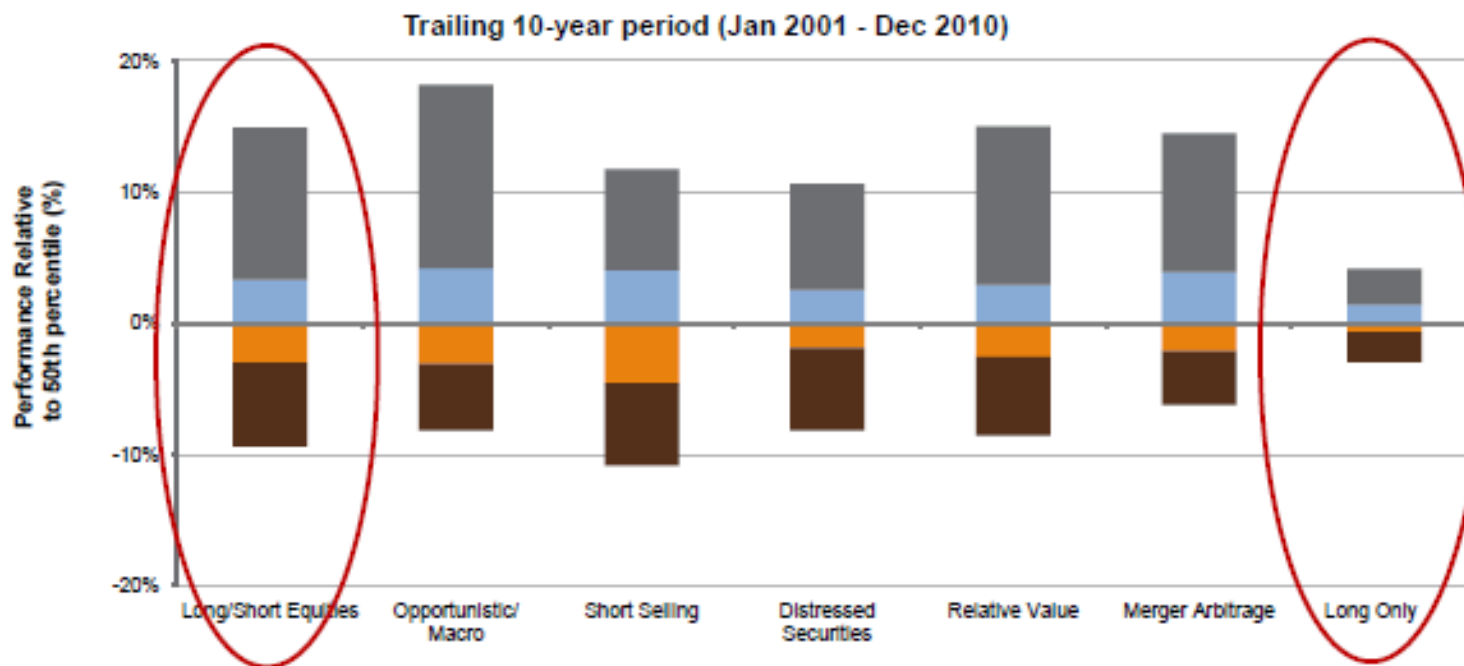
Benchmark Considerations

- Current policy benchmark for Global Equity
 - R3000, ACWI x U.S. – IMI and ACWI (dynamically weighted)
- Future policy benchmark for Global Equity
 - R3000, ACWI x U.S. – IMI, ACWI and Custom HF benchmark (dynamically weighted)
 - HF benchmark based on target beta plus risk premium component e.g. 60% ACWI + (T-Bills plus 4%)

Manager Selection – Top Quartile is Critical

Importance of Manager Selection

Dispersion of Hedge Fund Returns vs. Traditional Long Only

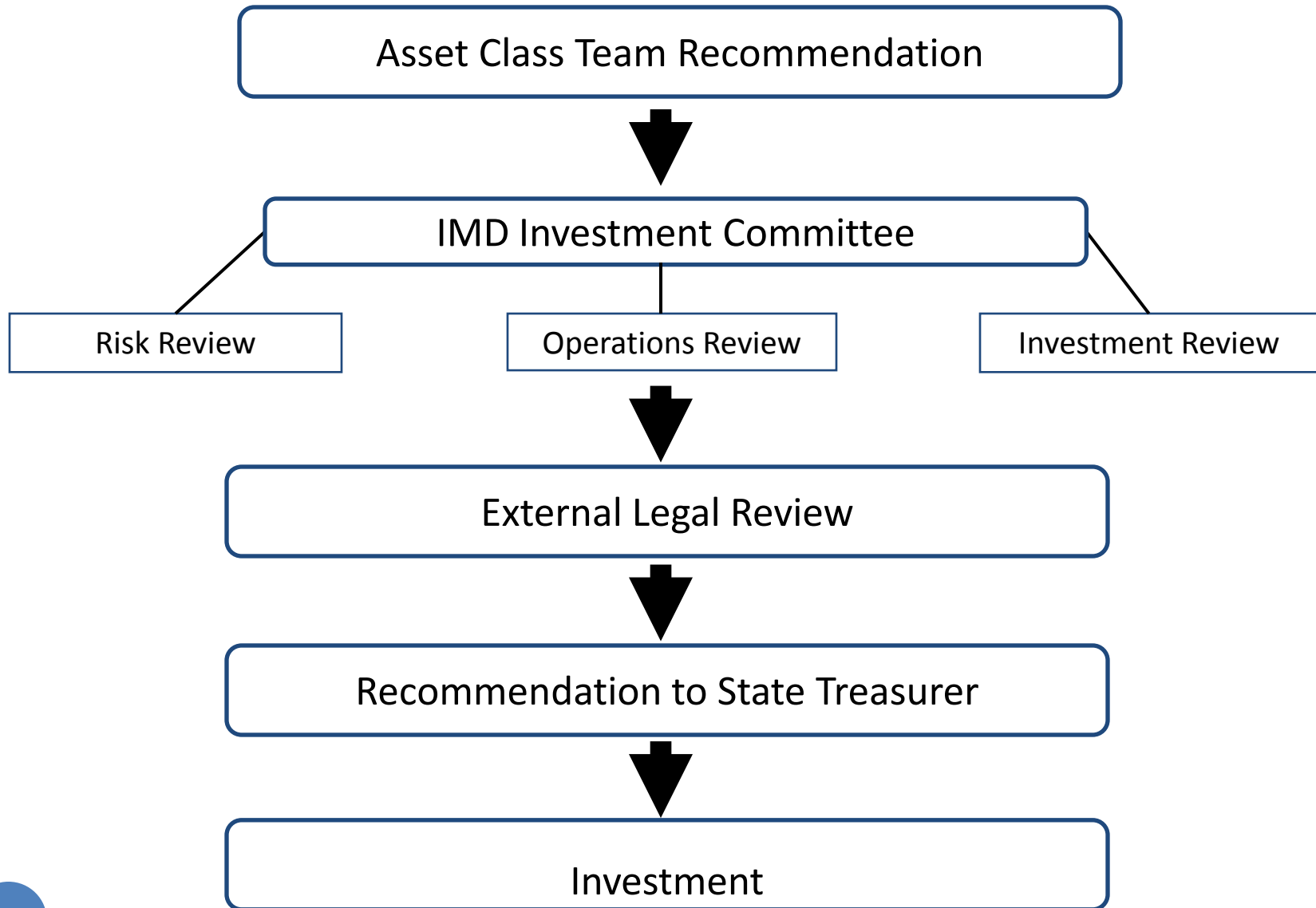


- Each bar chart depicts the quartile distribution of hedge fund manager returns (normalized around the median – i.e., 0% return) for each hedge fund strategy as well as a universe of large capitalization, long-only equity managers
- Hedge fund manager selection seems most important in Long/Short equities and other directional strategies

Manager Selection

- Institutional quality managers
 - Full transparency
 - Credible independent board
 - Independent custodian
 - Third party administrator
- Multiple sources for high quality managers
 - Albourne database
 - Networking within the HF industry
 - Existing relationships

Investment Approval Process



Manager Due Diligence – Investment Process

- Staff will perform an independent review of a manager as well as utilize Albourne's due diligence work product
- Key Areas:
 - Investment Team
 - Idea Generation
 - Investment Research
 - Portfolio Construction
 - Risk Management
 - Operations

Albourne – Operational Due Diligence

core.competence

ALBOURNE

Fund	Manager
Example Fund	Example Manager LLP
Strategy	Report Date
Global Macro	15 May 2010

This report is based on the responses given to Albourne to questions asked during an on-site visit on 04 May 2010, when Adrian Sales from Albourne met with Operations Two and Chief Operating Officer One from the Manager. It may also refer to the Fund's own due diligence material and the Fund's marketing material. This report has been constructed for the purpose of illustrating Albourne's operational review document. The manager is fictitious.

RATING SUMMARY

Competence Summary	A	B	C*	D	E
Organization & Governance: Firm	A	B	C*	D	E
Organization & Governance: Fund	A	B	C*	D	E
Compliance & Regulation	A	B*	C	D	E
Trade Operations	A	B	C*	D	E
Custody & Counterparties	A	B	C*	D	E
Valuation	A	B*	C	D	E
Counting	A	B*	C	D	E
IT & DR	A	B	C*	D	E
Disclosure	A	B*	C	D	E

* Average rating of 4 funds with Global Macro strategy.

Ratings based on assessment of fund compared to best practices. The rating methodology is applied consistently to all funds reviewed by Albourne regardless of strategy.

Legal Structures

	Fund of Funds	Commingled	Fund of One	Internal Single Managed Acct.	Managed Acct Platform
Risk Profile	Contagion Risk with market events	Adjacency risk with other investors	Isolation of investor's pool - no adjacency risk	Full control of assets - no adjacency risk	Full control of assets - no adjacency risk
Transparency	No transparency to asset exposures	Depends on terms offered by LP & reporting available	Dependent upon terms negotiated as part of the fund	100% transparency to underlying assets	100% transparency to underlying assets
Ticket Size	Sub-allocation managed by FoF	Up to 25% of AUM	Custom Allocation	No Limit	No Limit
Fees & Returns	Additional Mgt & Performace Fees	No additional fees	Additional Mgt & Performance Fee	Concern about tracking error	Tracking error & platform fees
Operational Scale	No operational overhead	Minimal requirements	No operational overhead	Internal team to oversee risk and asset levels	Outsourced to 3rd Party
Infrastructure Costs	No infrastrucre overhead	Some investment in risk management	Substantial legal fees required for set-up	Internal systems to connect to PB & Custodian	Fees paid to 3rd Party for systems & infrastructure

Key question for segregating assets is cost versus utility