



State of New Jersey

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DEPARTMENT OF THE TREASURY
DIVISION OF INVESTMENT
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July 22, 2015

MEMORANDUM TO: State Investment Council

FROM: Christopher McDonough
Director

SUBJECT: **Proposed Investment in Laurion Capital, LP and Laurion Capital Global Markets Fund Ltd.**

The New Jersey Division of Investment (“Division”) is proposing an investment of up to \$200 million in funds managed by Laurion Capital Management: up to \$100 million to Laurion Capital, LP (the “Capital Fund”) and up to \$100 million to Laurion Capital Global Markets Fund Ltd (the “Global Markets Fund”). This memorandum is presented to the State Investment Council (the “Council”) pursuant to N.J.A.C. 17:16-69.9.

Laurion Capital Management is a hedge fund manager based in New York that invests across major developed and emerging markets in equities, fixed income, currencies and rates. The Capital Fund is a multi-strategy fund, focused on volatility arbitrage and relative value strategies across a wide universe of markets and time frames with a focus on time horizons of three months or less. The Global Markets Fund, which is an extension of the Capital Fund, originally isolated specific sub-strategies of the Capital Fund in order to employ a more directional approach with greater return potential and higher volatility.

The Division is recommending this investment based on the following factors:

Excellent Risk Adjusted Return: The Capital Fund has generated a 13.86% annualized return since inception in September 2005 through April 2015, with a 5.75% standard deviation. The resulting Sharpe ratio of 2.0 places the fund’s risk-adjusted returns in the top 4th percentile against the HFRI Relative Value universe on a since inception basis as well as the 1st percentile against the HFRI universe since inception. The Capital Fund has never had a negative performance year in its track record, including in difficult markets such as in 2008, where the fund produced an impressive return of +32.79% compared to the HFRI Fund Weighted index loss of -19.03%.

While the Global Markets Fund is a newer offering, the core of the fund is a subset of proven strategies from the Capital Fund. These strategies are used to identify more directional trade opportunities which would otherwise be limited due to the constraints of the Capital Fund. Since inception in March 2012 through April 2015, the Global Markets Fund has generated a 7.68% annualized return with 6.57% standard deviation. The resulting Sharpe Ratio of 1.12

places the Global Markets Fund's risk-adjusted return in the 12th percentile against the HFRI Macro universe on a since inception basis as well as in the 11th percentile on 3-year basis against the HFRI Macro universe.

Differentiated return profile: The Capital Fund's return exhibits nearly zero equity market beta. The Capital Fund's correlation and beta to MSCI ACWI since inception is 0.14 and 0.05, respectively. The consistent returns combined with low beta exposure to the various markets (Russell 3000 index 0.00, Barclays High Yield Index -0.27) and low correlation to other hedge funds (correlation to HFRI RV 0.04 and HFRI Fund Weighted Index 0.04) makes the Capital Fund unique and complementary to the Pension Fund's current portfolio.

The Global Markets Fund's returns exhibit low to negative equity market beta. The Global Markets Fund's correlation and beta to MSCI ACWI since inception is 0.13 and 0.08, respectively. The consistent returns combined with low beta to the various markets (Russell 3000 index -0.50, Barclays High Yield Index 0.36, DJ UBS Commodity Index -0.25) and low correlation to other hedge funds (correlation to HFRI RV 0.00 and HFRI Fund Weighted Index 0.00) makes the Global Markets Fund unique and complementary to the Pension Fund's current portfolio.

In addition, investments in the Capital Fund and Global Markets Fund help to address the Division's current underweight in the Absolute Return category.

Attractive Hybrid Approach: All of the hedge funds currently in the Division's risk mitigating bucket are either fully systematic or discretionary in nature. In contrast, Laurion implements a hybrid approach which invests in a broad range of financial instruments by both model-driven trading strategies as well as discretionary-based trading strategies. This hybrid approach allows the team to identify and execute unique opportunities that their peers may not detect.

A report of the Investment Policy Committee ("IPC") summarizing the details of the proposed investment is attached.

Division Staff and its hedge fund consultant, Cliffwater LLC, undertook extensive due diligence on the proposed investment in accordance with the Division's Alternative Investment Due Diligence Procedures.

As part of its due diligence process, staff determined that the fund has not engaged a third-party solicitor (a "placement agent") in connection with New Jersey's potential investment.

We will work with representatives of the Division of Law and outside counsel to review and negotiate specific terms of the legal documents to govern the investment. We have obtained a preliminary Disclosure Report of Political Contributions in accordance with the Council's regulation governing political contributions (N.J.A.C. 17:16-4) and no political contributions have been disclosed. We will obtain an updated Disclosure Report at the time of closing.

Please note that the investment is authorized pursuant to Articles 69 and 100 of the Council's regulations. Laurion Capital, LP and Laurion Capital Global Markets Fund Ltd., will be considered multi-strategy hedge fund investments, as defined under N.J.A.C. 17:16-100.1.

A formal written due diligence report for the proposed investment was sent to each member of the IPC and a meeting of the Committee was held on July 9, 2015. In addition to the formal

written due diligence report, all other information obtained by the Division on the investment was made available to the IPC.

We look forward to discussing the proposed investment at the Council's July 22, 2015 meeting.

Attachments

Firm Name: Laurion Capital Management

July 22, 2015

Contact Info:

Sara E. Vavra, 360 Madison Avenue, Suite 1900 New York, NY 10017

Fund Details:

Total Firm Assets (\$bil):	\$3.0 billion	Key Investment Professionals: Benjamin Smith , Founding Partner of Laurion Capital Management. Prior to co-founding the firm, Mr. Smith was a Managing Director at JP Morgan, where he worked for eleven years in the Equity Derivatives group. Sheehan Maduraperuma , Founding Partner of Laurion Capital Management. Prior to co-founding the firm, Mr. Maduraperuma was a Vice President at JP Morgan, where he worked with Mr. Smith for six years in the Equity Derivatives group. Khosrow Dahi , CTO/CRO. Prior to joining the firm, Mr. Dahi was a Managing Director in Bear Stearns' Information Technology Group. Tania Reif , FX Strategist & Macroeconomic Researcher. Ms. Reif has over 13 years of experience in macroeconomic analysis, primarily focused on emerging market currencies. She currently focuses on FX strategies and macroeconomic research for Laurion Capital. Prior to joining Laurion in 2013, she headed Emerging Markets research and strategy at Soros Fund Management and represented the firm in its Corporate Leaders program at the Council of Foreign Relations. Christopher Davis , Senior Macroeconomic Researcher and Trader. Mr. Davis manages the interest rate derivatives portfolio and also provides macroeconomic research and insight to the portfolio managers. Prior to joining the firm in 2011, Mr. Davis was a Managing Director and Portfolio Manager at Millennium Partners.
Strategy:	Multi-Strategy	
Assets in Strategy(\$bil):	\$3.0 billion	
Year Founded:	2005	
SEC Registration	Yes	
GP Commitment:	8% of fund assets	

Investment Summary

Laurion Capital Management is a global hedge fund manager founded in 2005 by Benjamin Smith and Sheehan Maduraperuma. The Capital Fund is a relative value fund, focused on volatility arbitrage and relative value strategies across a broad universe of markets and time frames with a focus on time horizons of three months or less. In total, there are 17 sub strategies which may incorporate both discretionary and systematic elements and are hybrid strategies across volatility arbitrage, equity market neutral and other relative value approaches. The Global Markets Fund is an extension of the Capital Fund, with the main difference being that Global Markets Fund isolates specific strategies of the Capital Fund and is run in a more directional manner with a greater return potential and higher volatility. The core of the Global Markets approach leverages the same team and employs the same systematic, quantitative analysis combined with discretionary decision making.

Existing Funds as of 4/30/15

	Laurion Capital, LP	HFRI Benchmark	DJCS Global Macro		Laurion Capital Global Markets Fund Ltd.	HFRI Benchmark	DJCS Global Market
1-Year	11.70%	7.94%	7.56%		1-Year	-1.36%	7.94%
3-Year	6.82%	2.27%	4.80%		3-Year	8.24%	2.27%
5-Year	7.06%	1.98%	6.20%		5-Year	N/A	N/A
Inception	13.86%	4.43%	7.88%		Inception	7.68%	1.53%
YTD to 4/30/15	7.67%	1.96%	3.68%		YTD to 4/30/15	1.40%	1.96%
2014	0.25%	5.58%	3.11%		2014	-1.15%	5.58%
2013	7.20%	-0.44%	4.32%		2013	10.66%	-0.44%
2012	5.12%	-0.06%	4.58%				
2011	12.23%	-4.16%	6.44%				

Vehicle Information:**Laurion Capital Fund:**

Fund Size (\$mil): \$1.7 billion

Management Fee: 2%

Profit Allocation: 20%

Highwater Mark: Yes

Hurdle Rate: None

Laurion Capital Global Markets Fund Ltd.:

Fund size: \$1.3 billion

Management Fee on first \$60 mil: 1.5%

Management Fee on balance > \$60 mil: 2.0%

Profit Allocation on first \$60 mil: 15.0%

Profit Allocation on balance > \$60 mil: 20.0%

Highwater Mark: Yes

Hurdle Rate: None

Blended Fees:

Management Fee: 1.85%

Profit Allocation: 18.50%

Subscriptions:

Monthly

Capital Fund Redemption (notice):

Quarterly with 45 day notice

Capital Global Markets Redemption (notice):

Monthly with 60 day notice

Capital Fund Lock-up:

1 year "soft lock"

Capital Global Markets Fund Lock-up:

6 month "soft lock"

Prime Brokers:

Morgan Stanley & Co, Deutsche Bank Securities, Inc., Barclays Capital Inc,

Administrator:

Citco Fund Administration (Cayman Islands) Limited

Auditor:

Ernst & Young

Legal Counsel:

Schulte & Roth & Zabell LLP, Ogier

NJ AIP Program

Recommended Allocation Laurion Capital Fund (\$mil):

up to \$100 million

LP Advisory Board Membership:

N/A

Recommended Allocation Laurion Capital Global Markets Fund Ltd. (\$mil):

up to \$100 million

Consultant Recommendation:

Yes

% of Capital Fund:

5.88%

Placement Agent:

No

% of Global Markets Fund:

7.69%

Compliance w/ Division Placement Agent Policy:

N/A

Compliance w/ SIC Political Contribution Reg:

Yes

*This review memorandum was prepared in accordance with the State Investment Council rules governing the Alternatives Investment Program and the policies and procedures related thereto.