Real Return Recommendations
October 25, 2017

Presenters: Tom Masthay, Eddie Schultz, Rachel Cleak, Mark White (Albourne)
Agenda

I. Executive Summary
II. Portfolio Construction
III. Manager Selection & Recommendations
IV. Requested Board Action
V. Appendix: Due Diligence Process Review

*Names used in this presentation are a shortened version that is used for ease of communication purposes throughout this document. The formal recommendations to the Board on the last page of this presentation reflect the full legal names of the investments.
Section I
EXECUTIVE SUMMARY
Manager Recommendations

Executive Summary

<table>
<thead>
<tr>
<th>Recommended Manager/Fund</th>
<th>Strategy Classification</th>
<th>Target Return</th>
<th>Recommended Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetar</td>
<td>Private Real Return</td>
<td>10-15% Net IRR</td>
<td>Up to $125 million</td>
</tr>
<tr>
<td>Stonepeak</td>
<td>Private Real Return</td>
<td>12-15% Net IRR</td>
<td>Up to $150 million</td>
</tr>
<tr>
<td>Chickasaw</td>
<td>Public Real Return - MLPs</td>
<td>11-13% Net Return</td>
<td>Up to $250 million</td>
</tr>
</tbody>
</table>

Total Approximate Recommended Investments/Commitments

Up to $525 million

Inclusive of the recommendations noted above, total real return allocation activity for 2017 is $895 million, within range of targeted pacing of $600 – $1,000 million.
Annual Pacing Model

2017 Real Return Pacing Plan Progress

February Approvals
Actis ($75mm)
Sprott ($70mm)

May Approvals
I Squared ($150mm)
Blue Sky ($50mm)

September Approvals
Orion Co-Invest ($25mm)

October Recommendations
Stonepeak ($150mm)
Magnetar ($125mm)
Chickasaw ($250mm)

2017 Real Return search processes have culminated in $895 million of closed and/or recommended investments, in line with the $600mm – $1,000mm pacing model goal for the year.

Search processes are approved in annual amounts. Progress will be made throughout the year as opposed to all at once.
Annual pacing plans are developed in the context of multiple year investment horizons. This is necessary because private capital investments deploy and return capital over time rather than all at once.
Section II

PORTFOLIO CONSTRUCTION
Real Return Portfolio Statistics

Portfolio Exposure by Manager
Public Markets Detail as of 7/31/17

- 36% Nuveen
- 34% Cohen & Steers
- 30% Colchester

TMRS is well diversified across public markets and private allocations are growing as commitments are drawn.

Current Private vs. Public Assets
as of July 31, 2017

- 91% Public Assets
- 9% Private Assets

Projected Private vs. Public Assets
based on current commitments/recommendations

- 65% Public Assets
- 35% Private Assets

All charts presented on an adjusted committed basis and inclusive of recommendations.
Real Return Portfolio Statistics

Private investment strategy commitments will begin to draw down real return public markets exposure going forward.

All charts presented on an adjusted committed basis and inclusive of recommendations.
Real Return Portfolio Statistics

Recommendations for Magnetar, Stonepeak, Chickasaw increase the real return energy exposure, principally in the mid-stream sector.

All charts presented on an adjusted committed basis and inclusive of recommendations.
Real Return is a global opportunity set. TMRS continues a path of portfolio level conservatism.

The real return portfolio capital structure is coming in line with longer term expected return assumptions.
Section III

MANAGER SELECTION & RECOMMENDATIONS
MTP Energy Management LLC is the Magnetar energy investment advisory platform which manages assets in public and private markets – the subsidiary manages in excess of $4.4 billion in energy related assets. MTP Energy Opportunities Fund II, LLC is focused on credit and structured equity transactions in the North American energy space.

The team leverages their presence in the market to find privately negotiated transactions in which to deploy capital where capital markets don’t operate efficiently and also in special situations. The strategy is run by a dedicated team of energy professionals headed by the efforts of Eric Scheyer and Adam Daley, two long time energy transaction professionals.
**Investment Case**

- **Structured Security & Efficient Vehicle Approach to Energy Diversification** – Credit and Structured security approaches provide downside protection in volatile markets.

- **Strength of Investment Team** – the team has a strong reputation for choosing downside protection and legal structure in lieu of rate in its deals.

- **Vintage Diversification to Market Entry** – natural dollar cost averaging approach to investment.

**Issues to Consider**

- **Uncertain Volumes of Energy M&A activity and other financing opportunities.**

- **Deal Complexity.**

- **Related Hedge Fund Businesses.**
Stonepeak Infrastructure Partners III LP is a North American focused infrastructure manager investing in the telecom, water, midstream, transport and power/renewables/utilities sectors. The firm manages approximately $3.7B of investments in the infrastructure space. Stonepeak takes a control or structured approach to investing, as well as a countercyclical investment approach.

Stonepeak is currently raising a $5 billion private infrastructure fund that will center on the core+ risk spectrum targeting 12% net returns with 4% coming from cash yield.
Top Candidate Characteristics – Stonepeak

$150 million Recommendation

Investment Case

- **Strength of Investment Team** – the team has a strong reputation for choosing downside protection and legal structure in lieu of rate in its deals.

- **Counter-Cyclical Investment Approach** – Stonepeak has successfully deployed capital against broader capital flows with substantial success.

- **Structured Equity Approach** – Stonepeak has frequently deployed structured security structures to provide more downside protection.

Issues to Consider

- **Mostly unrealized track record.**
- **Rapid growth of the firm.**
- **Deal Complexity.**
Master Limited Partnerships (‘‘MLP’’) are an investment structure that combines the liquidity of public securities but are effectuated as a pass-through entity, not subject to corporate taxation. This structure of security is commonly employed among mid-stream energy firms involved in the transport of petroleum and other related hydrocarbons in the US.

Being recommended to manage an MLP mandate is Chickasaw Capital Management, a boutique MLP manager based out of Memphis, TN, that was founded in 2003 and run by Geoffrey Mavar and Matthew Mead. The firm manages approximately $4.8B in MLP capital. Its strategy is one focused on total return, emphasizing growth at the underlying companies.

**MLP Search Process**

- Up to $250mm
- 50 Products Started Screening
  - 1) $750mm Inst. MLP AUM (14)
  - 2) 5 Year Track Record (12)
  - 3) Focus on Flagship Strategies (10)
  - 4) Eliminate Poor Performers (7)
  - 5) Identify Strong Performers (4)

**Key Search Process Dates**

- Formal Process Started: 7/17/17
- Screens Completed: 9/05/17
- RFIs Distributed: 9/06/17
- RFI Response Deadline: 9/20/17
- Finalist Meetings: 9/25-10/5/17
- Consultant Process Debrief: 10/5/17
- IC Approval: 10/10/17

**Tier 1 (Strong Performers)**

- Chickasaw, Comparable A, Comp. B, Comp. C

**Tier 2 (Moderate Performers)**

- Comp. D, Comp. E, Comp. F

**Tier 3 (Fee Discounters)**

- Comp. G, Comp. H
Top Candidate Characteristics – Chickasaw

$250 million Recommendation

**Performance Data**

<table>
<thead>
<tr>
<th></th>
<th>3 Month</th>
<th>6 Month</th>
<th>YTD</th>
<th>1 Year</th>
<th>Annualized</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMZ</td>
<td>-6.4%</td>
<td>-2.7%</td>
<td>-2.7%</td>
<td>0.4%</td>
<td>-11.2%</td>
</tr>
<tr>
<td>REITs</td>
<td>2.4%</td>
<td>5.4%</td>
<td>5.4%</td>
<td>-1.4%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Utilities</td>
<td>2.2%</td>
<td>8.8%</td>
<td>8.8%</td>
<td>2.5%</td>
<td>9.4%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>3.1%</td>
<td>9.3%</td>
<td>9.3%</td>
<td>17.9%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Bonds</td>
<td>1.4%</td>
<td>2.3%</td>
<td>2.3%</td>
<td>-0.3%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**Investment Case**

- **Positive Valuation Dynamics & Under-writable Return Drivers** – Markets are below historical valuation levels. Income plus growth can be underwritten as the key return metrics.

- **Strong Case for Active Management** – High levels of intra sub-sector dispersion among securities and dispersion among manager performance indicates high value to active management.

- **History & Strength of Investment Firm & Team** – Chickasaw is among the longest standing MLP investment firms in the industry.

**Issues to Consider**

- **Sector Specific Strategy / Volatility of Energy Markets**
- **Interest Rate Uncertainty**
- **Evolution of Incentive Distribution Rights**

**Yields**

- **AMZ** 7.3%
- **REITs** 3.9%
- **Utilities** 3.5%
- **Bonds** 2.6%
- **S&P** 2.0%

*SSource: Alerian as of 6/30/17*

**Sector Weightings**

- Marketing 3.2%
- Gathering & Processing 24.6%
- Other 2.8%
- Pipeline Transportation / Natural Gas 38.2%
- Petroleum 33.3%
Section IV

REQUESTED BOARD ACTION
Approval of Recommendation

TMRS Staff and Consultants recommend that the Board of Trustees approve the selection of the following funds as detailed in the Board Communication Memo:

**Recommendations:**
- MTP Energy Opportunities Fund III LLC  $125 million
- Stonepeak Infrastructure Fund III LP  $150 million
- Chickasaw Capital Management  $250 million

Consistent with IPS language surrounding co-investments, Staff is also providing notification of a co-investment:

**Co-Investment Notification**
- Orion Mine Finance Co-Fund II  $25 million
Section V

APPENDIX: DUE DILIGENCE PROCESS REVIEW
Due Diligence: “Research and analysis of a company or organization done in preparation for a business transaction.”

Prior to investment recommendations, TMRS Staff and Consultants engage in due diligence processes on investment managers, vehicles and opportunity sets. The engagement in due diligence processes are authorized through the adoption of annual investment pacing plans by the Board of Trustees. Due Diligence processes generally culminate in recommendations to the Board of Trustees for approval. The remainder of Section I summarizes processes and communication formats utilized in making recommendations to the Board.
Due Diligence Process Review

A Continuous Exercise

Search processes formally initiated at beginning of every calendar year and otherwise as appropriate, leveraging work previously completed.

Opportunity sets and individual managers assessed. Portfolio fit of a given opportunity may lead to research to find managers in the space or identified managers may lead to more research of the opportunity and identification of comparable managers.

Board and Investment Committee vets process and investment merits of recommendations made, providing approval as appropriate.

Contract & Trade execution results in TMRS capital actually being invested. With a manager now implemented, the Monitoring and Retention Review period begins.

The monitoring process tracks expectations achievement and if a manager should continue to be re-hired to manage TMRS capital.

Investment Due Diligence processes operate in fluid time. Each step of the process is linked to other stages.
Board Oversight

Due Diligence Process

The Investment Policy Statement provides strategic guidance as to how the due diligence process should operate. The IPS is reviewed and approved once a year by the Board.

Monitoring and retention processes are formally reviewed with the Board during Annual Review Processes.

Performance reporting is first layer of transparency. Transparency into trade and contract execution is being provided as an enhancement in Board materials.

While the due diligence process may be continuous, it may be broken down into five distinct stages of Board Oversight:

- **Search Process**: Board approves annual pacing plans prior the outset of each calendar year.
- **Diligence Progression**: Diligence progression is discussed as part of Manager Selection presentations and memorandums to the Board.
- **Manager Selection**: Board approves recommendations or are notified of investment activities delegated to staff at Board meetings.
- **Contract & Trade Execution**: Board approves annual pacing plans prior the outset of each calendar year.
- **Monitoring & Retention**: Board approves annual pacing plans prior the outset of each calendar year.
The funnel is a representation of how a large number of investment opportunities is winnowed down. This is the formal process by which an idea turns into a recommendation.

TMRS investment staff seeks to cast a wide net, bringing into analysis many managers early in a process, iteratively doing more analysis on fewer managers as a process proceeds.

The funnel is the framework for **HOW** a manager advances through the diligence process.
Analyzing Managers
The ‘PPPPT’ Process & Manager Scoring

The ‘PPPPT’ Process
A synopsis

The PPPT process is utilized to:

i) Serve as a framework to ensure comprehensive diligence has been completed;

ii) Prioritize diligence efforts – for example, determining the order and magnitude of importance each category may have in a given search;

iii) Be the template upon which a common and standardized scoring model may be built.

Scoring Matrix Example

<table>
<thead>
<tr>
<th>Selected Manager</th>
<th>Comp 1</th>
<th>Comp 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>93</td>
</tr>
</tbody>
</table>

Final Due Diligence Scoring Calibration

<table>
<thead>
<tr>
<th>Scoring Category</th>
<th>Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>0 - 40 points</td>
</tr>
<tr>
<td>Philosophy</td>
<td>0 - 40 points</td>
</tr>
<tr>
<td>Process</td>
<td>0 - 40 points</td>
</tr>
<tr>
<td>Performance</td>
<td>0 - 40 points</td>
</tr>
<tr>
<td>Terms</td>
<td>0 - 20 points</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

The TMRS Investment Process has been built to be consistent and repeatable in both execution and communication.

The ‘PPPPT’ is the framework for **WHY** a manager advances through the diligence process.
Analyzing Managers
A Closer Look at Scoring Parameters

People

The analysis of people seeks to explore the adequacy of firm resources, assess the Manager’s experience and capacity to execute on the strategy it aims to employ, understand the firm’s investor base, among other topics.

Key Diligence Inputs: Industry Canvassing, Paper Review, Reference Calls, Background Checks, Personality Profiles, Regulatory Review, Media Checks, Meetings with personnel at multiple layers of the organization.

Philosophy

Philosophical review seeks to assess the relative attractiveness of a given opportunity in comparison to competing opportunities to deploy capital and consider the opportunity's additivity to return or risk components to the overall TMRS portfolio.

Key Diligence Inputs: Industry Canvassing, Economic & Performance Analysis, Paper Review

Process

TMRS seeks to understand the replicability of processes investment managers use in their decision making processes. TMRS Investment Staff seeks consistency as part of its investment processes as well.

Key Diligence Inputs: Paper Review, Reference Calls, Personality Profiles, Performance Analysis, Meetings with a diverse group of Manager Personnel

Performance

TMRS' performance analysis process seeks to understand and identify structural contributions to manager performance, attempting to understand not only how a manager has performed but why they have performed as well.

Key Diligence Inputs: Quantitative Analysis, Comparison to Benchmarks, Comparison to Peers

Terms

Terms underwriting focuses on deriving the optimal structures through which TMRS can invest. This involves both economic and structural terms.

Key Diligence Inputs: Industry Canvassing, Performance Analysis, Legal Negotiation
Due Diligence Processes
Sample Portfolio Context

The TMRS IPS stipulates many diversification parameters which must be taken into consideration. Portfolio context information is therefore presented in conjunction with investment recommendations.

Prudent investor concepts dictate that investment decisions be made in the context of an entire portfolio.

Portfolio context is considered as part of ‘Philosophy’ in the PPPPT process.

The Pre-Recommendation Portfolio Exposure by Sector:
- Inflation Linked Bonds: 23%
- Real Estate: 18%
- Utilities/Renewables: 15%
- Energy: 12%
- Transport/Social Infra: 10%
- Minerals & Mines: 10%
- Agriculture: 7%
- Other: 5%
DISCLOSURES

TMRS periodically discloses public information that is not excepted from disclosure under Section 552.0225(b) of the Texas Public Information Act. Information provided by a manager, a Managing General Partner (GP), any of its Associates or other data provider to TMRS or a TMRS service provider, and contained in these materials (i) may have been independently produced or modified by TMRS or the TMRS service provider; (ii) has not been reviewed or approved by the manager, Managing GP or any of its Associates; and (iii) may not reflect the historical performance or asset value reflected in the manager’s, Managing GP’s or any of its Associates’ records and, therefore, should not be used for comparative purposes.