2017 Real Return Asset Class Review

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Agenda

I. Program Initiatives: A Year in Review
II. Portfolio, Performance and Compliance
III. Market Update: Real Return
IV. Conclusions
Section I

PROGRAM INITIATIVES: A YEAR IN REVIEW
Comprehensive Annual Review Process

Why do we conduct annual reviews?

Per the TMRS IPS, comprehensive reviews are to be conducted and documented at least annually. The goal is to formally review managers’ performance, current investment strategy or style relative to that which was communicated, and other issues related to the managers’ organization, personnel, or investment philosophy. The annual review process is part of the IPS manager retention framework.

The Annual Review process holds TMRS Staff accountable for its portfolio management process in order to preempt manager specific, strategic, or other potential problems.
Accountability in Action
What did we say we were going to do?

Real Estate & Real Return Initiatives presented in 2016 Annual Review

- Allocate greater time resources to manager, market and portfolio research.
  Operational resource expansion enabled and Investment Committee process motivated process streamlining and managerial prioritization to ensure this outcome was accomplished. (Slides 8-9)

- Enhance operational & reporting functionalities.
  Investment monitoring and annual review processes overhauled in 2016. Operations team was added in 2017, enabling greater time allocation to portfolio management. (Slides 10-12)

- Initiate benchmark review project for real estate, and benchmark enhancement study for real return.
  Both projects completed. Recommendations to modify real return benchmark in conjunction with 2017 IPS revisions is anticipated. (See Benchmark Presentation)

- Comprehensively re-evaluate core real estate portfolio and consider rebalancing initiatives. Research Real Estate co-investment opportunities more extensively.
  Comprehensive study completed with active decision to not rebalance (Aug. 2016 Internal Memo). Additional core real estate manager recommended in 2016 (March 2016 Board Memo).

- Progress Real Return Portfolio to 100% Allocated: i) add additional public markets real return strategies to fully fund; ii) continue to diversify private real return portfolio.
  $800 million of net real return capital deployed in 2016; similar levels expected for 2018. Real Return on an invested basis today is > 9% of TMRS total portfolio. (Slide 7)

- Research and pursue Real Return co-invest opportunities as deals with strategic fit are sourced.
  While deal level co-invests are not currently contemplated, fund style co-invests can be used to blend down fees. One such investment in the pipeline for Q3/Q4 with existing TMRS manager. (Slide 7)
Accountability in Action
What did we say we were going to do? (Real Estate)

Pacing Plan: $600mm
Deployed: $600mm

2015 Q1: Courtland Contracted
2015 Q2: USAI: $250mm
           H/2: $200mm
           TPG: $100mm
           Rubenstein: $75mm
           Alcion: $75mm
           Tristan: $50mm
           Harrison St. Securities: <$190mm>

2016 Q1: Blackstone: $300mm
           DivcoWest: $75mm

2016 Q2: Kildare: $100mm

2017 Q1: IC Berkeley: $50mm
           Stockbridge: $50mm

2017 4Q (Lapso): Re-Up Manager: $100mm
                RE Debt Manager: $75mm

2016 Beg. Market Value: $1,412mm
2016 End. Market Value: $2,133mm
Percentage Increase: 51%
2016 (2014) Beg. Portfolio %: 5.99% (4.95%)
2016 End. Portfolio %: 8.50%

Strong planning & execution has put TMRS on the path to achieving strategic investment objectives.
Accountability in Action
What did we say we were going to do? (Real Return)

2015 Q2: Albourne Contracted
2015 Q2: Target increased from 5% to 10%
2015 Q4: Nuveen: $350mm Cohen & Steers: $350mm Magnetar: $100mm
2016 Q1: AMERRA: $100mm Orion: $100mm
2016 Q2: Brookfield: $150mm
2016 Q4: Cohen & Steers: $400mm Nuveen: $375mm Colchester: $325mm
2017 Q1: Actis: $75mm Sprott: $70mm
2017 Q2: I-Squared: $150mm Blue Sky: $55mm
2017 Q4 (prospective): Infra Fund A: $150mm Re-up Fund B: $125mm Public Markets: $150mm Co-Investment: $25mm

2016 Beg. Market Value: $939mm
2016 End. Market Value: $2,301mm
Percentage Increase: 145%
2016 Beg. Portfolio %: 3.99%
2016 End. Portfolio %: 9.17%
2017 (2014) Vehicles: 11 (1)

Strong planning & execution has put TMRS on the path to achieving strategic investment objectives.
Accountability in Action
Expansion of Staff Resources

Experience
Cumulative Yrs. Experience: 235yrs.
Avg. Years Experience: 15yrs.
Cumulative $ Managed: $139B
Cumulative $ Invested: $60B
Nationalities Represented: 5

Higher Education:
7 Masters in Business Administration
2 Juris Doctorates ("JD")
2 Masters of Science ("MS")
1 PhD, Physics

Professional Designations
3 Chartered Financial Analysts ("CFA")
4 Chartered Alternative Investment Analysts ("CAIA")
1 Financial Risk Manager ("FRM")
6 other professional designations

Board approval to hire an Investment Operations Department, in addition to previous resource expansion in both Risk Management and Compliance, has enhanced Asset Class teams’ abilities to introspectively improve investment, execution & monitoring processes.

*Experience statistics as of July 2016.*
Accountability in Action
Investment Process Improvements / Investment Committee

Investment Committee was chartered under the direction of TJ Carlson on June 7, 2016.

The IC’s objective is to “To establish and maintain an internal oversight committee for certain investment and operational related decisions and recommendations within the investment department.”

The Committee was designed in conjunction with best practices drawn from both the public fund universe and private industry, creating a forum for the sharing of experience and knowledge, drawing clear lines of accountability and accommodation of dissenting opinions. It is through these mechanisms that TMRS Investment Staff helps ensure the fiduciary duties of Care, Loyalty, and Good Faith are all unquestionably achieved and documented.

The Investment Committee has enhanced the Real Asset manager selection process by providing diverse and informed opinions from other highly qualified investment professionals.

TMRS Investment Committee

TJ Carlson, CIO
Experience: 25 years
Qualifications: MBA, CAIA, CTP

Kristin Qualls, Dir. Equities
Experience: 25 years
Qualifications: Longest Tenure of TMRS Inv. Staff

Dimitry Shishkoff, Dir. Risk Management
Experience: 35 yrs.
Qualifications: Emerging Markets, Higher Mathematics

Marc Leavitt, Dir. Absolute Return
Experience: 22 years
Qualifications: MBA, CAIA

Chris Schelling, Dir. Private Equity
Experience: 17 years
Qualifications: MS Finance, MBA, CAIA

Jason Weiner, Dir. Fixed Income
Experience: 24 years
Qualifications: CFA

Tom Masthay, Dir. Real Assets
Experience: 10 years
Qualifications: MBA, CFA, CAIA, FRM
Accountability in Action
Annual Review Process Overhaul

Manager & Consultant Scorecard Summary:
All 29 manager relationships and 2 consultant relationships assessed are in satisfactory standing.

Contractual Compliance:
All managers have certified compliance with relationship governing documents.

Fees paid summary:
Real Estate:
Total 2016 Management Fees Paid: $21.1mm
2016 Fee % of Wtd. Avg. AUM: 1.25%
2016 Fee & Expense % of AUM: 1.45%
% of 2016 Profits Paid to GP as Incentive: 5.8%
% of 2016 Profits Paid to GP as Fees & Incentive: 17.2%

Real Return:
Total 2016 Management Fees Paid (RR): $8.1mm
2016 Fee % of Wtd. Avg. AUM: 0.47%
2016 Fee & Expense % of AUM: 0.52%

Additional Information:
Total Manager Meetings (Last Twelve Months): 338
Person Days of Travel (LTM): 92
Total Annual Review Page Count: 672

The Annual Review process was re-designed to ease burden of CIO oversight by centralizing and more clearly communicating the asset class activities.
Accountability in Action
Quarterly Monitoring Process Overhaul

Funds & Capital Approved:
Real Estate
2016 Mandates Approved: 3
2016 Capital Approved: $475mm
2015-2017 Capital Approved: $1,375mm
Total Investment Vehicles: 29

Real Return
2016 Mandates Approved: 5
2016 Capital Approved: $800mm
2015-2017 Capital Approved: $1,945mm
Total Investment Vehicles: 11

2016 Investment Performance:
Real Estate:
TMRS: 10.4%
Benchmark: 8.8%
Outperformance: 160bps  

Real Return:
TMRS: 6.9%
Benchmark: 4.0%
Outperformance: 290bps

LPAC Activities
Total LP Advisory Board Memberships: 27
2016-2017 LPAC Meetings/Actions: 42

The Quarterly Review process was re-designed to encourage clearer lines of communication among team members and create comprehensive audit trails.
Accountability in Action
Manager Monitoring Process Overhaul

The Manager Monitoring Process: “TPS Reports”
Quarterly monitoring process enhanced during 2Q/3Q 2016 to make monitoring process more value-additive from a content perspective, create clear lines of communication for the CIO review of team work product, and more time efficient due to streamlining.

The Real Asset team has been forced to reorganize monitoring efforts in face of growing vehicle count. Formal delegation of manager coverage within the Real Asset Team is the mechanism used to increase the team’s coverage capacities. Delegation within the team has successfully created:

• Greater Intra-team Communication
• Manager Monitoring Redundancy
• Personal Accountability & Job Satisfaction
• Opportunities for Career Advancement
• Clean and Comprehensive Audit Trails
Section II

PORTFOLIO, PERFORMANCE & COMPLIANCE

Performance Review as of December 31, 2016
Real Return Asset Class Objectives

IPS Stated Objective for the Real Return Portfolio:
“The Real Return asset class is used for return enhancement, diversification and inflation protection.”

A primary goal of the annual review presentation is to discuss the real return portfolio and its construction relative to IPS stated performance goals & implementation objectives:

Benchmark Performance Goals:

- Long term performance objective is a rate of return of CPI + 4%, net of investment management fees.

- The current strategic benchmark is the Barclay’s Global Inflation Linked Bond Index.

- Additionally, as documented in the real return section of the IPS, the real return portfolio is expected to generate returns net of all fees and expenses, in excess of their respective indices, over rolling five year investment time horizons.
Portfolio Implementation

Ex-Ante Risk Return Expectations: The Traditional Model

The private real return opportunity set has available many “medium-return” opportunities.

*Slide was originally presented in conjunction with June 2017 private real return recommendations.
TMRS has diversified its public real return portfolio and ramped its private investing pace over the course of the past 15 months.
Real Return Portfolio Statistics

Recent recommendations have enhanced TMRS’ diversification within the infrastructure, mining and agricultural sectors.

All charts presented on an adjusted committed basis. Slide originally presented in conjunction with June 2017 real return recommendations.
Real Return Portfolio Statistics

Portfolio Exposure by Geography

- US/Canada: 35%
- Non-US Developed: 11%
- Emerging Markets: 54%

Real Return is a global opportunity set. TMRS continues a path of portfolio level conservatism.

TMRS has pursued a conservative real return portfolio capital structure.

Real Return Portfolio Capital Structure

- Common Equity/Commodities: 48%
- Credit Debt & Preferred Equity: 29%
- Sovereign Debt: 23%

All charts presented on an adjusted committed basis. Slide originally presented in conjunction with June 2017 real return recommendations.
IPS Compliance Review

Vehicle Concentration Guideline – TMRS is within guideline limits that no more than 35% of the total net assets of the real return portfolio may be invested in any one Registered Investment Vehicle.

Closed or Open-end Vehicle Concentration Limit – TMRS is within guideline limits that no more than 15% of total net assets may be invested in a single Private investment Vehicle.

Commingled Open-End Concentration Limit – TMRS is within guideline limits that TMRS can not represent more than 20% of total net assets of a commingled investment vehicle.

Percentage of Manager AUM Limit – TMRS does not account for more than 25% of total AUM of any contracted manager’s total AUM.
Section III

MARKET UPDATE: REAL RETURN
Slumping commodity prices and a deteriorating auto trade have kept US CPI from maintaining target levels.

* Data Source: Bloomberg
Breakevens provide a snapshot of what the fixed income market is currently predicting for inflation.

Data Source: Bloomberg
Note: Breakevens are the difference in the yield between a nominal and inflation protected bond of similar maturity and grade.
The US Dollar and commodities negative correlation makes the relative strength of the US currency highly impactful on countries reliant on importing or exporting commodities.

Data Source: Bloomberg
Section IV

CONCLUSIONS
Conclusions

• TMRS has, in the past year, focused its Real Return portfolio efforts on enhancing total return. The Strategic Target Allocation framework on which TMRS has based its portfolio design demands a higher return threshold.

• A higher return target for real return dictates that TMRS pursue private investments. The scaling of private investments is likely to have some return drag on the portfolio during the implementation phase. Efforts such as allocating to strategies more likely to earn income yields early in fund lives have been a focus of the real return team.

• The markets within which real return strategies exist tend to be highly cyclical in nature. This poses both opportunities and risks for TMRS’ overall investment portfolio.
DISCLOSURES

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