

Investment Performance Reporting & Benchmarking



TMRS Board Retreat

April 29, 2021



TMRS Performance Reporting – “Today”

- Performance reports include two calculation methods, both of which are accurate and widely-utilized.
- Equity, fixed income, and certain alternatives are calculated using time-weighted returns that eliminate the impact of cash flows on performance.
- Private real return, private equity and certain alternatives are calculated using Internal Rate of Return, or money-weighted returns, that are appropriate in instances where asset managers have significant ability to control the timing and magnitude of external cash flows.

TMRS Performance Reporting – “Tomorrow”

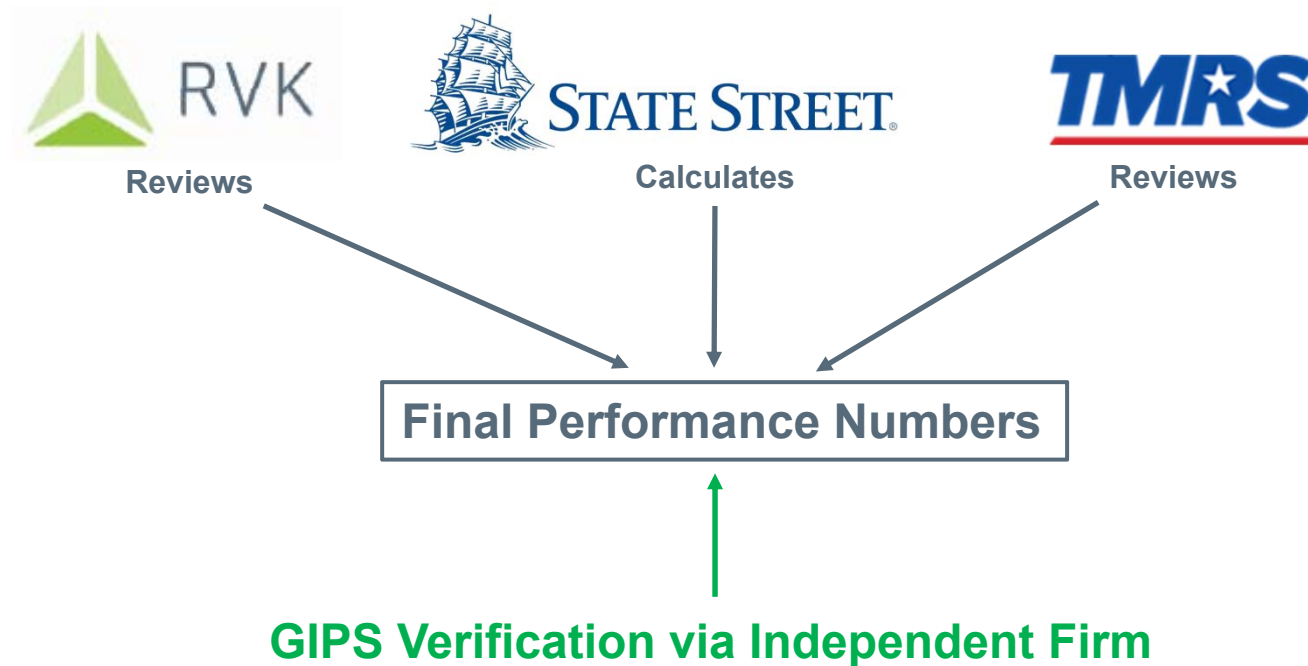
- Returns for the total fund and all asset classes will be calculated using time-weighted returns.
- TMRS will be an industry leader in transparent and consistent investment reporting with multiple independent calculations and a third party verification process.

Performance Reporting – The New Industry Standard

Global Investment Performance Standards (GIPS)

- Created by the CFA Institute in 1999, GIPS is a set of voluntary standards for asset managers to provide fair representation of their investment performance.
- These standards were not designed for asset owners, like TMRS.
- Now, the CFA Institute has modified GIPS standards so they can be used by asset owners addressing their specific structure and circumstances.

Performance Reporting – TMRS Process



Measuring Performance - Benchmarks

Best Practice Benchmark Attributes

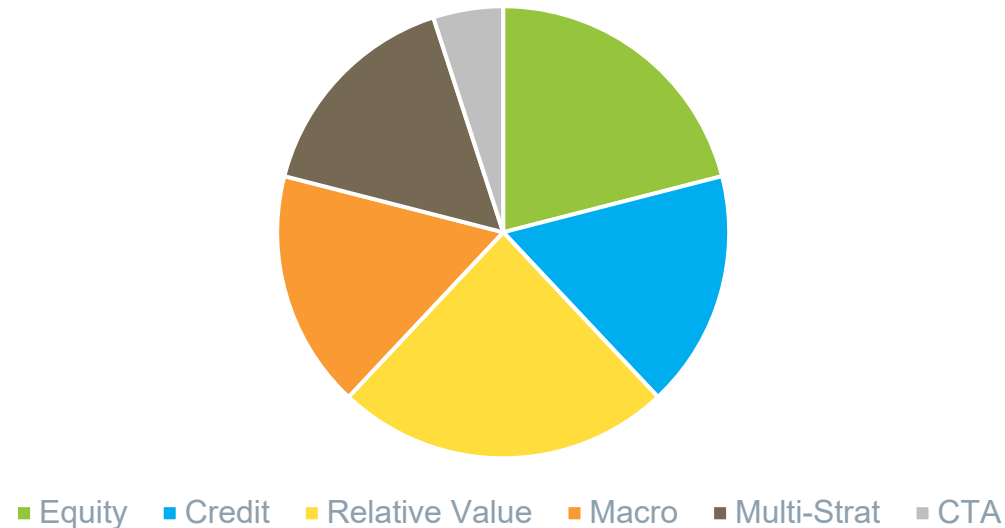
- **Specified in advance:** Specified prior to the start of the evaluation period.
- **Relevant:** Reflects the investment mandate and objective.
- **Measurable:** Return is readily calculable on a reasonably frequent basis.
- **Unambiguous:** The identities and weights of underlying constituents can be clearly identified.
- **Representative of current investment decisions:** Reflects associated strategy choices.
- **Accountable:** TMRS is aware and accepts accountability for benchmark deviations.
- **Investable:** It is possible to simply invest in the benchmark.

Current TMRS Asset Class Benchmarks

Asset Class	Benchmarks	RVK Comments
Global Equities	MSCI All Country World Investable Market Index (Net)	Industry standard for global equity portfolios. NO CHANGE RECOMMENDED
Core Fixed Income	Bloomberg Barclays US Aggregate Bond Index	Industry standard for core fixed income portfolios. NO CHANGE RECOMMENDED
Non-Core Fixed Income	Rollup of underlying manager benchmarks	The asset class is close to fully implemented and a new benchmark will be recommended during the 2021 asset allocation process.
Real Estate	National Council of Real Estate Investment Fiduciaries Open Diversified Core Equity Index (NCREIF-ODCE)	Industry standard for real estate portfolios. NO CHANGE RECOMMENDED
Real Return	Rollup of underlying manager benchmarks	The asset class is close to fully implemented and a new benchmark will be recommended during the 2021 asset allocation process.
Absolute Return	Hedge Fund Research, Inc.(HFRI) Fund of Funds Diversified Index	Potential improvements available
Private Equity	Rollup of underlying manager benchmarks	The asset class is partially implemented; a secondary benchmark will be recommended during the 2021 asset allocation process.
Cash Equivalents	30 Day US Treasury Bills	NO CHANGE RECOMMENDED

Absolute Return

Portfolio Composition: Direct hedge fund strategies



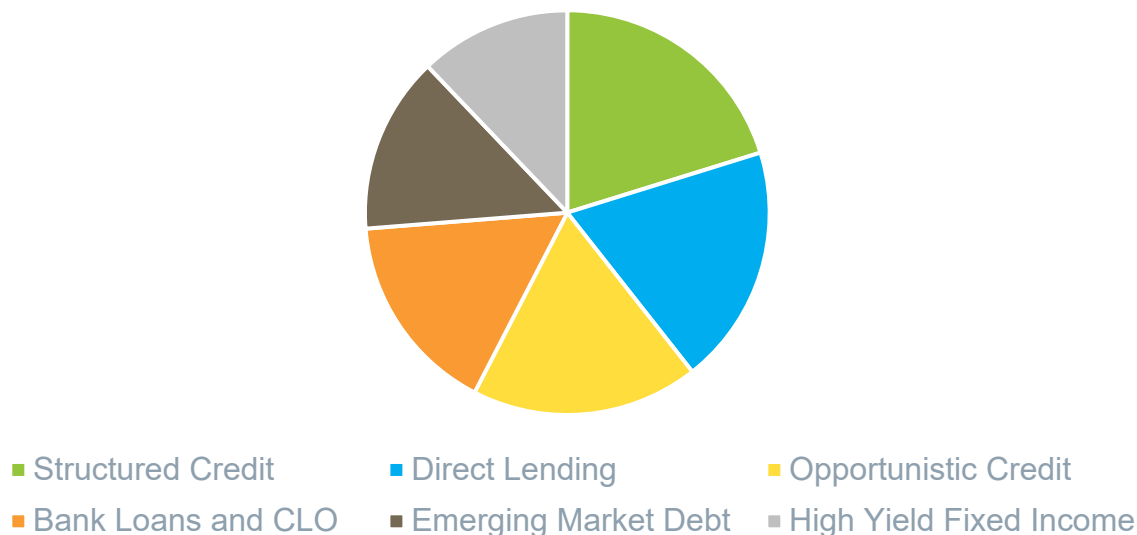
Current Benchmark: Hedge Fund Research, Inc. Fund of Funds Diversified Index

Benchmark Change to Discuss

- **Fund of Funds vs. Direct:** The current benchmark tracks performance for “fund of hedge funds,” a structure which is no longer favored by TMRS. Other hedge fund benchmarks are available that track performance for direct hedge funds.

Non-Core Fixed Income

Portfolio Composition: Mix of public/liquid strategies and private/illiquid strategies



Current Benchmark: Rollup of Underlying Manager Benchmarks

Potential Benchmark Changes to Discuss

- **Public/liquid strategies:** Current benchmarks are appropriate.
- **Private/illiquid strategies:** The portfolio is fully implemented and can transition to a traditional benchmark.

What is a Rollup of Underlying Benchmarks?

- The TMRS Investment Policy Statement includes a “Rollup of Underlying Manager Benchmarks” for certain asset classes: Non-Core Fixed Income, Real Return and Private Equity.
- The following example illustrates the rollup concept for a hypothetical asset class with four managers.

Asset Class Portfolio:

Manager A: 35%

Manager B: 35%

Manager C: 15%

Manager D: 15%

Rollup of Underlying Manager Benchmarks

Benchmark:

35% Manager A Benchmark

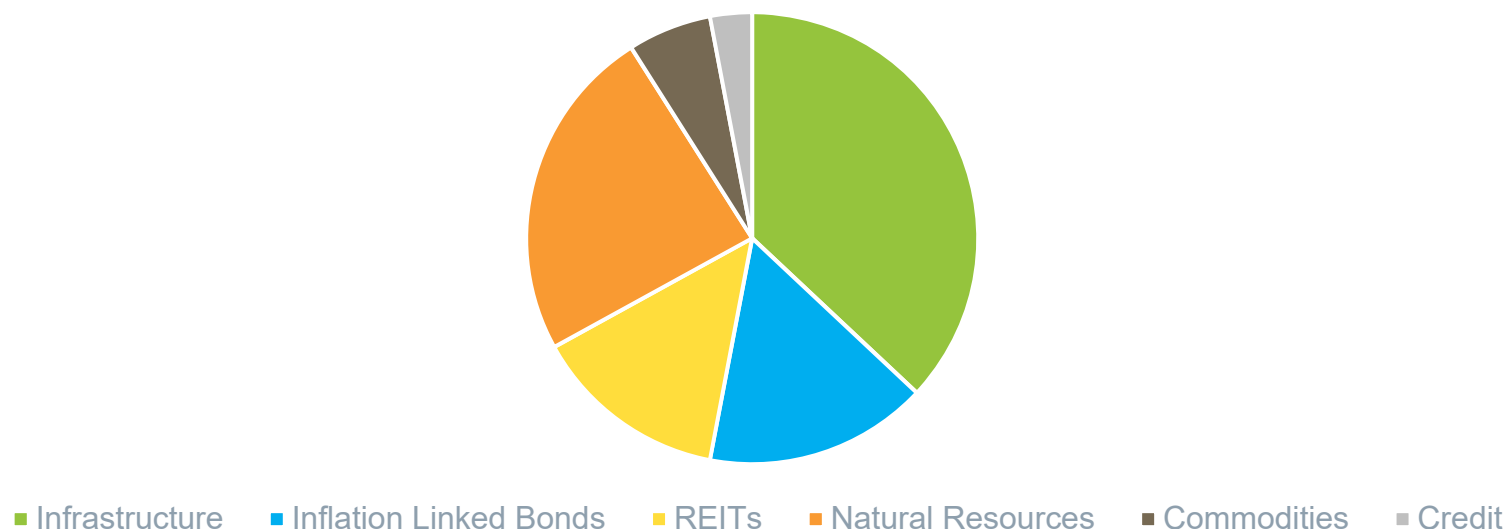
35% Manager B Benchmark

15% Manager C Benchmark

15% Manager D Benchmark

Real Return

Portfolio Composition: Mix of public/liquid strategies and private/illiquid strategies



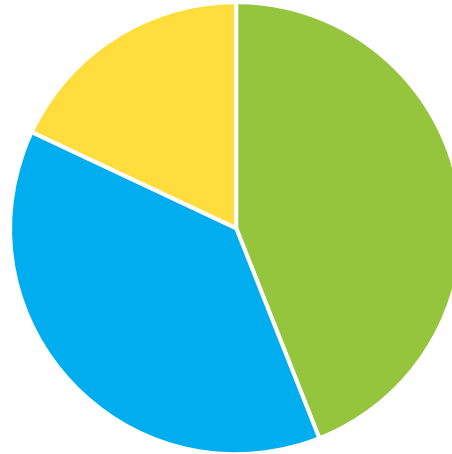
Current Benchmark: Rollup of Underlying Manager Benchmarks

Benchmark Changes to Discuss

- **Public/liquid strategies:** Current benchmarks are appropriate.
- **Private/illiquid strategies:** The portfolio is close to fully implemented and can transition to a traditional benchmark.

Private Equity

Portfolio Composition: Private equity/illiquid strategies



■ Buyout ■ Venture/Growth ■ Special Situations

Current Benchmark: Actual Performance of Underlying Strategies, which is **not a benchmark** but provides a reflection of the asset class structure and appropriate for the first ~5 years of a strategy

Benchmark Changes to Discuss for Private Equity During Implementation Period

- Add a traditional benchmark for the total private equity portfolio such as TMRS' Public Equity benchmark or an index of private equity fund manager returns like Cambridge Associates Private Equity Index.

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