AGENDA ITEM DETAILS

Subject: Chief Investment Officer's Report

BACKGROUND:

As required by the ERS Investment Policy Statement (IPS), this agenda item provides a report from the Chief Investment Officer (CIO) regarding the performance, risk, and costs of the Trust as of September 30, 2021.

Investment Objective

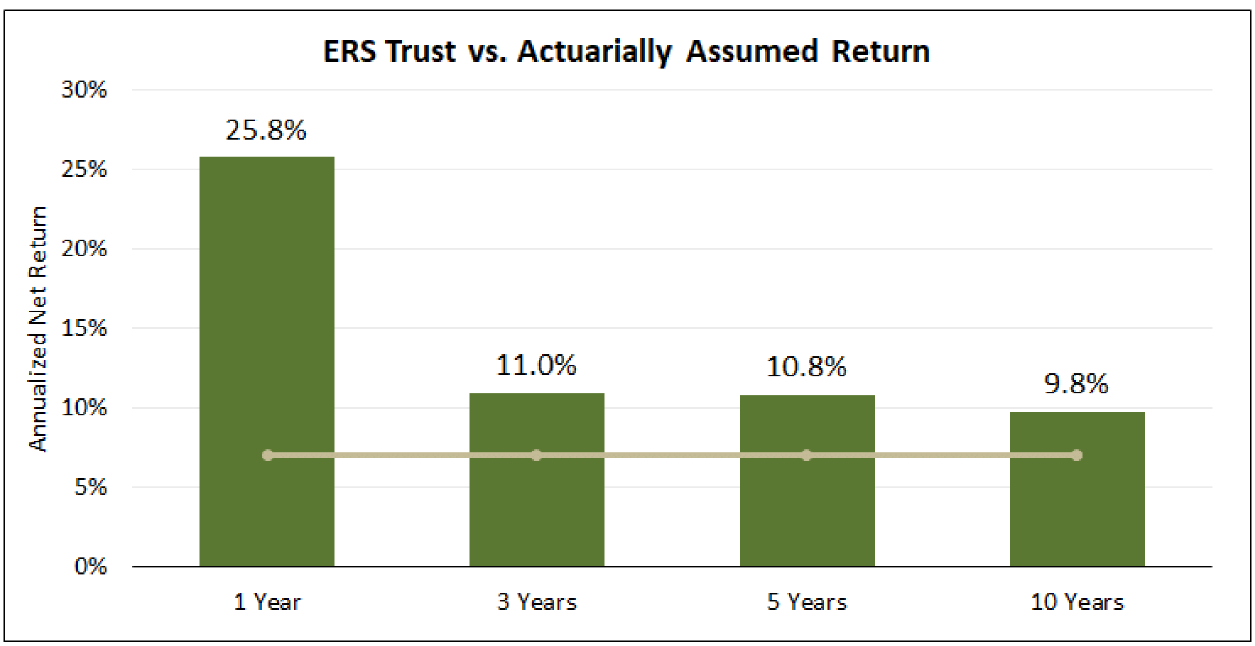
The overall objective of the ERS investment program is to invest prudently in a diversified portfolio of securities at a reasonable and predictable cost in order to maximize the probability that earned benefits are provided to members, retirees, and beneficiaries. To that end, the IPS specifies the following investment performance objectives for the Trust:

- Obtain returns in excess of the adopted benchmark, and
- Achieve returns commensurate with the amount of active risk assumed.

Performance is to be measured primarily over rolling five-year periods, and portfolio returns are expected to at least exceed benchmark returns or the stated return objective net of fees and other costs.

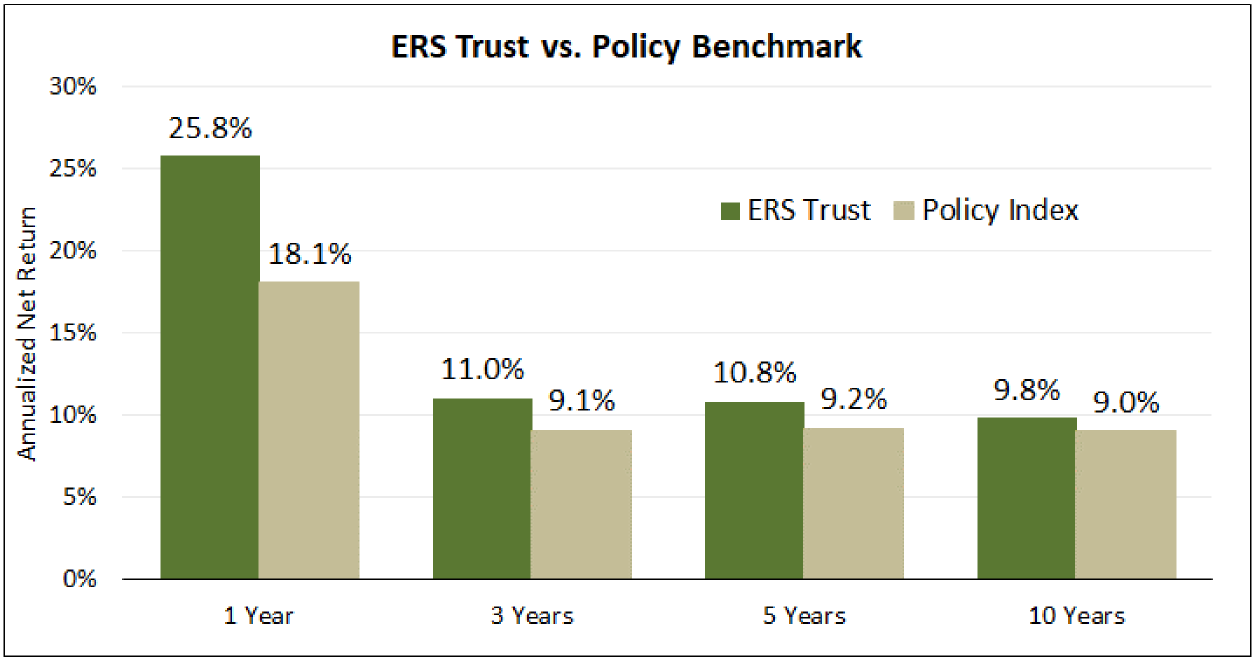
Absolute Returns

The Trust has outperformed the System's actuarial investment return assumption (currently 7%) over the horizons in the table below, including outperformance of 3.8% over the trailing five-year period. The rolling five-year return figure of 10.8% represents a 9.7% premium to the 1.1% return on risk-free assets over the period, which is indicative of significant compensation for bearing risk over that time.

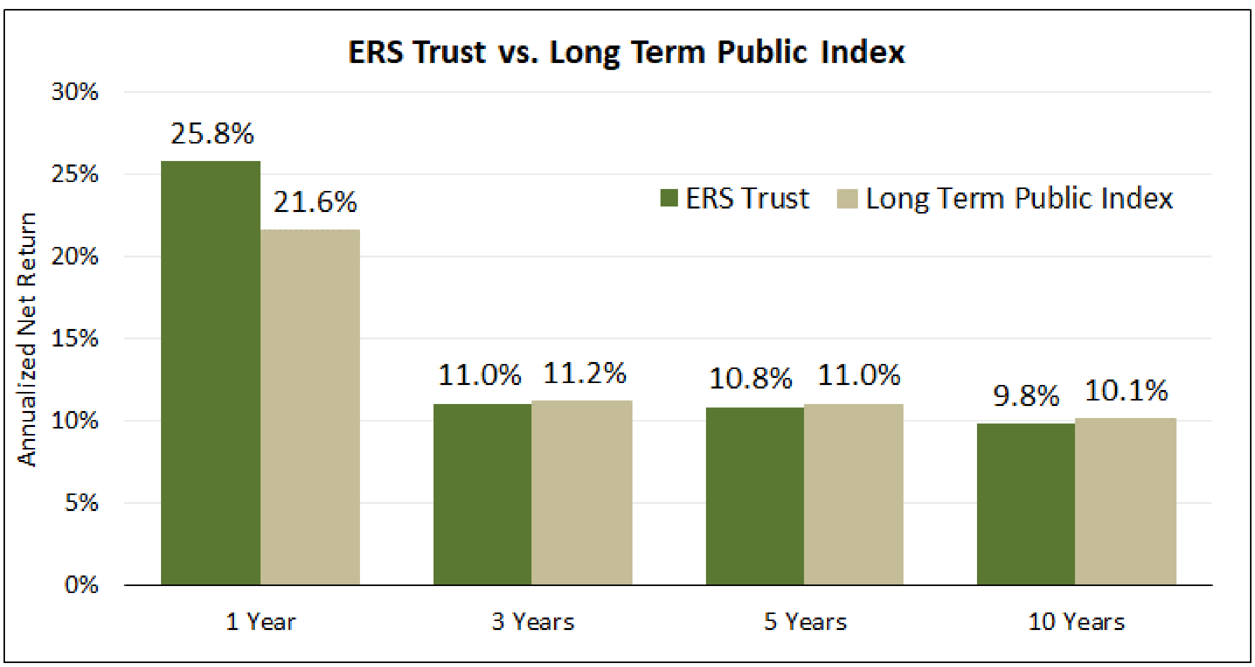


Relative Returns

Trust performance has been consistently above the Policy Benchmark across 1-, 3-, 5- and 10-year horizons. On a rolling five-year annualized basis, the Trust has delivered 163 basis points of annualized outperformance net of external management fees. Such strong performance translates into approximately $3 billion of value added to the Trust over the last five years, including more than $2 billion over the last year.

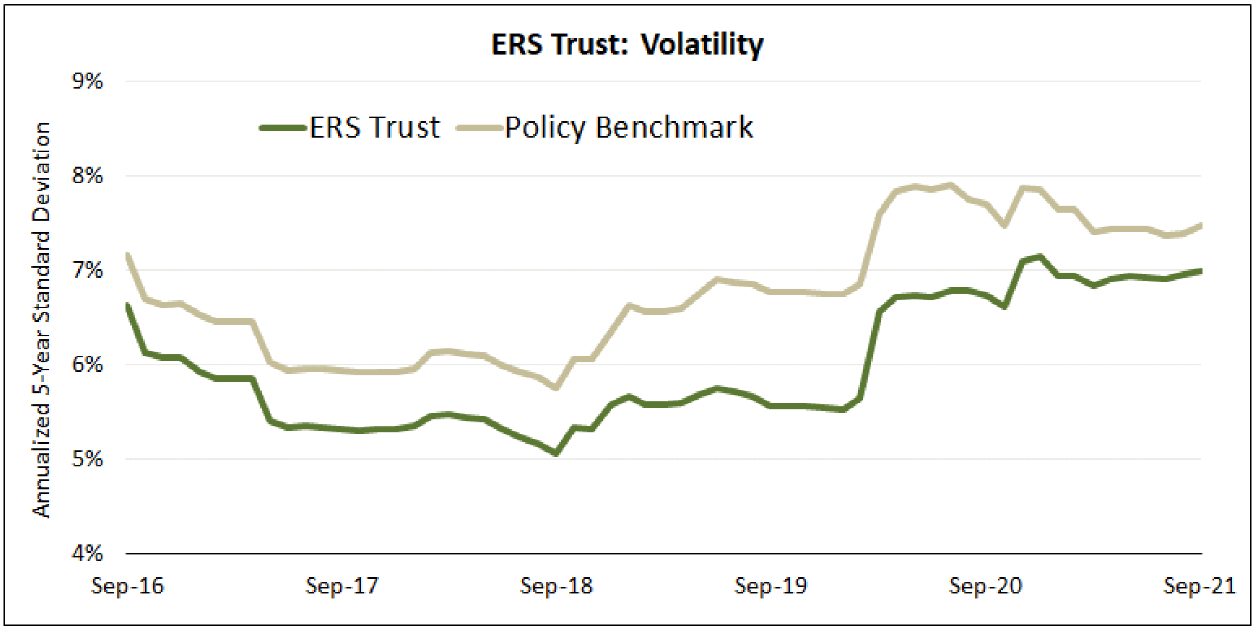


Trust performance has lagged the Long Term Public Benchmark over 3-, 5-, and 10-year horizons, including by 190 basis points on a five-year rolling annualized basis. The tilt toward private markets within return seeking assets has not been rewarded over longer time horizons, including 73 basis points of underperformance versus the passive global equity index.

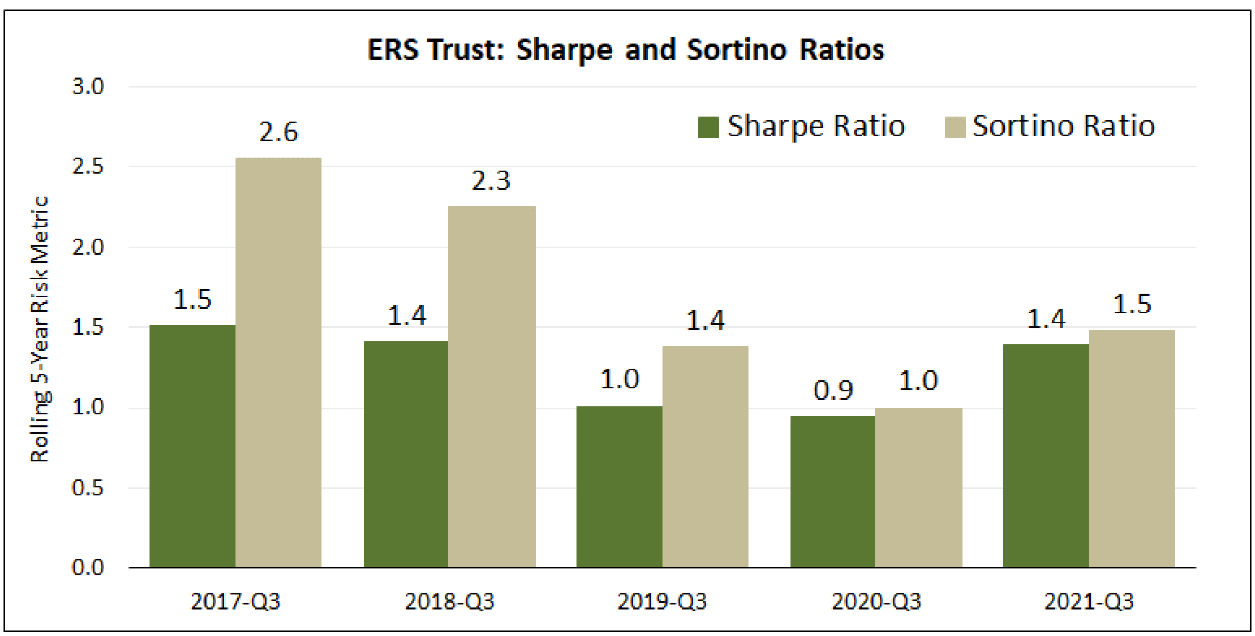


Risk Measures

Absolute risk for the Trust as measured by volatility has risen over the last 18 months and is now near 7% on a rolling five-year annualized basis. Volatility (also called standard deviation) is the most commonly used measure of absolute risk and aims to quantify the amount of absolute variability in the historical return stream of a portfolio. Though this level represents a significant increase from pre-COVID levels near 5%, it remains below the long-term average of 8%. This metric for the Trust remains below the volatility of the Policy Benchmark and well below the Long Term Public Benchmark due to the smoothing effect that is implicit in private market valuations.

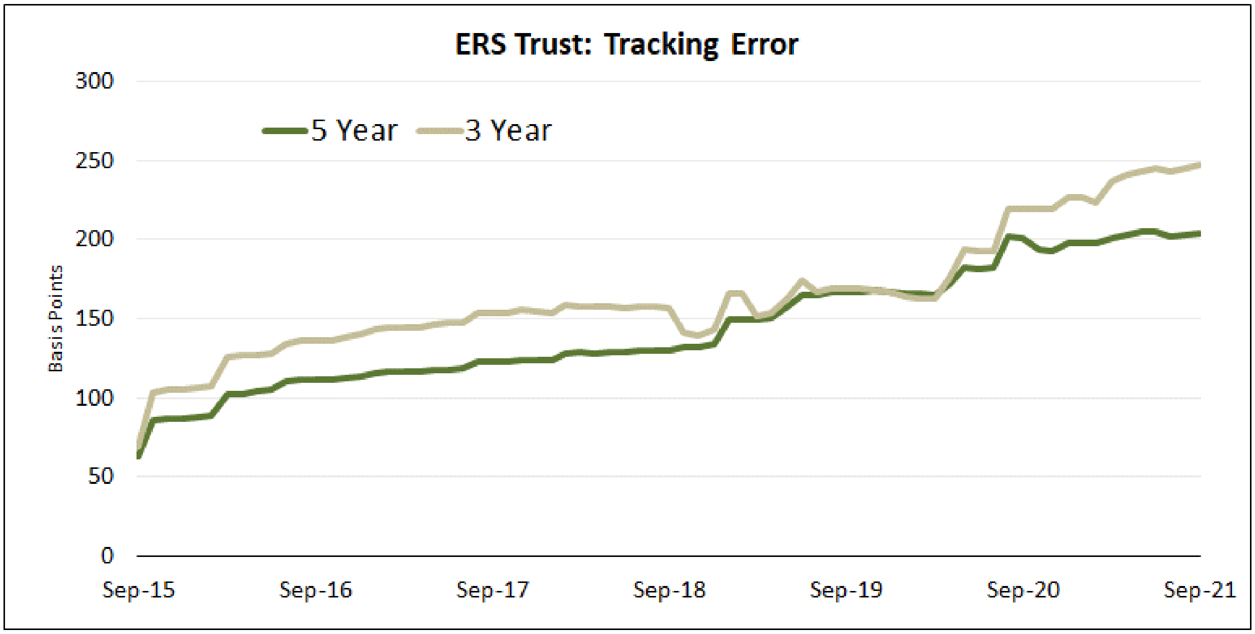


The recent rise in Trust volatility is the result of larger fluctuations in the equity market than was the case before the pandemic. It is also reflective of a greater tendency by stocks and bonds to move together, which reduces the level of diversification provided by the holdings in the portfolio.

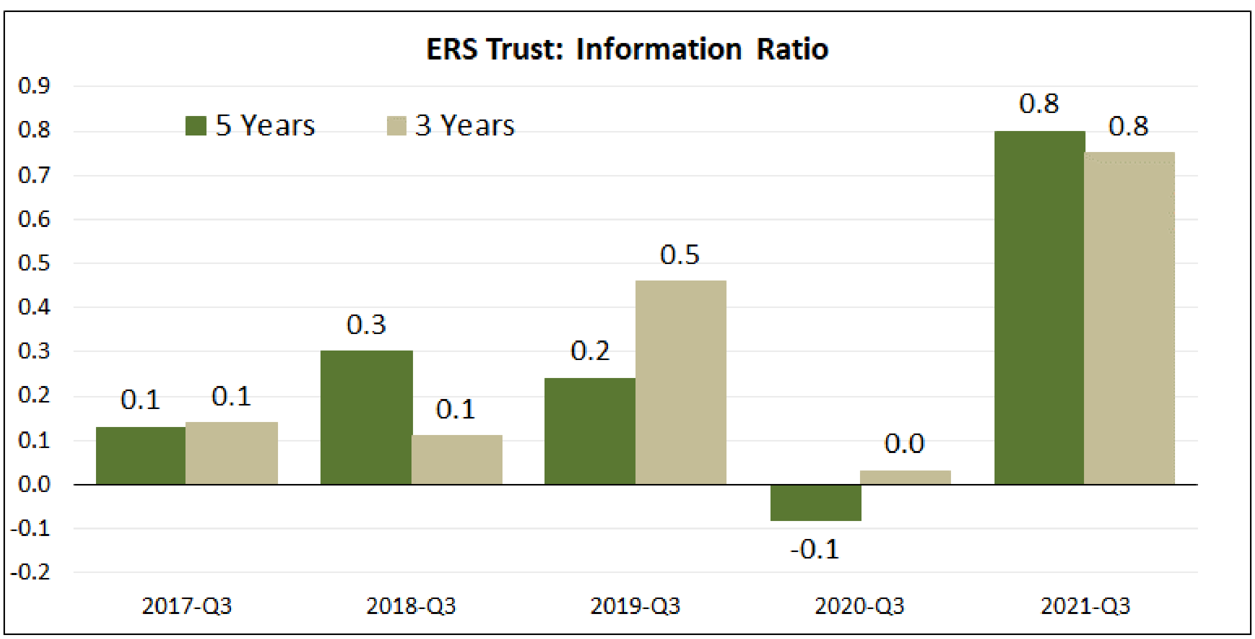


Relative to the amount of absolute risk taken, the performance of the Trust has been good, as evidenced by high Sharpe and Sortino ratios. (Recall that Sharpe ratio measures the amount of return per unit of absolute risk, while Sortino ratios measure the amount of return per unit of downside risk.) As measured over the last five years the Sharpe ratio was 1.4 and the Sortino Ratio was 1.5, both of which are above the typical threshold values of 0.4 and 1.0 respectively. The smoothing of the return stream implicit in private market valuations noted earlier also affects these metrics favorably.

Relative risk (also commonly called active risk) for the Trust as measured by tracking error (please see endnotes for details) continues to reach new highs. Tracking error aims to quantify how different a given return stream is from that of its benchmark. At 248 basis points, this figure is currently above the historical average of 106 basis points. To this end, rising tracking error for the Trust reflects greater allocations to private markets where the implementation differs materially from the benchmark.

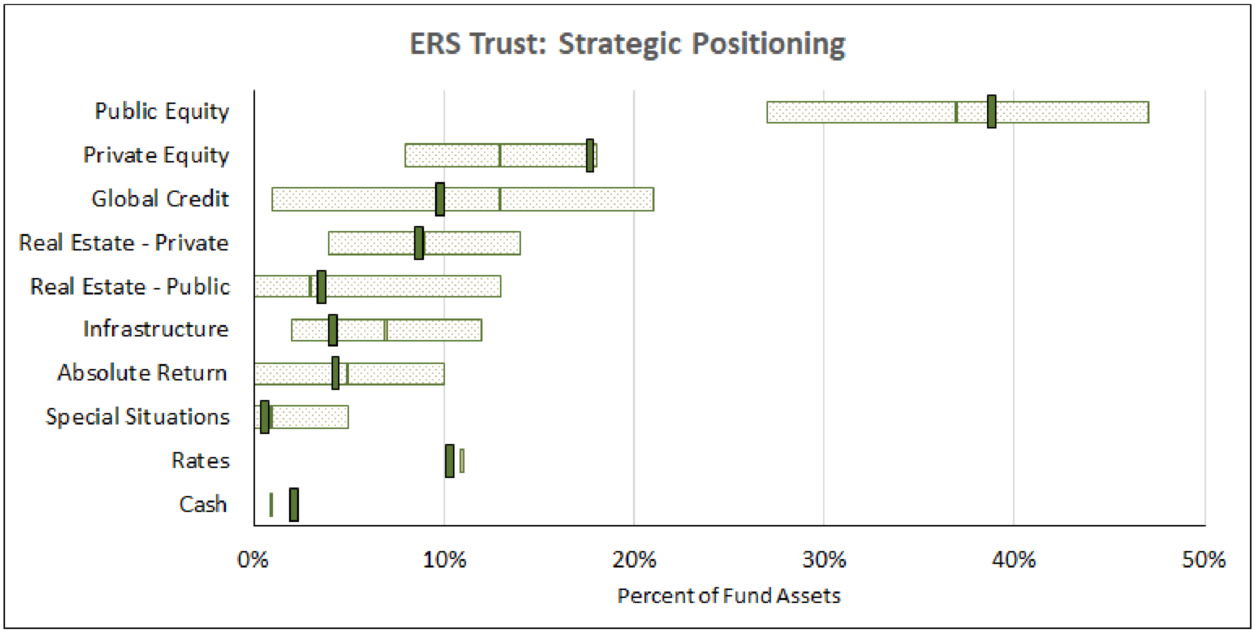


As compared to the amount of active risk taken, the relative performance of the Trust versus the Policy Benchmark has been good. As measured over the last five years the information ratio was 0.8 at the end of 3Q21, above the threshold value of 0.5 for the first time in several years. The strong relative performance of asset classes including private equity helped produce these results. The smoothing of the returns stream implicit in private market valuations noted earlier also affected these metrics favorably.

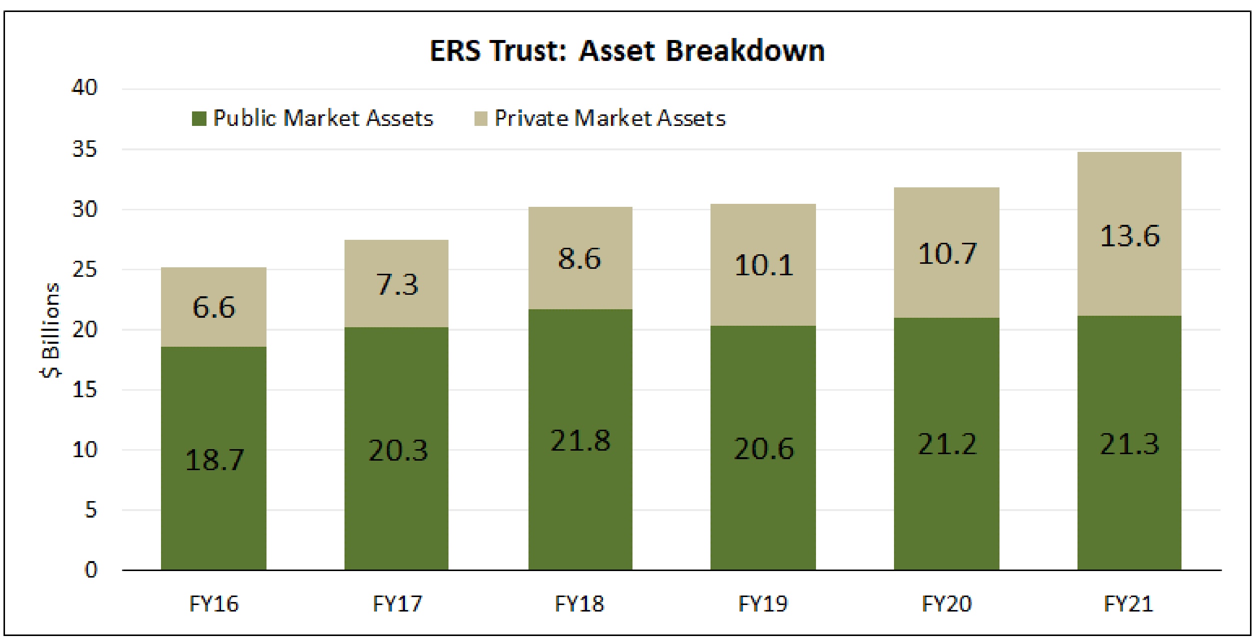


Strategic Positioning

As of September 30, 2021, the Trust was positioned within the asset allocation parameters established in the IPS. Trust liquidity remains healthy and includes a 12.4% allocation to rates and cash as compared to a combined target of 12%, a level that was increased by the receipt during September of the $510 million legacy payment under SB321. This level of liquidity equates to more than two years of net benefit payments for the System based on recent levels of $1.6 billion per year.

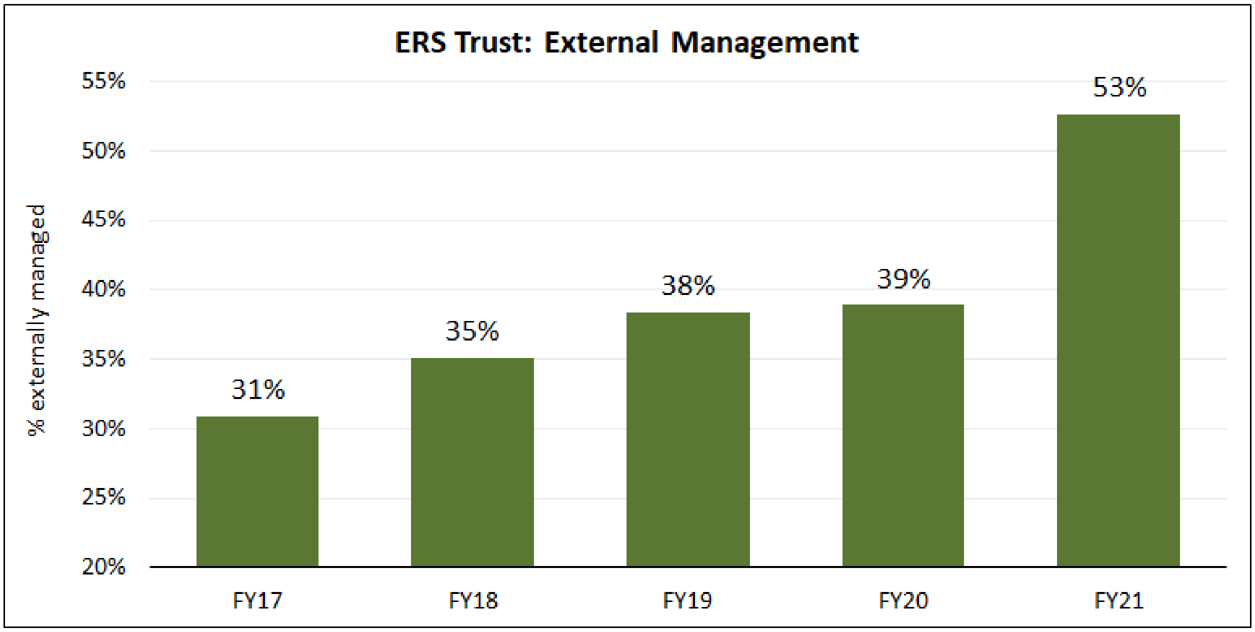


Also of note is that the private equity allocation has reached 17.7%, which is above the 13% long-term target set forth in policy and near the 18% maximum. This positioning is the result of a 38% year-over-year gain in the value of private equity investments from $4.5 billion to $6.2 billion. This increase came within the context of a 27% increase in the value of the Fund's private market investments during FY21, which has raised the value of the total allocation to above $13.6 billion. The increase in private market assets overall was driven by higher valuations for existing investments and continued net deployment of new capital.

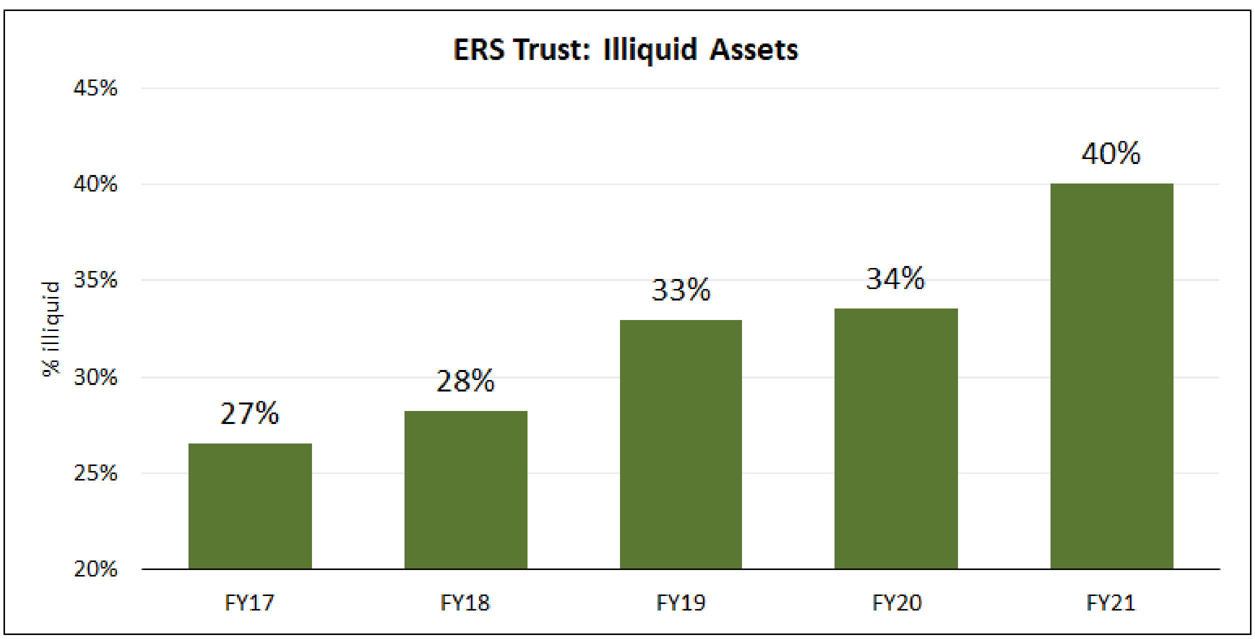


During FY20 the growth of the private markets portfolio slowed to 6% from its 15% average rate from FY16-FY18 due to the adverse effects of the pandemic on some valuations. The FY21 increase has returned the growth of the allocation to 15% annual trend while the value of Trust assets has grown at only a 3% compound rate over that five-year period. In fact, the value of the public markets portion of the Trust was smaller at the end of FY21 than its was three years earlier.

Due in large part to the ongoing mix shift toward private markets described above, the proportion of Trust assets that are externally managed has steadily risen over time. At the end of FY20 this figure approached 40%. The subtantial increase in the value of the Trust's private market assets during FY21 caused the proportion of externally managed total trust assets to exceed 50%.

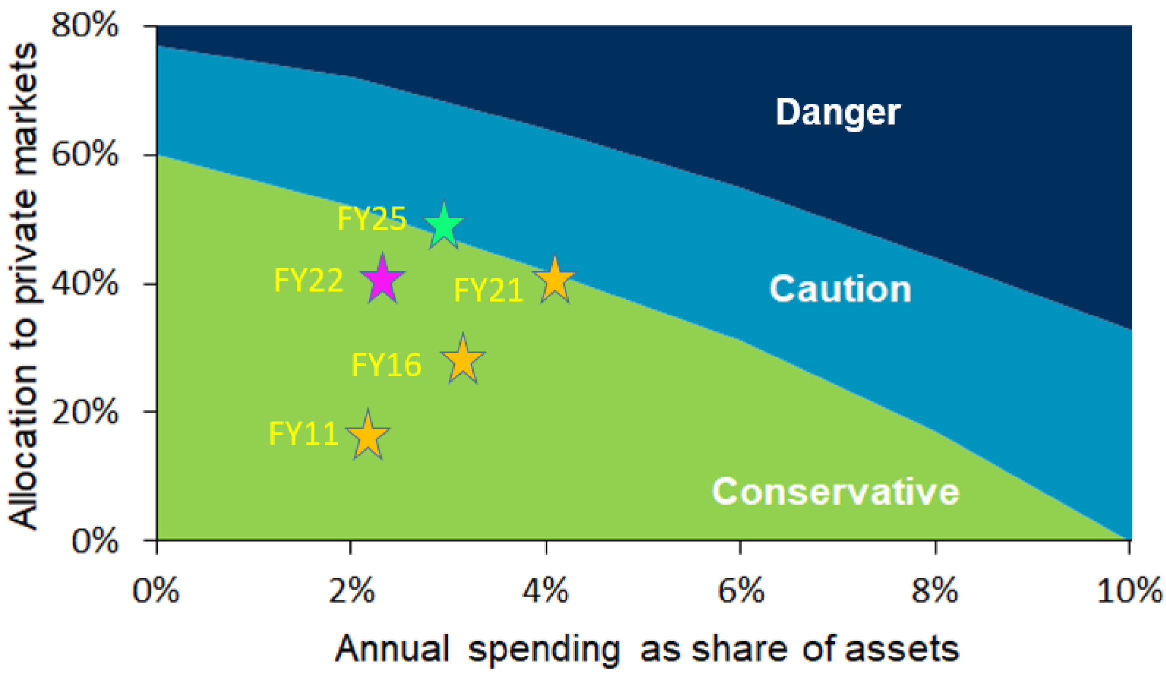


The significant increase in the value of the Trust's private market investments has decreased the liquidity of the Trust. In recent years, around one-third of the Trust was allocated to illiquid strategies, defined as asset types where access to the invested capital would take more than 30 days. This figure has risen steadily over time and saw a significant increase in the last year to 40%.



The allocation to illiquid assets is best considered in view of the Trust's liquidity needs since cash must be available to pay benefits regularly and consistently. The following chart, based on an analysis conducted by BlackRock (report linked at end of document) jointly compares the two attributes over time.

While ERS has historically had ample liquidity to meet its payment obligations, the illiquidity in the current strategic positioning of the Trust has reached a threshold point where closer attention is warranted. In this regard, it is notable that the Trust maintains a 12% target allocation to liquidity assets (i.e., cash plus the rates portfolio) that makes the current level of illiquidity much more manageable.



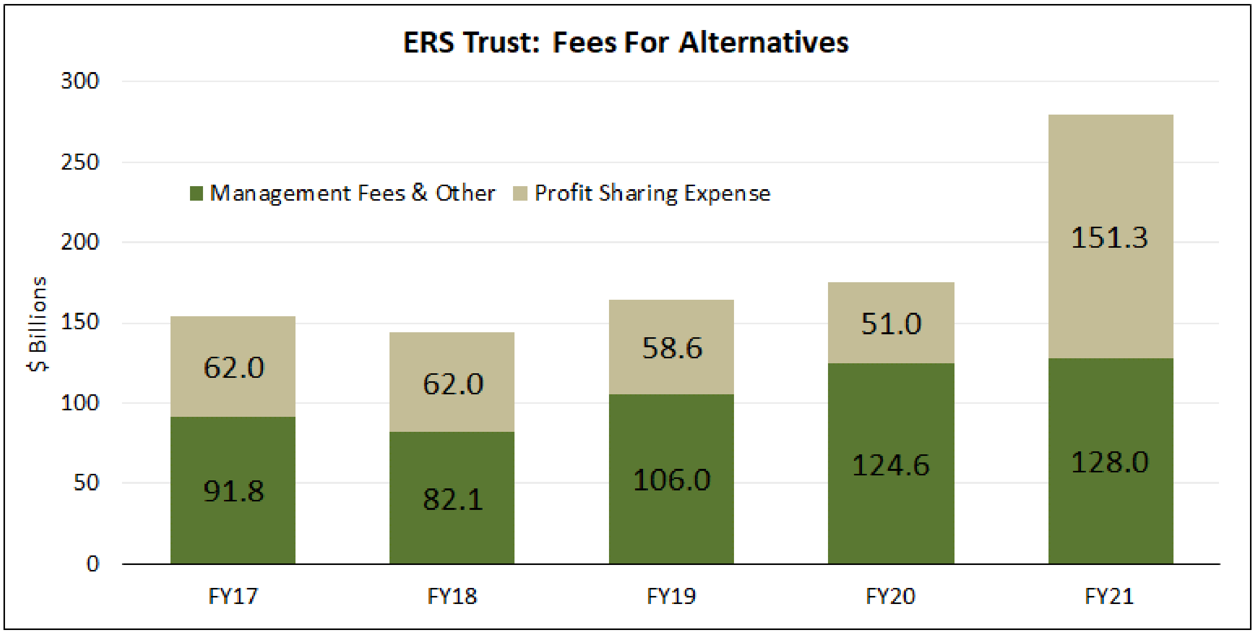
Looking ahead, the purple star in the chart above highlights the positioning of the Trust if prospective inflows related to SB 321 are incorporated into the spending calculation used in the analysis. These significant inflows reduce the expected net annual outflow for FY22 to $1.1 billion per year. As a result, these inflows have the practical effect of stretching the value of existing liquidity assets to the equivalent of three years of payments, well above already high levels.

The green star in the chart above highlights the positioning of the Trust if all asset classes reach their current target weights, which current capital plans forecast to occur during FY25. At that point, illiquid assets would represent 47% of the Trust (please see endnotes for details). Should the current overweight to private equity remain intact over this time, this figure would rise to 53%. Actuarial projections suggest that net outflows will have reached $1.4 billion per year by this time, which would still represent three years of benefit payments due to continued growth of Trust assets.

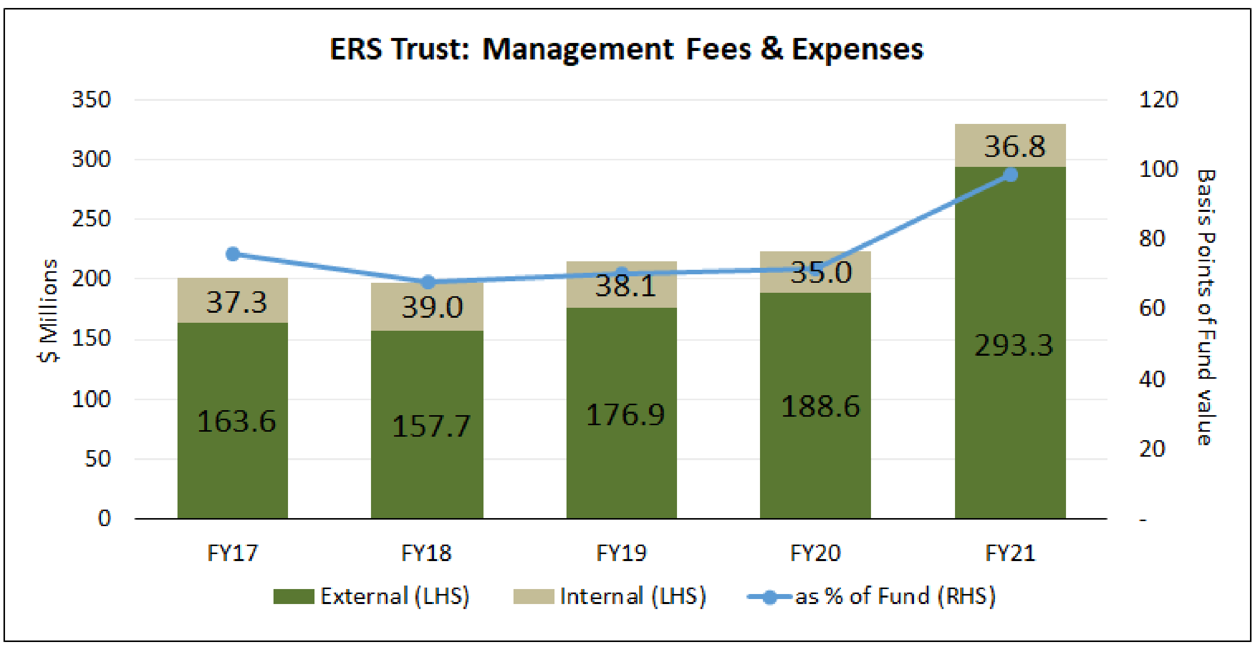
Maintaining high levels of additional liquidity carries an opportunity cost since it is not invested in return seeking assets. For example, over the last five years the Trust's return-seeking assets delivered 12.33% net annualized returns while the rates portfolio returned 2.10%. The liquidity book can also carry explicit costs, such as over the last year when rising rates caused the portfolio to return -1.29% as compared to 31.12% for return-seeking assets. These costs make optimizing the purpose, size and composition of this portfolio an important focus of the asset allocation process.

Fees & Expenses

Another effect of the significant increase in private market valuations during FY21 is an increase in fees and expenses paid by the Trust. From FY16 through FY20, fees and expenses associated with private markets (which include a significant profit sharing component) averaged 160 basis points of the associated assets. As shown in the chart below, the strong gains that occurred during FY21 had the effect of materially increasing the amount of profit share paid from $51 million during FY20 to $151 million in FY21. As a result, fees and expenses within private markets averaged 190 basis points for FY21.



From FY16 through FY20, management fees and other fund expenses for the ERS Trust averaged 70 basis points of Fund assets. The mix shift toward higher fee asset classes that occurred during FY21 had the effect of increasing fee levels both on an absolute basis and on a relative basis as a proportion of Trust assets. For FY21, management fees and other fund expenses totaled and estimated $330 million, which represents an average of 99 basis points of Fund assets.



Conclusion

Investment performance for the Trust continues to achieve its stated objectives well. The amount of risk borne by the Trust has been rising but the returns earned for bearing that risk have been generous. Liquidity risk remains well managed and looks to remain so in coming years, and an asset-liability study should be considered to evaluate the long-term effects of SB321 (including the advent of Group 4) on the

Trust's asset allocation and liquidity position. Investment expenses have risen due to strong performance in private markets and the mix shift toward external management, trends have contributed meaningfully toward the fulfillment of the Trust's performance objectives.

This is not an action item and is intended for discussion purposes only.

ATTACHMENTS:

1. Slides – Chief Investment Officer Update

Endnotes

1. The asset classes classified as Illiquid for the purposes of this analysis included all private market assets (including private equity, private real estate, private infrastructure, and private credit) as well as hedge funds.

2. Blackrock report entitled "The Core Role of Private Markets in Modern Portfolios" dated March 2019 and accessible at the link below. https://www.blackrock.com/corporate/literature/whitepaper/bii-portfolio-construction-private-markets-march-2019.pdf

3. The target weights used for the purposes of this illiquidity analysis include:
    - 13% to private equity
    - 9% to private real estate
    - 7% to private infrastructure
    - 13% to private credit
    - 5% to hedge funds
    - 1% to special situations