MEMORIAL HEALTHCARE SYSTEM DEFINED CONTRIBUTION PLANS

June 30, 2024

INVESTMENT WORKPLAN DETAIL

INVESTMENT WORK PLAN

- **NEPC has developed an investment workplan detail that provides a tentative path to a modified portfolio**
- **Laid out in "phases" to provide a sequence that aims to (1) provide a clear road map to potential allocation changes, (2) allow a pace to ensure Committee education and support of each move, and (3) be flexible to make changes as we progress**

Phase 1, 2nd Half of 24

- Enterprise Risk analysis, assess System's ability to take additional investment risk
- Suggested potential asset allocation shifts (potential destination)
- Review Fixed Income Manager Guidlines

Phase 2, 2nd Half of 24

- Revisit Fixed Income opportunities – High Quality HY and Global Multi Sector, ACWI investment and commingled funds
- Develop plan going forward for Core Fixed Income – separating Treasury and Credit exposures
- Potential increase to and modify equity allocation
  - Discuss implementation
- Update IPS to include all approvals

Phase 3, 1st Half of 25

- Additional education on private market investing
- Separate education session which would include NEPC experts in Private Markets space
- Evaluate the 'why' in utilizing private markets, and how they are different from a legal, regulatory, reporting, and terms perspective relative to public investments

Phase 4, 2025

- Potential to approve/finalize asset allocation that allows for a strong risk/reward tradeoff
- IPS updated and codified to reflect new asset allocation
- Depending on structure approved, new work plan to be updated and approved – could include private market pacing and any subsequent implementation steps

REMAINING 2024 WORK PLAN

MEMORIAL HEALTH SYSTEM OPERATING AND PENSION PLANS

	July	August	Sept	October	November	December
Standard Monthly	Capital Markets Update and Performance Review	Capital Markets Update and Performance Review	Capital Markets Update and Performance Review	Capital Markets Update and Performance Review	Capital Markets Update and Performance Review	Capital Markets Update and Performance Review
Quarterly		Quarterly Performance and Due Diligence			Quarterly Performance and Due Diligence	
Additional Topics	ERM Analysis	IPS Review	Fee Review			
	Asset Allocation Review	Potential Manager Review(s)				
	Review Fixed Income Guidelines					
Votes / Approvals		Asset Allocation				
		IPS Changes				
		Potential Manager Approvals(s)				

The Work Plan can be thought of as a living calendar and will get updated and tailored to MHS annually based on the goals and objectives of the system.

ENTERPRISE RISK ANALYSIS

ENTERPRISE RISK MANAGEMENT TOOLS

NEPC'S SKYAN – OVERVIEW

Online NEPC ERM application allowing you to integrate organizational risks (operations, debt, pension contributions) when considering how much risk to take in your investment program

Operating Pools
Revenue | Expense | Depreciation | Interest Capital Expenditures | Change in Working Capital | CapEx

Debt Management
Debt Financing | Debt Service

Pension Contributions

Budgeted Investment Gain/Loss
Comparison with Market Projections/Scenarios

Scenarios, Metrics (Assets/DCOH), Budgets

Benefits

- ✓ Framework for more dynamic decision making
- ✓ Determine organizational & investment risk budgeting
- ✓ More robust scenario forecasting
- ✓ Better strategic & financial outcomes

Note: SKYAN is a propriety online tool enabling healthcare clients to integrate the organizational risks (operations, debt, pension contributions) when considering how much risk to take in their investment program

ERM ANALYSIS OVERVIEW

- **Memorial Healthcare's Operating portfolio currently has an allocation which is forecasted to be more conservative risk profile than the average Healthcare Operating fund**
  - Memorial Operating Standard Deviation: 4.6%
  - InvMetrics Healthcare Operating Funds >$500mm (Net) Standard Deviation: 11.1%
- **Given the results of the ERM analysis, there is sufficient evidence that the portfolio could take on additional, measured risk**
  - As the analysis will show, implementing the changes to achieve Phase II has the ability to increase the overall risk/return of the portfolio, while still maintaining a conservative approach
  - We also modelled a mix with private markets, and it does show that we can potentially add to the overall risk/return profile of the portfolio
  - Under either allocation (Phase II and Phase IV), Memorial's overall risk profile is forecasted to be well below peers as demonstrated on the following page

ASSET ALLOCATION ROADMAP

	Current Policy	Phase II	Phase IV	Average HC Operating Universe > $500M
Cash	15%	15%	15%	5%
Total Cash	**15%**	**15%**	**15%**	**5%**
Global Equity	0%	25%	25%	48%
Defensive Equity	10%	0%	0%	0%
Global Low Volatility	10%	0%	0%	0%
Total Public Equity	**20%**	**25%**	**25%**	**48%**
US Corporate Bond	0%	5%	5%	0%
US Opportunistic	20%	15%	10%	35%
High Quality High Yield Corporate	0%	5%	5%	0%
Global Multi-Sector Fixed Income	0%	5%	5%	0%
Short Term Pool	10%	10%	10%	0%
Intermediate Pool	35%	20%	15%	0%
Total Fixed Income	**65%**	**60%**	**50%**	**35%**
Private Equity	0%	0%	5%	-
Private Debt	0%	0%	5%	-
Total Alternatives	**0%**	**0%**	**10%**	**12%**
Asset Duration	**3.2**	**2.9**	**2.3**	**2.1**

Expected Return 10 yrs	**5.1%**	**5.3%**	**5.7%**	**5.6%**
Expected Return 30 yrs	**5.3%**	**5.9%**	**6.4%**	**6.7%**
Standard Dev	**4.6%**	**6.4%**	**7.7%**	**11.1%**
Sharpe Ratio (10 years)	**0.21**	**0.19**	**0.21**	**0.14**
Sharpe Ratio (30 years)	**0.40**	**0.37**	**0.38**	**0.29**

- **Phase II Completion Mix**
  - Phase II increases risk by expanding the equity profile from 20% to 25% and introduces US Corporate bonds and High Quality High Yield Fixed Income
  - US Aggregate bonds, Intermediate Treasuries and Intermediate Corporate allocations are reduced to allow for a more diversified fixed income approach
- **Phase IV**
  - Potential goal destination allocation to get to over time
  - This mix increases portfolio expected return by adding Private Equity and Private Debt
- **Average HC Operating Universe**
  - The final column shows the breakdown of the average asset allocation for the InvMetrics Healthcare Operating Funds >$500mm Net universe, and the resulting metrics using NEPC's asset class assumptions

The Average HC Operating Universe > $500M Total Alternatives is comprised of 50% Private Equity and 50% Hedge Funds

REVIEW OF HISTORICAL ASSET ALLOCATION

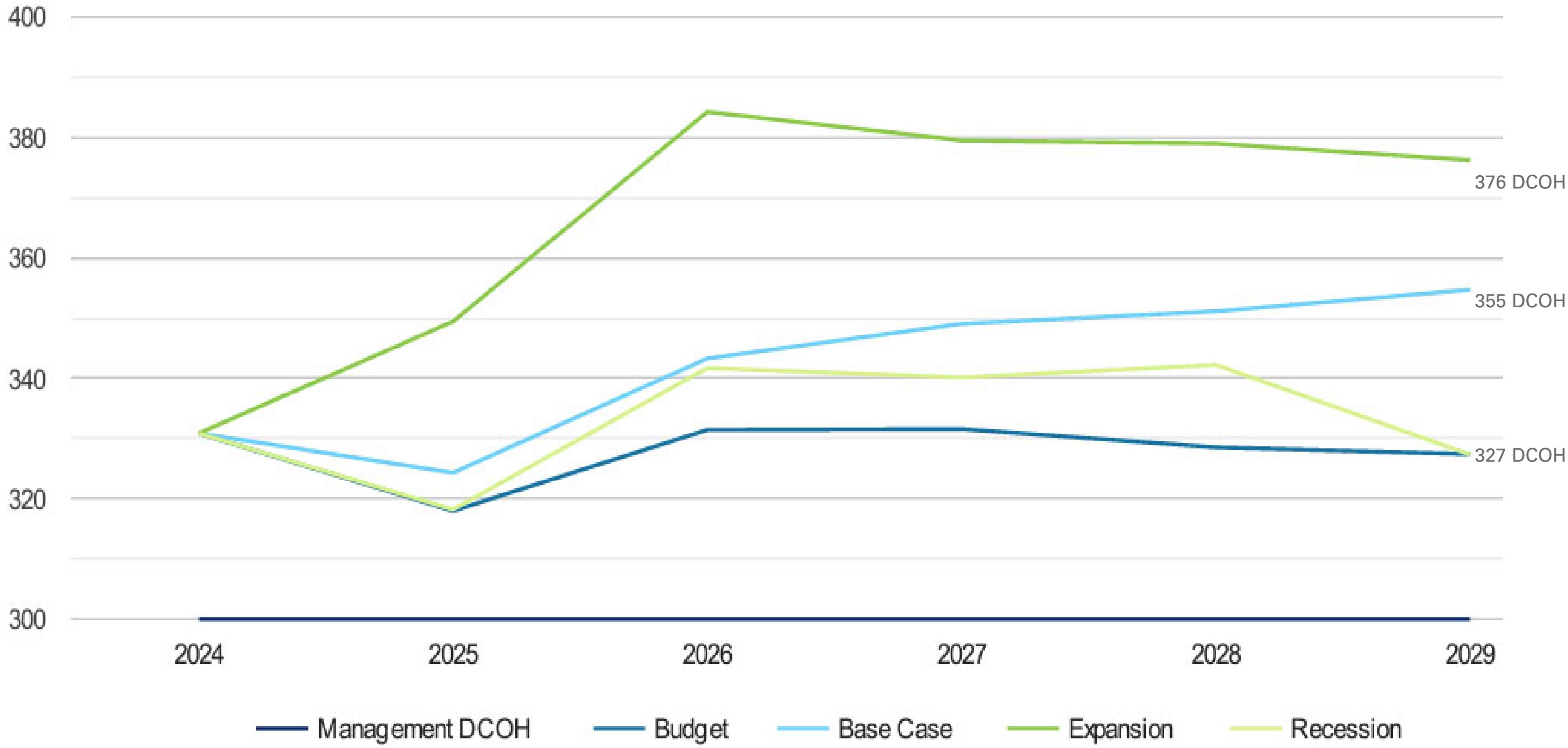
Asset Allocation	3-year Annualized Return
Current Policy	0.20%
Phase II	1.08%
Phase IV	1.46%
Average HC Operating Universe > $500M	2.09%

Asset Allocation	Estimated Market Value	Estimated Cumulative Difference
Current Policy	$ 2,588,454,286.20	n/a
Phase II	$ 2,657,533,770.33	$ 69,079,484.12
Phase IV	$ 2,687,640,361.49	$ 99,186,075.29
Average HC Operating Universe > $500M	$ 2,737,721,354.31	$ 149,267,068.11

- **This analysis represents Memorial Healthcare's current and proposed asset allocations if each had been invested passively (e.g. benchmark performance)**
  - If MHS had been invested passively in the Phase II allocation, the portfolio could have returned an estimated ~1.1%
  - Had MHS been fully invested in Phase IV, including the private markets programs built to targets, the portfolio could have returned an estimated 1.46%
- **Based on a comparable universe, MHS has historically been more conservative in its asset allocation**
  - Based upon MHS strong operating performance and financial strength, it does appear there is more ability to take incremental risk in the investment portfolio to generate potentially higher returns

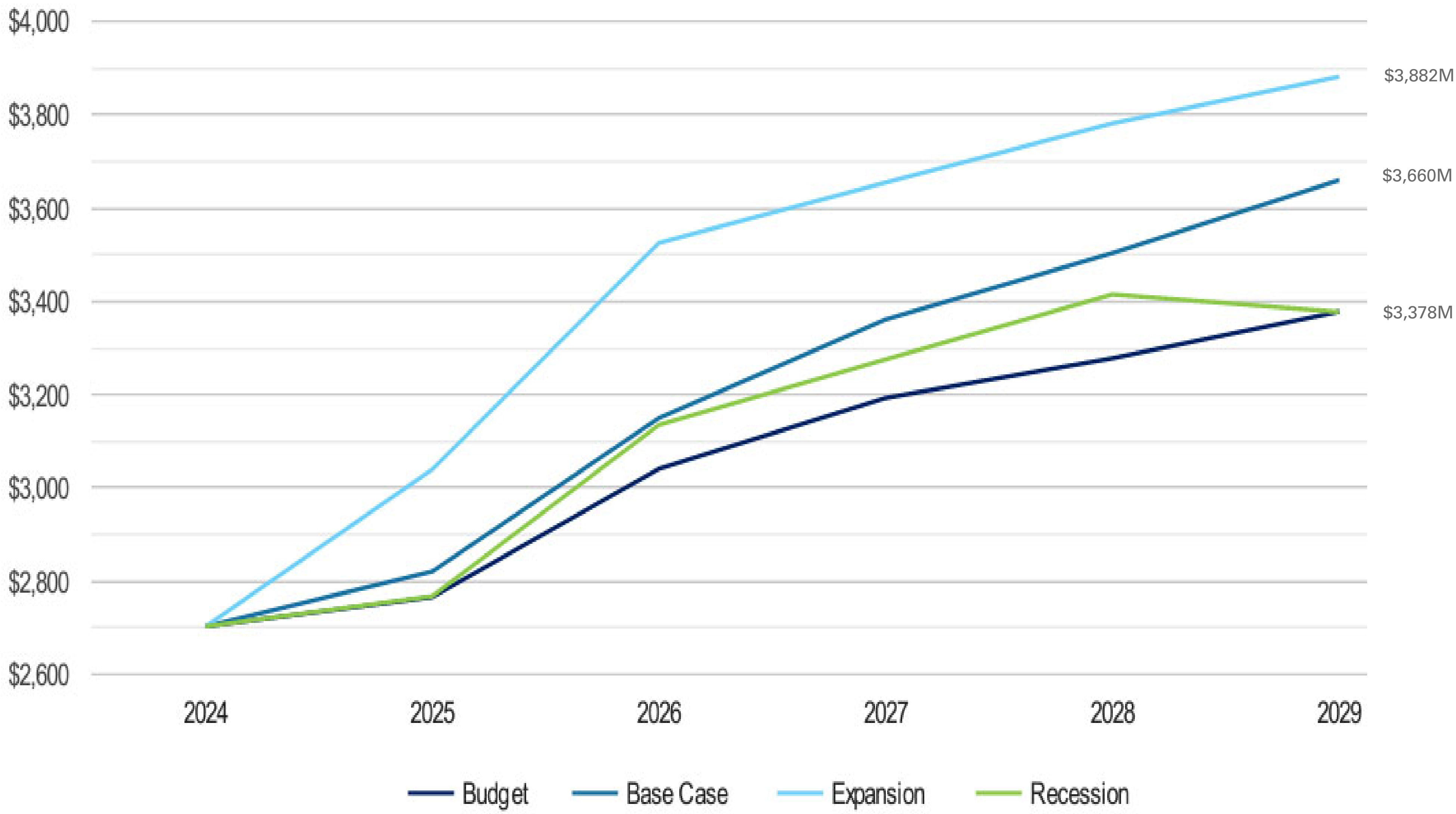
Starting point for market value calculations is June 2021 Operating market value of $2,572,985,476.93
Annualized returns are calculated from multiplying asset allocation by respective asset class benchmark
Estimated market values were calculated by taking the June 2021 market value and annualizing the return for 3 years
Estimated cumulative difference is the difference between the respective asset allocation market value and the current policy market value if invested passively

MEMORIAL ERM – CURRENT POLICY

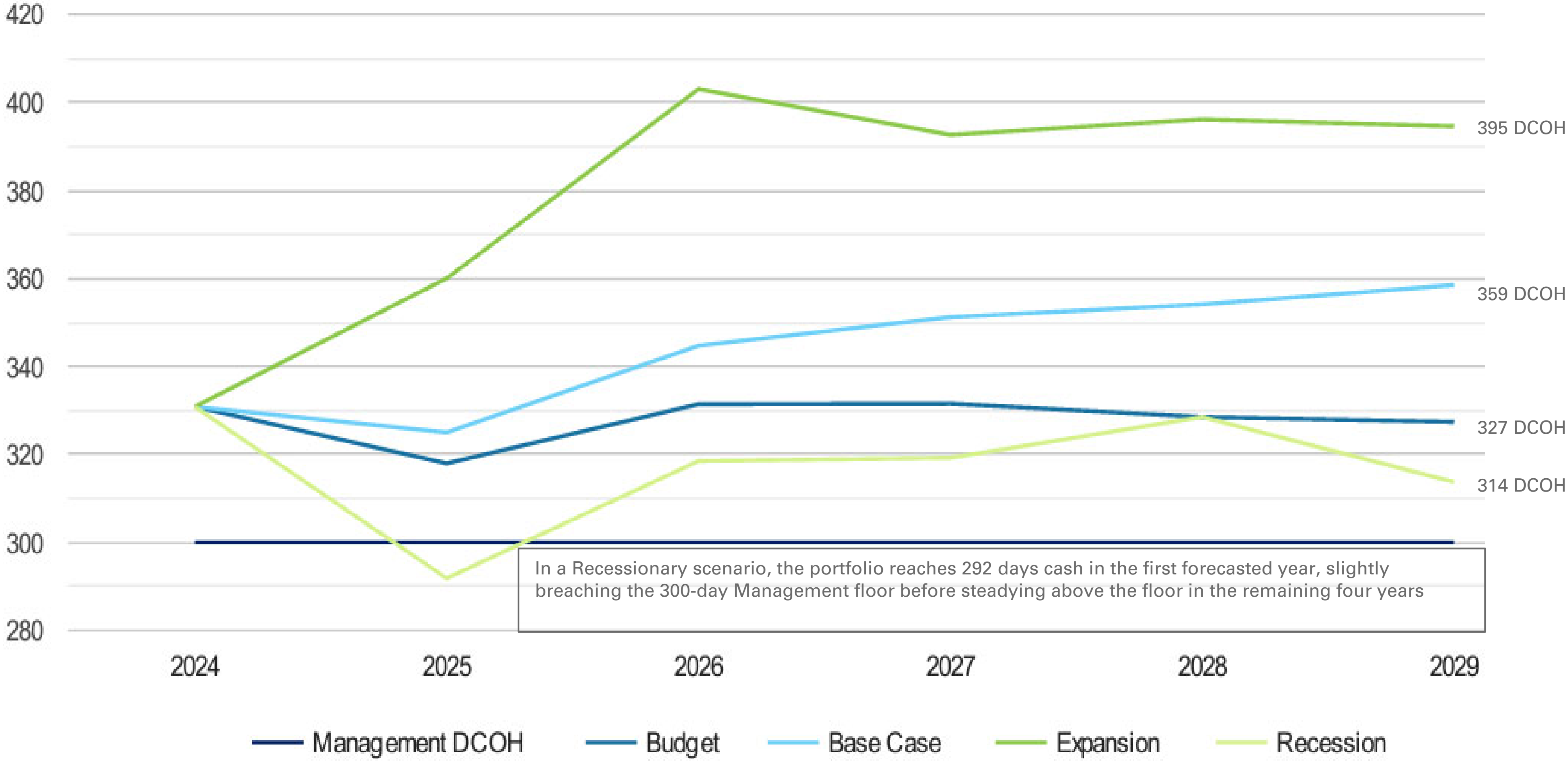


- Memorial Healthcare's Operating portfolio, using the current policy set forth in the IPS, has a base case scenario which gradually increases Days Cash On Hand over the course of the next five years
- In an Expansionary period, the portfolio's DCOH will rise to 384 days cash before a marginal decline in the remaining three years
- In a Recessionary scenario, the portfolio could dip down to a DCOH level of 318 days but staying well above the 300-day Management floor

SCENARIO ANALYSIS – CURRENT POLICY

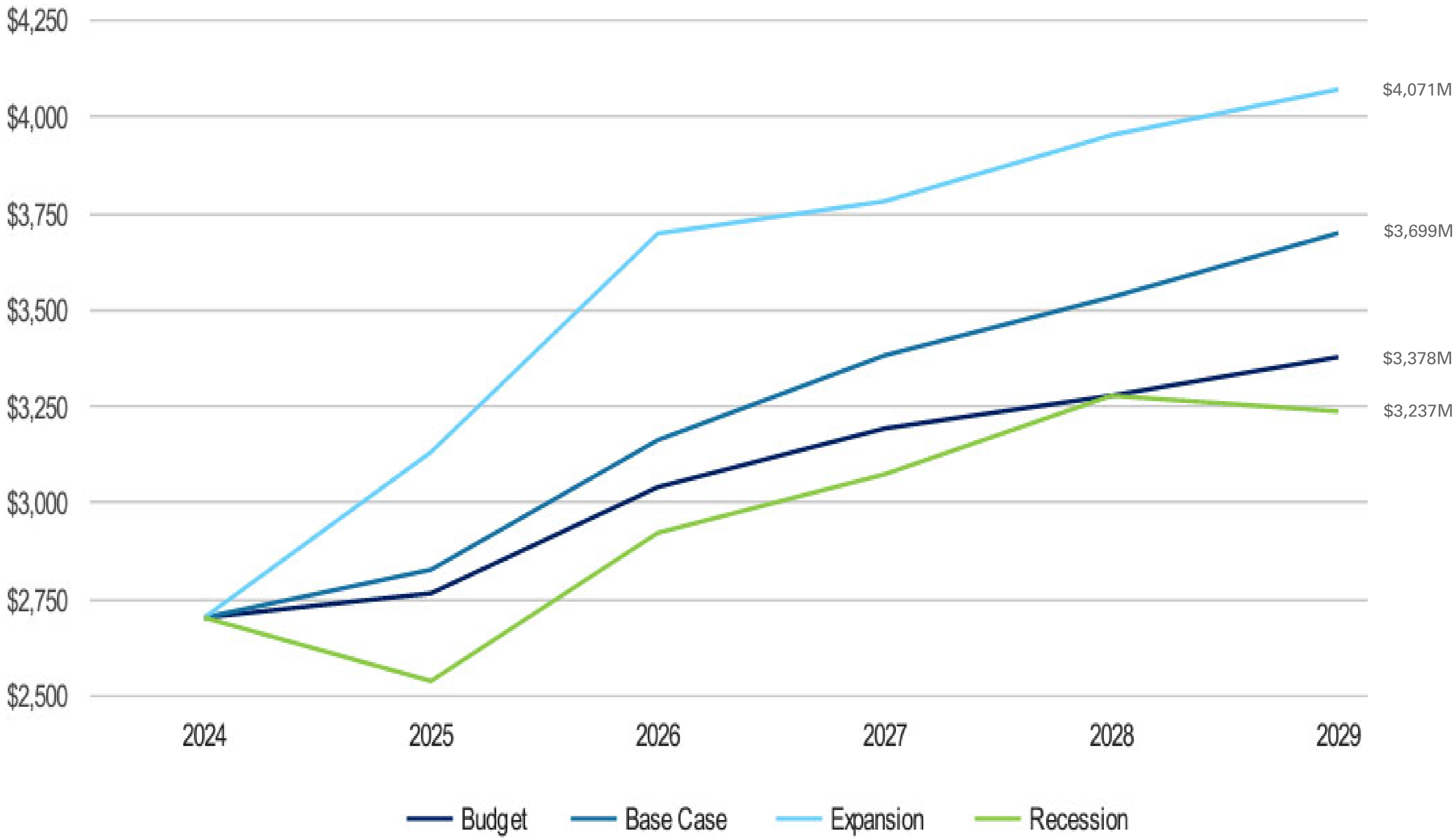


MEMORIAL ERM – PHASE II COMPLETION

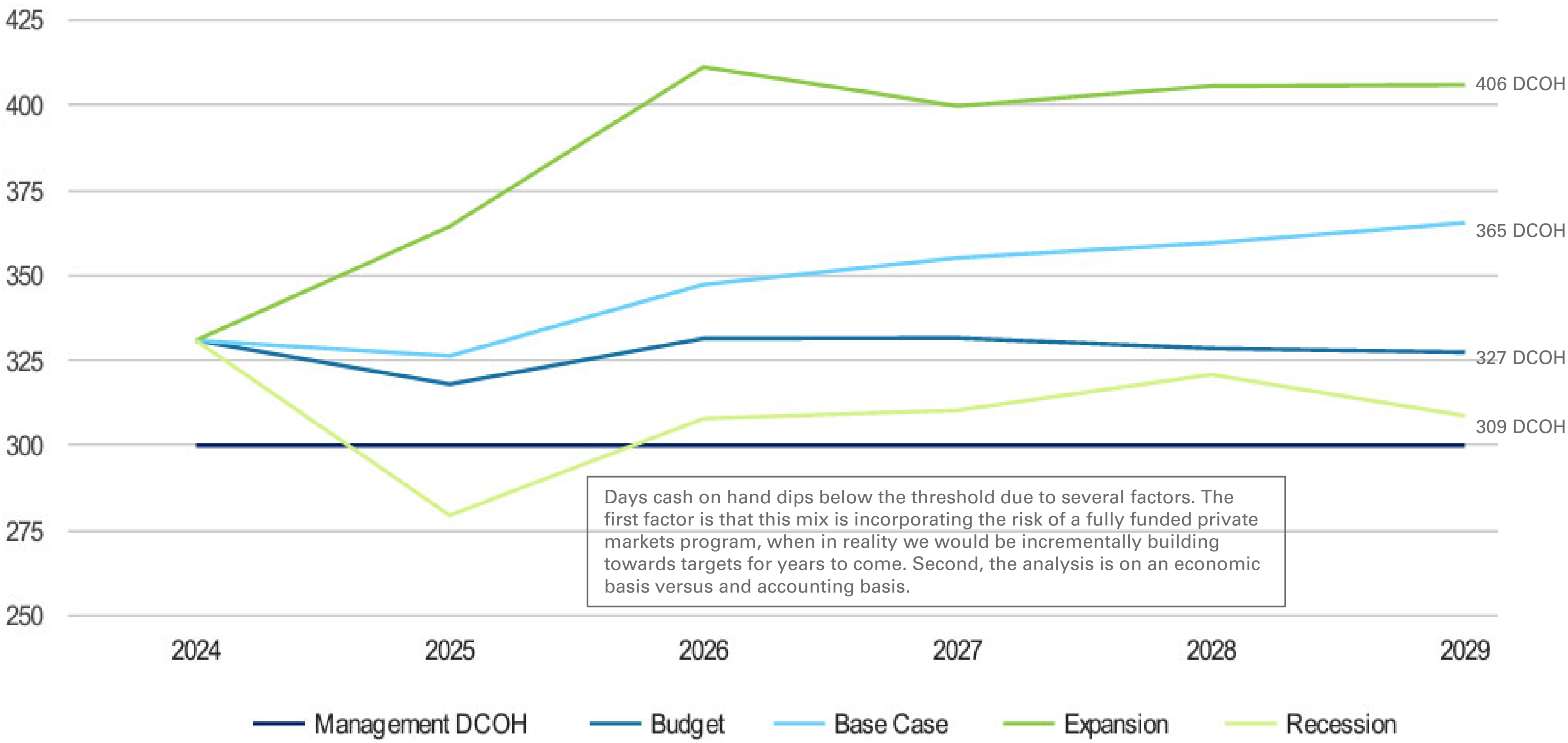


- Memorial Healthcare's Operating portfolio, using the Phase 1 Completion mix has a base case scenario which gradually increases Days Cash On Hand over the course of the next five years
- In an Expansionary period, the portfolio's DCOH will rise to 403 days cash before flattening in the remaining three years

SCENARIO ANALYSIS – PHASE II COMPLETION

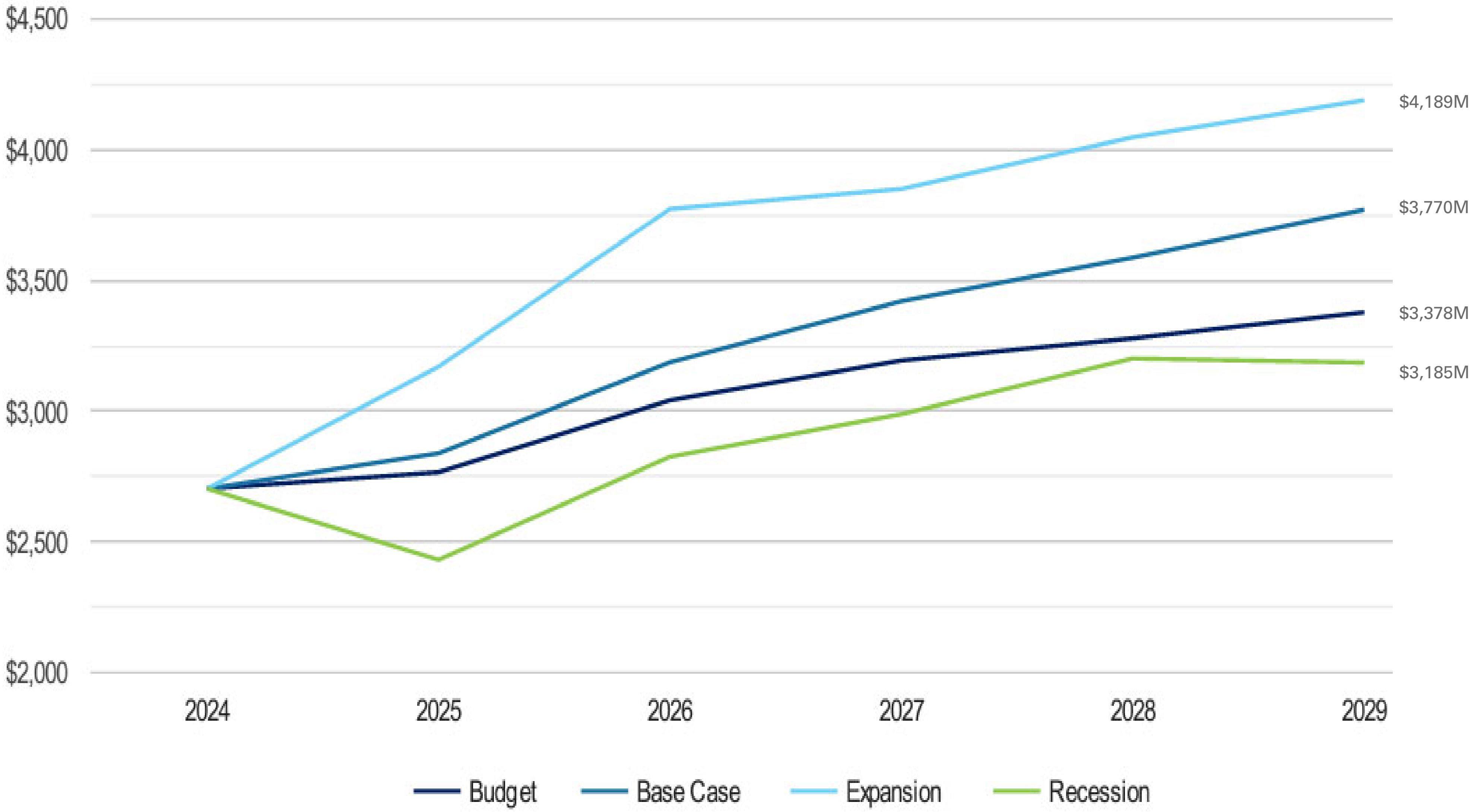


MEMORIAL ERM – PHASE IV

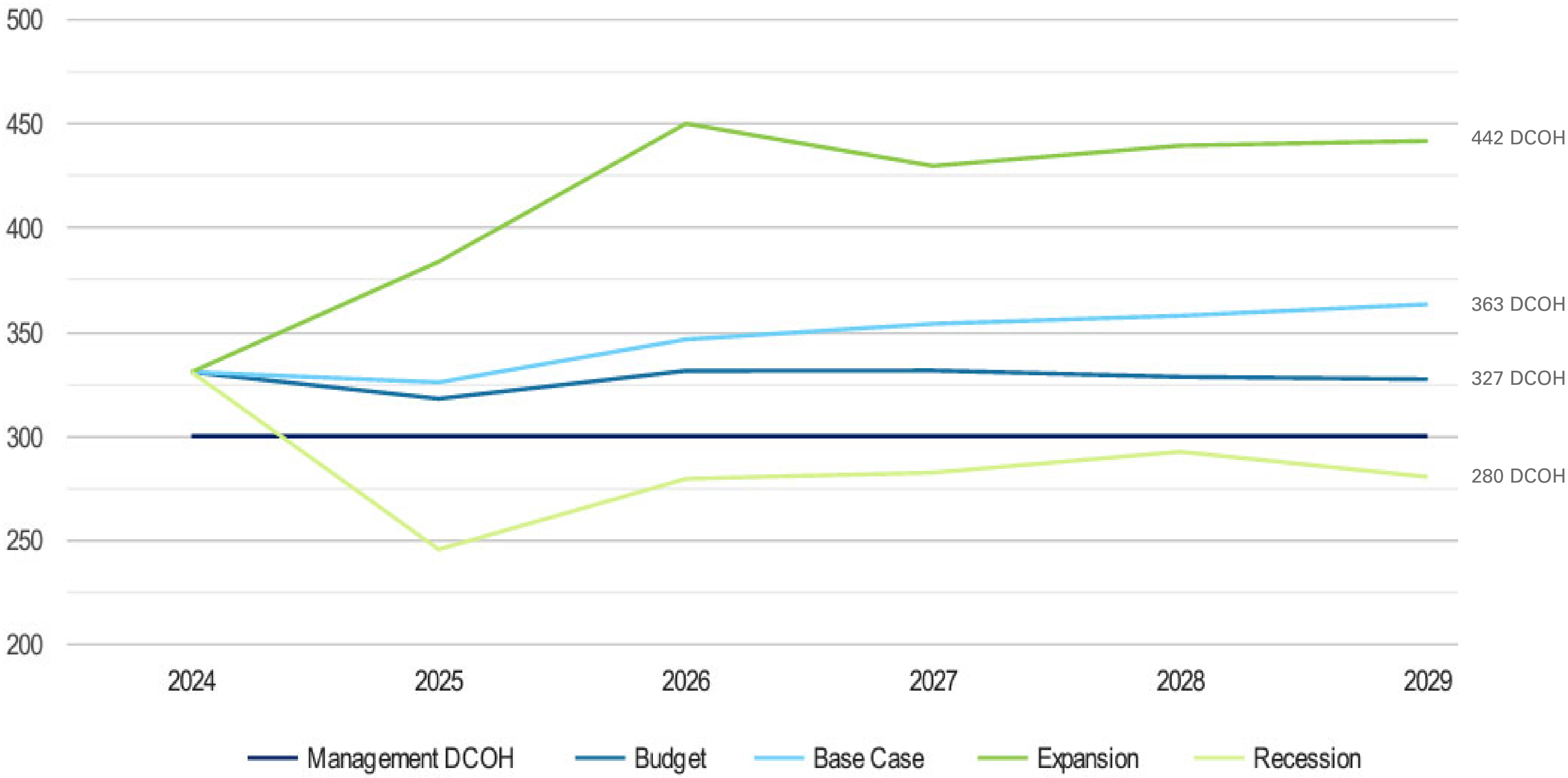


- Memorial Healthcare's Operating portfolio, using NEPC's preferred asset allocation, has a base case scenario which results in DCOH increasing steadily over the next five years
- In an Expansionary period, the portfolio's DCOH will rise to 411 days before flattening out and stabilizing for the remaining three years
- Alternatively, in a Recessionary scenario, the portfolio drops to 279 days cash, breaching the 300-day Management threshold, before exceeding the floor after year 2
  - DCOH remains stable over the final three years after the initial recessionary shock

SCENARIO ANALYSIS – PHASE IV

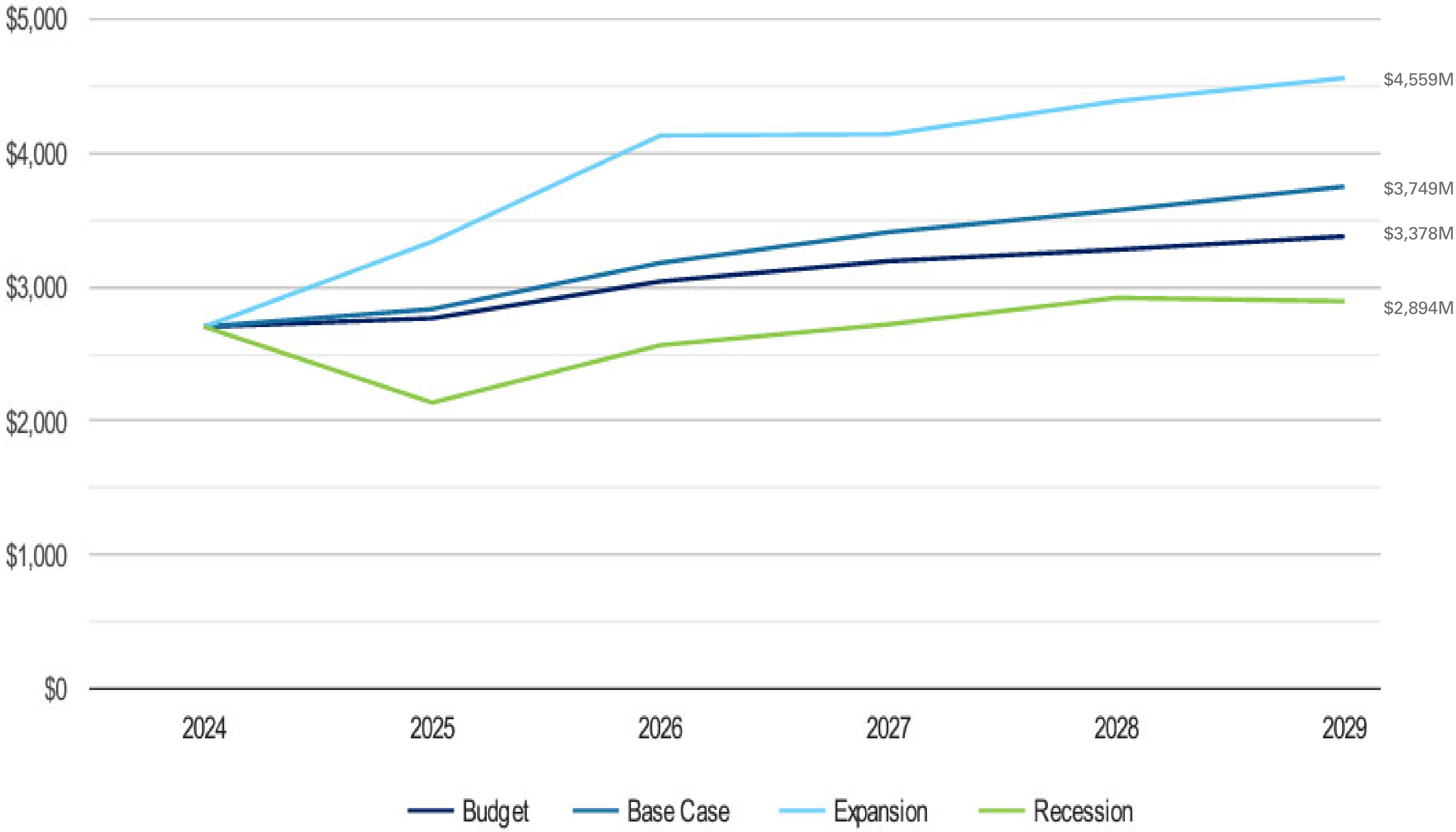


MEMORIAL ERM – AVERAGE HC UNIVERSE



- Memorial Healthcare’s Operating portfolio, using the Average Healthcare Universe mix has a base case scenario which gradually increases Days Cash On Hand over the course of the next five years
- The Average HC Universe mix incorporates riskier assets classes such as Private Equity and Hedge Funds which, in turn, benefits the portfolio significantly on the upside but struggles mightily on the downside
- In a Recessionary scenario, the portfolio hits 246 days cash in the first forecasted year, and then steadies below the threshold for the remaining years

SCENARIO ANALYSIS – AVERAGE HC UNIVERSE



FIXED INCOME MANAGER GUIDELINE ADJUSTMENTS

OVERVIEW OF FIXED INCOME GUIDELINE REVIEW

- **NEPC reviewed (and discussed with the managers) the guidelines for each fixed income manager in the MHS Operating portfolio to assess three key areas**
  - Are the fixed income IPS restrictions limiting and/or present an obstacle to maximizing yield given the managers mandate?
  - Are there differences in the guidelines amongst managers – both what is included and their interpretation?
  - Are there restrictions that are included in the investment management agreement (IMA) that are not in the IPS?
- **It was concluded that all three situations are taking place – which could be limiting the potential of the fixed income portfolio**
  - It does appear that many restrictions were discussed/implemented with managers at different points several years ago during different market conditions
- **NEPC and Staff would recommend the Committee approve the changes to the IPS outlined on the following slides. Goals of the changes are as follows:**
  - Improve fixed income yield/return at a normal level of market risk
  - Bring a degree of uniformity to the fixed income guidelines and remove unintended outcomes
  - MHS and NEPC will further work with managers to remove non-IPS restrictions that currently exist

IPS GUIDELINE CHANGES – FIXED INCOME

- **Change restriction requiring the average duration of the total fixed income portfolio not exceed four years**
  - Propose a duration limit equal to that of the Bloomberg Aggregate Index
- **Increase maximum amount in BBB rated securities from 15% to 20%**
  - Currently creates a structural underweight vs. the benchmark
  - Minimum average credit quality of A is preserved in guidelines limiting risk associated with change
- **Increase the maximum combined Corporate and Securitized bond restriction from 50% to 65%**
- **Allow holdings in "Yankee bonds"**
  - US Dollar denominated securities of a foreign bank or corporation

IPS GUIDELINE CHANGES – FIXED INCOME (CONT.)

- **Eliminate restriction to only trade with Primary Security Dealers**
  - Current restriction can result in higher trading costs
- **Eliminate Guideline requiring corporate bonds have a listed equity security on a national exchange**
- **Increase final maturity maximum from 10 years to 10 years and one quarter**
    - Current restriction eliminates a fair number of bonds on the edges
    - 10 years + 1 quarter would fix approximately 95% of this
- **Reduce minimum rating on securitized from AAA to AA**
  - Still high quality and allows managers to "ride the credit quality up"
- **Increase the 144A restriction from 10% to 20%**
  - 144A securities issuance has increased and these securities do not face the same liquidity issues as previously

APPENDIX

GLOSSARY OF TERMS

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:
(Annualized Return of Portfolio - Annualized Return of Benchmark)/Annualized Standard Deviation(Period Portfolio Return – Period Benchmark Return). To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared – Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:
*Calculation Average (X-Y)/Downside Deviation (X-Y) * 2*
Where X=Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:
(Annualized Return of Portfolio – Annualized Return of Risk Free) / Annualized Standard Deviation (Portfolio Returns)

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:
*Tracking Error = Standard Deviation (X-Y) * √(# of periods per year)*
Where X = periods portfolio return and Y = the period's benchmark return
For monthly returns, the periods per year = 12
For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:
(Portfolio Average Return - Average Return of Risk-Free Rate)/Portfolio Beta

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

UpsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Period Benchmark Return is > = 0

DownsideCapture = TotalReturn(FundReturns)/TotalReturns(BMReturn) when Benchmark <0

INFORMATION DISCLAIMER

Past performance is no guarantee of future results.

The goal of this report is to provide a basis for monitoring financial markets. The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information on market indices was provided by sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

All investments carry some level of risk. Diversification and other asset allocation techniques do not ensure profit or protect against losses.