Morgan Stanley

City of Stamford, Connecticut
Board of Finance Budget Presentation Meeting
Monday, April 1st, 2025

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Agenda: OPEB and CERF Pension Discussion

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Thought Leadership: Asset Allocation Advice

Lisa Shalett
Chair of the Global Investment Committee
Chief Investment Officer
Head of the Global Investment Office
Morgan Stanley Wealth Management

Rui de Figueiredo
Head and Chief Investment Officer of the Solutions & Multi-Asset Group
Morgan Stanley Investment Management

Steve Edwards
Head of Portfolio Construction & Cross-Asset Strategy
Morgan Stanley Wealth Management

Matthew Hornbach
Global Head of Macro Strategy
Morgan Stanley & Co. LLC

Andrew Sheets
Global Head of Corporate Credit Research
Morgan Stanley & Co. LLC

THE GLOBAL INVESTMENT COMMITTEE

The firm's most recognized experts

Establish general allocation guidelines

Provide compelling tactical investment ideas for your portfolio

Daniel Skelly
Head of Market Research & Strategy
Morgan Stanley Wealth Management

Andrew Slimmon
Head of Applied Equity Advisors
Morgan Stanley Investment Management

Vishwanath Tirupattur
Head of US Fixed Income Research
Morgan Stanley & Co. LLC

Ellen Zentner
Chief US Economist
Morgan Stanley & Co. LLC

Source: Morgan Stanley Wealth Management GIO

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

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An Industry Leader in Manager Analysis

~65

ANALYSTS DEDICATED TO MANAGER ANALYSIS

4,800+

STRATEGIES MONITORED / YEAR

950+

SEPARATELY MANAGED ACCOUNTS

~$1.9 Trillion

INVESTMENT ADVISORY ASSETS UNDER MANAGEMENT (3)

450+

NEW PRODUCTS LAUNCHED LAST 12 MTHS (3)

2,150+

MUTUAL FUNDS

1,100+

ETF STRATEGIES

#1

MANAGED ACCOUNT PROGRAM BY ASSETS (1)

~400

INVESTMENT MANAGER RELATIONSHIPS

580+

ALTERNATIVE STRATEGIES (2)

All information as of March 2024 unless otherwise noted and subject to change.

1. Source: Morgan Stanley Wealth Management as of December 2023. This category includes separate account consultant programs, mutual fund advisory programs, ETF advisory programs, rep as portfolio manager programs, rep as advisor programs and unified managed account programs. Separate account consultant programs are programs in which asset managers manage investors' assets in discretionary separate accounts. Mutual fund advisory programs and ETF advisory programs are discretionary and nondiscretionary programs designed to systematically allocate investors' assets across a wide range of mutual funds or ETFs. Rep as portfolio manager programs are discretionary programs in which advice is an essential element; planning is undertaken or advice is treated as a separate service from brokerage. Rep as advisor programs are nondiscretionary programs where the advisor has not been given discretion by the client and must obtain approval each time a change is made to the account or its investments. Unified managed accounts are vehicle-neutral platforms that simplify the delivery of multiple investment vehicles, such as separate accounts, mutual funds, exchange-traded funds and individual securities through their integration within a single environment. Rankings are subject to change.
2. Includes Private Equity.
3. As of December 2023

Where Are We: March 2025

- **Starting points matter; 2025 opened with rich valuations, high expectations and high complacency; especially among individual investors.**
    - We declared it an **"Earnings Show Me"** year given substantial dependence on corporate margin expansion against the backdrop of a soft landing (lower growth, less pricing power); multiple expansion exhausted on negative equity risk premiums.
- **Since January, the thesis underpinning the October 2022-February 2025 bull market in US equities has been undermined.**
    - The Fed, having cut policy rates 100bps, has declared "a patient data driven pause" concerned about "sticky inflation"; financial conditions remain very accommodative.
    - DeepSeek announcement has raised questions about gen AI capex cycle spending and ROI.
    - Policy uncertainty has soared around immigration, DOGE and especially tariffs.
- **Accelerating negative economic surprises in the incoming data is raising questions about recession and stagflation.**
- **Markets have more than "roundtripped" since Election Day, completely unwinding the Trump Trade**
    - S&P 500 at ~5500 is -9.5% from all-time high (February 2025) and through its 200 DMA; NASDAQ is in a bear market, down more than 10%. Both major indices have US equities down more than 5% YTD.
    - 10-year Treasury rate yields at 4.30% are down ~50bps since mid-January.
    - The US dollar is down ~6% from multi-year highs.
- **Equity market leadership rotation is evident**
    - Underperformance of the Mag 7 noteworthy; momentum factors have melted; defensives leading
    - Bonds outpacing stocks YTD.
    - European stocks outperforming US stocks by more than 2,000bps YTD.

Source: Morgan Stanley Wealth Management GIC as of March 12, 2025. Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

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What We Forecast: March 2025

- **GDP:** We are still **forecasting an economic soft landing in the US** (60% probability, **DOWN** from last month).
  - MS & Co. real GDP forecasts have been **CUT** but remain positive at **1.5% in 2025 and 1.2% in 2026.** However, risks to the forecasts are weakening the labor market and a strained consumer. Service sector stability holds the key—tariffs, DOGE cuts and immigration reform could be destabilizing.
  - **Recession odds are up to 15%, stagflation 15% and inflationary boom 10%.**

- **Inflation:** The GIC believes **inflation will remain higher for longer and above the Fed's 2%** target; tariffs are risks.
  - MS & Co. sees CPI averaging **2.8% and 2.4% in 2025 and 2026**, respectively.

- **Fed Policy:** MS & Co. is **expecting one policy cut in 2025, likely in June**—now slightly more **hawkish** than market pricing which has moved back to close to three cuts by year end.
  - We see cycle **neutral rate at ~3.625%.** We believe we are in a new secular rates regime driven by structural changes and structurally higher debts/deficits.

- **Rates:** US Treasury rates appear near fair value. MS & Co. base case for **10-year yields at year end is 4%.**
  - USD weakness persists.

- **Earnings:** Mike Wilson sees 2025 and 2026 S&P500 earnings per share **as $271/sh and 303/sh, respectively**
  - Earnings growth implies material acceleration for the "493"; **12% this year and 13% next.**

- **Target Prices:** MS & Co. S&P 500 is at **6,500** for this year.
  - Implied price/earnings multiple of 21.5x.

- **Global:** Growth ex-US is in recovery and rebound mode. Central banks are more aggressive in easing and fiscal policy expansionary.

Source: Morgan Stanley Wealth Management GIC as of March 12, 2025

Annual Update of GIC Capital Market Assumptions - March 2025

The bottom line for 2025 is that, for investors in global portfolio assets, our strategic-horizon efficient frontier has steepened, moving "up and to the left." This represents improved opportunities versus 2024, when our efficient frontier was excessively flat and reflected minimal equity risk premiums. Over the next seven years, we now expect global equities to return roughly 7.1% annually, more than 100 basis points above our year-ago forecast.

Critically for many US-focused investors, our expected annualized returns for US equities have improved materially, from 5.1% to 6.5%. That said, expected returns for virtually every equity-linked asset class are higher than those for US large-cap growth stocks, which feature among the lowest forecast seven-year Sharpe ratios in our opportunity set. This is not only a function of relative value but of the expectation that longer-maturity rates will stay higher for longer. In fact, we see the Bloomberg US Aggregate Index delivering an annual return of approximately 4.8%, with a higher Sharpe ratio than US large-cap equities.

Preface to This Year's Edition

Capital market forecasts aren't formulated in a vacuum, and ours are deeply influenced by our team's perspectives on overarching economic and market regimes. Last year's strategic themes centered around the "Great Normalization" and our view that shifting the monetary-policy regime away from an interventionist model and toward a more data-driven one, along with the end of the secular bond bull market, would contribute to several important developments. We believed these would include higher neutral real rates, average inflation expectations, a return of term premiums and normalization of equity market volatility—factors that might finally transition markets to valuation frameworks for rates, credit and equities resembling the pre-Great Financial Crisis (GFC) period. Reflecting on 2024 data, this characterization, if directionally correct, may have been incomplete. To wit, the activist monetary policy of former Federal Reserve Chair Paul Volcker, which gave way to the disinflationary "globalization Goldilocks" of Alan Greenspan before yielding to the financial repression policies of the GFC and COVID under Bernanke, Yellen and Powell, had produced a new structural regime by 2022.

Annual Update of GIC Capital Market Assumptions - March 2025

Finally, while it is still early days for the new administration, and therefore contextualizing the precise outcome of the ambitious Republican agenda is nearly impossible, we implicitly make several high-level observations that matter to economic and market regimes and asset class returns. On the more straightforward side, priorities around tax reform, deregulation and incentives for manufacturing onshoring and energy development should support economic growth, capital deepening and productivity, as telegraphed in our Jan. 4, 2023 report, "The Next American Productivity Renaissance."

Exhibit 14: We Expect Broadly Higher Equity Returns Led by Emerging Markets and International Regions

	Total Shareholder Yield	Valuation Impact	Nominal Economic Path	Total (%)
US Large-Cap Equities	4.1	-1.6	3.9	**6.3**
US SMID-Cap Equities	2.7	0.6	4.5	**7.7**
European Equities	4.0	0.4	3.2	**7.5**
Japan Equities	3.8	0.3	2.6	**6.6**
Asia Pacific ex Japan Equities	3.4	0.3	4.2	**7.9**
Canadian Equities	3.4	0.0	3.6	**7.0**
Developed International Equities	3.8	0.3	3.2	**7.3**
Emerging Market Equities	2.9	0.2	5.8	**8.9**
Global Equities	3.8	-0.8	4.1	**7.1**

Source: Robert J. Shiller of Yale University, Bloomberg, FactSet, Morgan Stanley & Co., Morgan Stanley Wealth Management GIC as of March 27, 2025

Bottom Line. The recent partial retracement of the 10% US equity market correction has raised the question of "buying the dip"—a strategy that worked for most of the post-COVID market cycle. While we understand investor temptations, events and data suggest that the prior market narrative has been broken. The Fed is no longer lowering rates, delivering accommodation only through a change in QT. Mag 7 companies have been recalibrating earnings expectations as the realities of capex spending, global competition, currency volatility and tariffs are acknowledged. Finally, elevated policy uncertainty is pressuring risk premiums, limiting the attractiveness of the broad index. Amid the shifting narratives, we have preferred a more measured approach, focusing risk-taking calibration on two factors: economic soft landing and company-specific earnings achievability. With prospects for both decent, we are staying the course, suggesting maximum diversification, active risk management and security selection. No need to chase beta here. **Watch** earnings revision breadth, which needs to stabilize or turn positive for us to have stronger interest in passive beta exposure. **Consider** using volatility to rebalance across asset classes, regions and sectors. In the US, equal-weighted indexes are the recommended approach for accessing passive risk-adjusted returns for now, while active strategies, including hedge funds, are preferable for equities and credit. Be sure to maintain exposure to real assets.

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Current Indicators: Equity Valuation

Morgan Stanley & Co. S&P 500 Year-End 2025 Forecasts

As of March 28, 2025

EPS Landscape	MS & Co. 2026 EPS Est.	Multiple	Price Target	Upside / (Downside)
Bull Case	$329	22.49	7,400	32.6%
Base Case	$303	21.45	6,500	16.5%
Bear Case	$248	18.55	4,600	(17.6%)
Current S&P 500 Price			5,581	

Morgan Stanley & Co. and Consensus S&P 500 Earnings Estimates

As of March 28, 2025

S&P 500 Current and Historical Valuation

As of March 28, 2025

	Mar 28, 2025	Tech Bubble	Financial Crisis	20-Year Average	Current Relative to Average
S&P 500 Trailing P/E	**24.0**	28.9	12.1	18.8	1.28
S&P 500 Forward P/E	**20.9**	26.6	11.2	15.8	1.33
Technology	**33.5**	64.3	12.4	24.1	1.39
Consumer Discretionary	**24.5**	28.5	29.3	20.9	1.17
Communication Services	**18.0**	28.6	11.4	16.3	1.11
Industrials	**22.3**	20.1	8.6	17.6	1.27
Real Estate	**38.4**	-	-	-	-
Financials	**16.7**	12.9	7.8	14.2	1.18
Consumer Staples	**22.0**	19.6	11.5	18.1	1.22
Energy	**15.3**	25.2	11.6	21.4	0.72
Utilities	**17.9**	14.8	9.8	14.9	1.20
Materials	**21.1**	13.8	13.9	18.1	1.17
Health Care	**17.8**	24.5	9.3	18.2	0.98

Source: FactSet, Bloomberg, Morgan Stanley Wealth Management GIC

Morgan Stanley & Co. Forecasts (as of March 28, 2025)

	REAL GDP GROWTH (%)			10-YR. GOVT. BOND YIELD (%)		HEADLINE INFLATION (%)		
	2024E	2025E	2026E	Q2 '25E	Q4 '25E	2024E	2025E	2026E
Global	3.2	3.0	2.9			2.4	2.2	2.0
US	2.8	2.0	1.4	4.35	4.00	3.0	2.7	2.4
Eurozone	0.8	1.0	1.1			2.4	2.4	1.8
UK	0.9	0.9	1.5	4.20	3.95	2.5	3.2	2.0
Japan	0.1	1.5	0.8	1.05	1.10	2.7	2.9	1.5
Emerging Markets	4.5	4.2	4.1			2.2	1.9	1.9
China	5.0	4.5	4.2			0.2	0.1	0.2

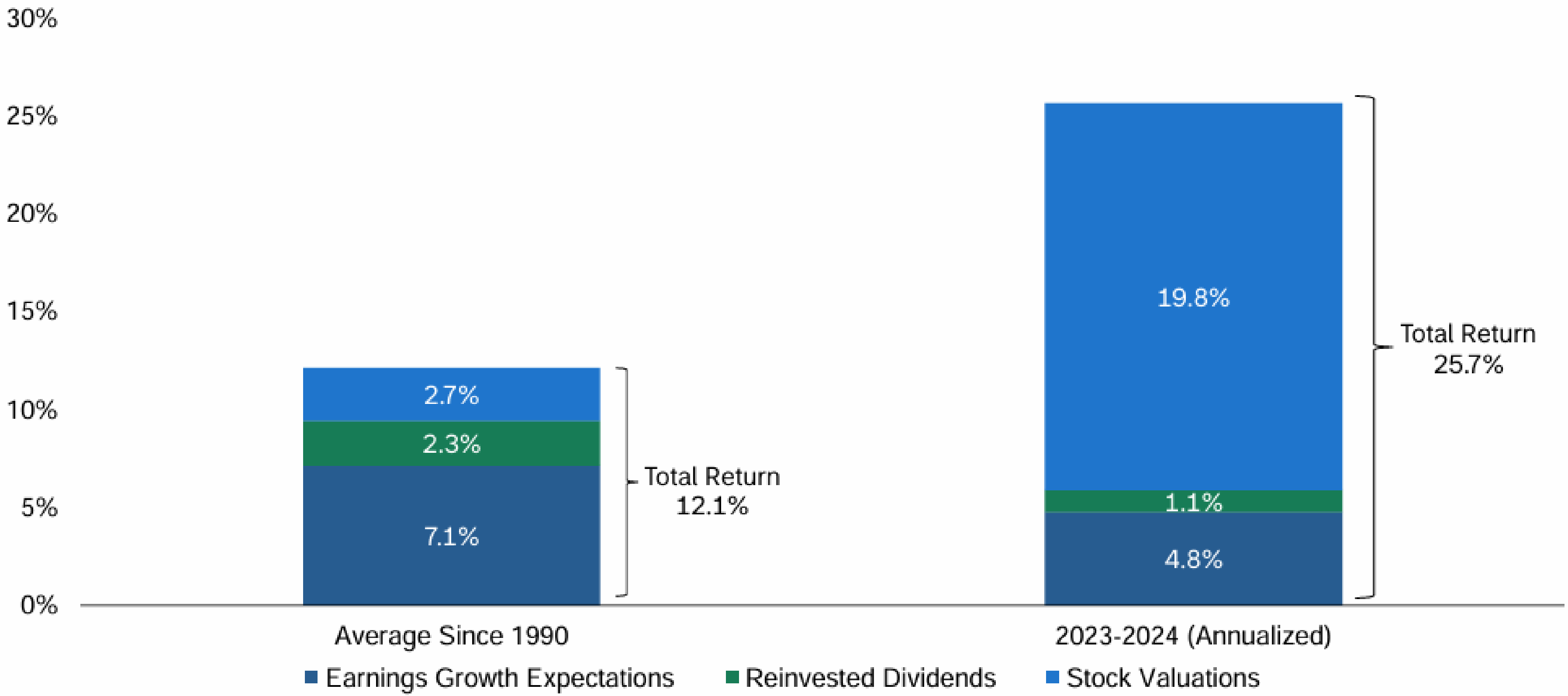
Source: Morgan Stanley & Co. Research

Rising Valuations Boosted Returns in 2023 & 2024

Stock returns are driven by earnings and dividend growth, as well as market pricing or "valuations." Recent market performance was driven primarily by rising valuations.

ATTRIBUTION OF S&P 500 RETURNS

As of December 31, 2024; Historical average since 1990



Note: Valuations and earnings growth calculated using consensus from estimates sourced from Bloomberg. Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office

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Things to Consider

Don’t Be Discouraged: Stay Diversified

Compare the experience of a highly diversified stock-and-bond investor to a stock-only alternative: despite many discouraging years, diversification had stronger returns.

COMPARISON OF DIVERSIFIED STOCK AND BOND PORTFOLIO TO STOCKS-ONLY ALTERNATIVE

2000–2024

Diversified Portfolio Either Underperformed or Declined in Value

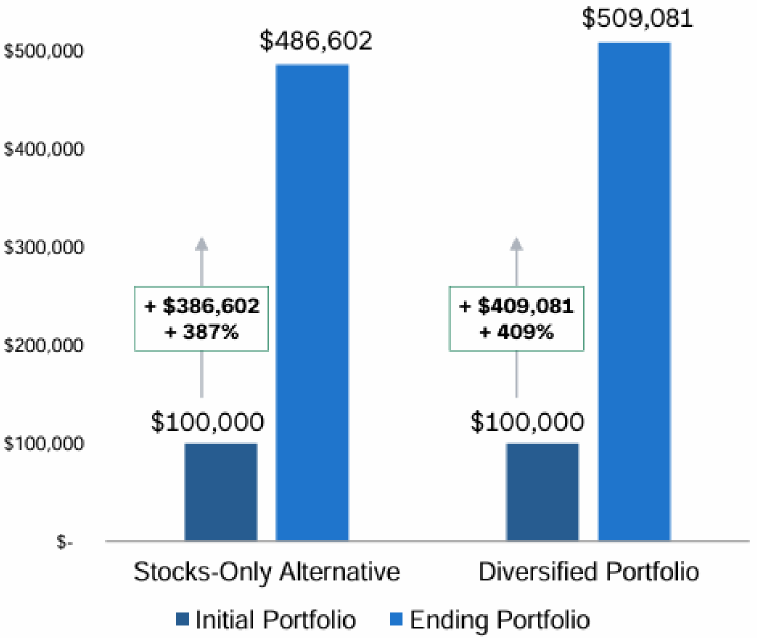
19 Years

Diversified Portfolio Outperformed and Gained Value

6 Years

COMPARISON OF CUMULATIVE RETURN

2000–2024



Source: Bloomberg, Morgan Stanley Wealth Management Global Investment Office

Note: Equity-only strategy represented by 60% US Large-Cap (S&P 500), 35% International Developed (MSCI EAFE) and 5% Emerging Markets (MSCI EM). Region weights held constant to provide consistent exposure to global equities and sized approximately in line with their average weight in global equity markets ; Diversified portfolio represented by 20% US Large Growth (Russell 1000 Growth), 20% US Large Value (Russell 1000 Value), 2.5% US Small Growth (Russell 2000 Growth); 2.5% US Small Value (Russell 2000 Value); 15% US Investment Grade Bonds (Bloomberg US Aggregate); 5% High Yield Bonds (Bloomberg Global High Yield); 15% Emerging Markets (MSCI EM); and 20% International Developed (MSCI EAFE). Diversified portfolio asset allocations approximate GIC Opportunistic Growth model portfolio allocations. Investors should consider their goals and risk profile when choosing an appropriate asset allocation for their situation.

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Fiduciary Schedule for the City of Stamford

Annual reviews and analysis provided to the City of Stamford CERF & OPEB Plans

Fiscal Quarter End	Morgan Stanley Consulting Group Services
Q2 2025 (January)	Investment Policy Statement (IPS) Review
Q3 2025 (April)	Cash Flow Analysis (using actuarial valuation reports)
Q4 2025 (July)	Total Fee Analysis
Q1 2026 (October)	Portfolio Risk and Asset Allocation Study

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Cash Flow Analysis City of Stamford CERF

Analysis provided to the City of Stamford CERF and OPEB Plans

City of Stamford CERF Pension

Cash Flow Analysis

April 11th, 2024 CERF meeting

David R. Javaheri, CIMA®, Managing Director, U.S. Government Entity Specialist

Kevin M. Nichols, CAIA®, CIMA®, CPWA®, Senior Institutional Consultant, Executive Director, U.S. Government Entity Specialist

Joseph J. Matthews, CFA, CFP®, Senior Institutional Consultant, First Vice President, U.S. Government Entity Specialist

CERF Meeting 4/11/2024	Fiscal Years Ending June 30th										
Cash Flow Report*	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Benefit Payments (Retiree Pension Payroll)	$ (19,735,000)	$ (20,447,000)	$ (21,067,000)	$ (21,675,000)	$ (22,290,000)	$ (22,837,000)	$ (23,373,000)	$ (23,798,000)	$ (24,216,000)	$ (24,581,000)	$ (24,843,000
Employee Contributions	$ 1,986,000	$ 1,987,000	$ 1,984,000	$ 1,969,000	$ 1,955,000	$ 1,948,000	$ 1,933,000	$ 1,911,000	$ 1,892,000	$ 1,879,000	$ 1,880,000
Actuarial Determined Employer Contribution (ADEC)	$ 3,653,000	$ 3,852,000	$ 4,059,000	$ 4,222,000	$ 4,347,000	$ 4,462,000	$ 4,541,000	$ 4,616,000	$ 4,685,000	$ 4,745,000	$ 4,792,000
Administrative Expenses	$ (103,036)	$ (106,127)	$ (109,311)	$ (112,590)	$ (115,968)	$ (119,447)	$ (123,030)	$ (126,721)	$ (130,523)	$ (134,439)	$ (138,472
Dividend & Interest Earned on Pension Portfolio	$ 6,051,586	$ 8,729,958	$ 9,314,865	$ 9,938,961	$ 10,604,871	$ 11,315,397	$ 12,073,529	$ 12,882,456	$ 13,745,580	$ 14,666,534	$ 15,649,192
Net Cash Flow	**$ (5,324,181)**	**$ (5,366,042)**	**$ (5,293,135)**	**$ (5,085,039)**	**$ (4,879,129)**	**$ (4,672,603)**	**$ (4,353,471)**	**$ (4,016,544)**	**$ (3,525,420)**	**$ (2,972,466)**	**$ (2,307,808**
Actuarial Accrued Liability	$ 287,633,000	$ 291,542,000	$ 294,816,000	$ 297,541,000	$ 299,768,000	$ 301,459,000	$ 302,591,000	$ 303,190,000	$ 303,242,000	$ 302,830,000	$ 301,938,000
Market Value of Assets	$ 272,135,588	$ 279,806,334	$ 298,553,358	$ 318,556,433	$ 339,899,714	$ 362,672,995	$ 386,972,086	$ 412,899,216	$ 440,563,463	$ 470,081,215	$ 501,576,657
Employee Payroll	$ 42,380,809	$ 43,652,233	$ 44,961,800	$ 46,310,654	$ 47,699,974	$ 49,130,973	$ 50,604,902	$ 52,123,049	$ 53,686,741	$ 55,297,343	$ 56,956,263

Suggested ADEC presented for informational purposes only. Cash Flow determined by the estimated City and Board of Education contributions

ASSUMED RATE OF RETURN	6.70%
ASSUMED CITY CONTRIBUTION RATE (% OF PAYROLL)	8.37%
ASSUMED PORTFOLIO YIELD**	3.12%

*FY 2023 Numbers are from the City's Annual Financial Statements, actuarial valuation and Morgan Stanley records

**CERF Portfolio Current Yield as of 3.31.24 maintained over analysis

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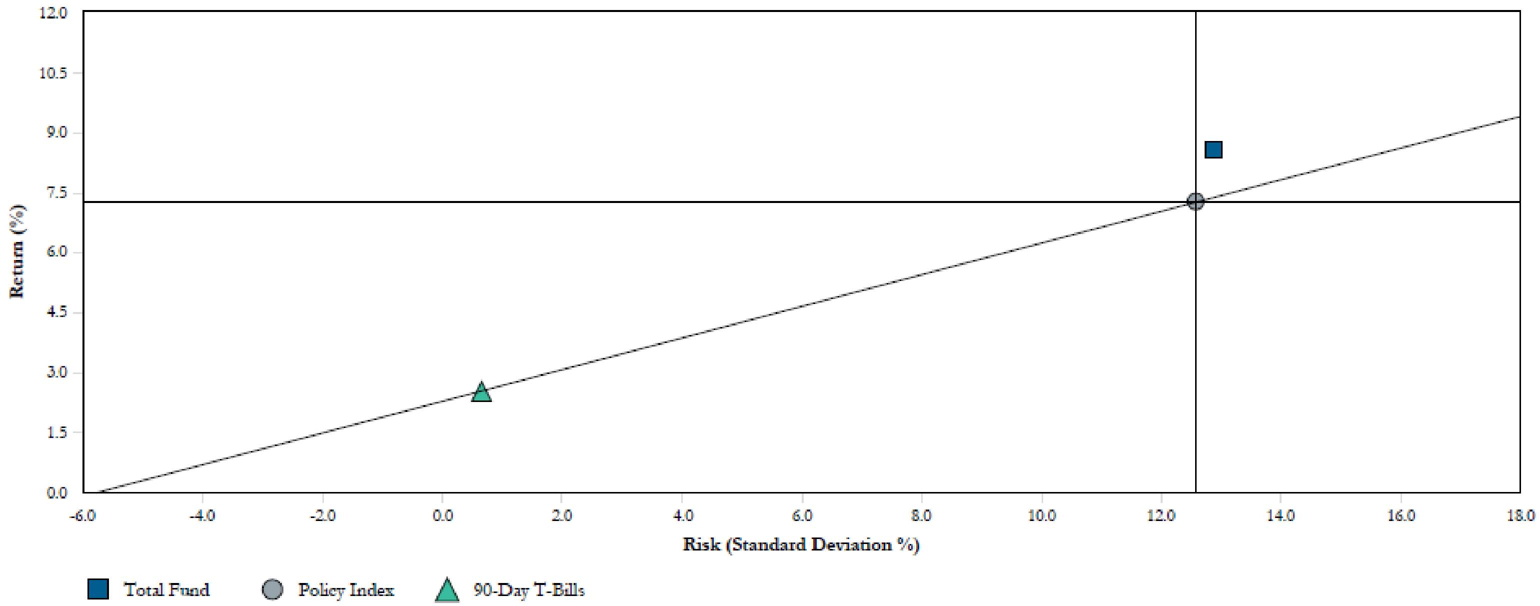
CERF Risk and Return Analysis

Portfolio Risk and Return Under Morgan Stanley Institutional Consulting Services

City of Stamford CERF
Risk Statistics
As of February 28, 2025

Historical Statistics - Since Inception



	Return	Standard Deviation	Sharpe Ratio	Beta	Jensen Alpha	Excess Return	R-Squared	Down Capture	Up Capture	Down Market Periods	Up Market Periods	Inception Date
Total Fund	8.60	12.86	0.51	1.01	1.20	6.58	0.98	99.75	105.64	25	42	08/01/2019
Policy Index	7.28	12.57	0.42	1.00	0.00	5.32	1.00	100.00	100.00	25	42	08/01/2019
90-Day T-Bills	2.56	0.66		0.00	0.00	0.00	0.00	-6.83	7.26	25	42	08/01/2019

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CERF Historical Funded Ratio

For Fiscal Years ending June 30th

City of Stamford CERF				
Fiscal Years Ending June 30th				
FYE	Assets	Liabilities	Funded Ratio	DWRR
2014	$ 209,313,155	$ 244,509,417.00	85.61%	16.65%
2015	$ 206,622,350	$ 250,062,776.00	82.63%	1.44%
2016	$ 190,594,323	$ 256,606,003.00	74.28%	-4.38%
2017	$ 210,354,348	$ 260,932,076.00	80.62%	14.62%
2018	$ 223,064,471	$ 280,600,216.00	79.50%	9.77%
2019	$ 226,353,660	$ 277,700,136.00	81.51%	4.50%
2020	$ 232,577,627	$ 295,622,794.00	78.67%	6.39%
2021	$ 301,659,968	$ 299,900,000.00	100.59%	32.89%
2022	$ 252,969,174	$ 287,633,000.00	87.95%	-13.07%
2023	$ 270,856,853	$ 291,542,000.00	92.90%	9.87%
2024	$ 287,602,696	$ 294,816,000.00	97.55%	9.53%
2025*	$ 293,991,554	$ 297,541,000.00	98.81%	4.12%
* = asset value and performance as of February 28th, 2025.				
Liability estimate taken from actuarial valuation dated July 1, 2022.				

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OPEB Historical Funded Ratio

For Fiscal Years ending June 30th

City of Stamford OPEB				
Fiscal Years Ending June 30th				
FYE	Assets	Liabilities	Funded Ratio	DWRR
2017	$ 92,167,012	$ 354,679,524.00	25.99%	13.43%
2018	$ 116,316,787	$ 364,157,076.00	31.94%	8.51%
2019	$ 139,486,805	$ 425,579,474.00	32.79%	4.84%
2020	$ 167,672,853	$ 454,092,998.00	36.92%	6.55%
2021	$ 246,929,583	$ 443,258,307.00	55.70%	31.05%
2022	$ 225,467,114	$ 415,057,532.00	54.32%	-15.63%
2023	$ 263,667,205	$ 330,586,063.00	79.76%	11.59%
2024	$ 308,222,067	$ 356,137,000.00	86.55%	11.88%
2025*	$ 329,038,274	$ 369,143,000.00	89.14%	6.89%
* = asset value and performance as of February 28th, 2025.				
Liability estimate taken from actuarial valuation dated July 1, 2022.				

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Important Disclosures

Global Investment Manager Analysis (GIMA) defines Adverse Active Alpha (AAA) as follows:

Adverse refers to the demonstrated ability to outperform in a variety of market environments and when conditions were difficult for active manager relative performance. "Difficult" periods were times when active management did not perform well relative to the index, as opposed to down market periods. At various times, active management has experienced difficult relative performance periods in up, down, and flat markets. We developed a set of factors to help discern which periods were more difficult for active managers that we utilize to identify managers that were able to overcome these headwinds and outperformed in the face of adversity.

Active refers to managers with high active share – i.e., managers whose portfolios looked different from the index – and had moderate to low tracking error. In this way, the ranking seeks to find managers that were active, but not taking outsized factor bets, such as large sector or industry bets and that had some degree of style consistency. The combination of high active share and low tracking error is fairly uncommon among active managers, but we believe these traits may point toward managers with strong stock picking skills.

Alpha refers to the demonstrated ability to add value relative to an index and/or peers. Back tests indicate that highly ranked managers as a group outperformed the index and style peer group over subsequent periods and relative to active share alone. By combining the "adverse" component with the "active" component, we believe we increase the odds of finding some of the most proficient stock pickers.

Important Considerations Regarding the Adverse Active Alpha Ranking Process:

Global Investment Manager Analysis, formerly Consulting Group Investment Advisor Research (CG IAR), provides comprehensive manager analysis for Morgan Stanley's investment advisory platforms on a wide range of investment products, including separately managed accounts, mutual funds and exchange-traded funds in the equity, fixed income and alternative investment categories In our view, the Adverse Active Alpha manager ranking model is an important part of evaluating managers for consideration.

However, we do recognize that AAA cannot, in and of itself, tell us which managers' strategies to invest in or when to buy or sell the strategies. While highly ranked managers historically performed well as a group in our analysis, past performance is not a guarantee of future results for any manager or strategy. Index returns assume reinvestment of dividends and, unlike fund or strategy returns, do not reflect any fees or expenses. Indices are unmanaged and not available for direct investment.

It is also important to keep in mind that just because a manager has high active share, a portfolio that looks different than the index (benchmark) doesn't necessarily mean the portfolio had or will have better performance than the index. Being different than the index does not consider factors such as: the timeliness of data provided by the manager, the appropriateness of the benchmark used for comparison to the portfolio, the relevancy of the period(s) being analyzed between the portfolio and the benchmark, knowing the difference between the securities and their concentration in a manager's portfolio vs. the benchmark and the potential that the data provided by the manager looked significantly different in periods before and after the performance snapshot(s) used for analysis. While the preceding considerations are not part of the AAA ranking model, GIMA's strives to evaluate other material and forward looking factors as part of the overall manager evaluation process. Factors such as but not limited to manager turnover and changes to investment process can partially or fully negate a positive Adverse Active Alpha ranking. Additionally, highly ranked managers can have differing risk profiles that might not be suitable for all investors. For more information on AAA, please see the Adverse Active Alpha Ranking Model and Selecting Managers with Adverse Active Alpha whitepapers. The whitepaper are available from your Financial Advisor or Private Wealth Advisor.

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Important Disclosures (cont'd)

The Global Investment Manager Analysis (GIMA) Services Only Apply to Certain Investment Advisory Programs

GIMA evaluates certain investment products for the purposes of some – but not all – of Morgan Stanley Smith Barney LLC's investment advisory programs (as escribed in more detail in the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management). If you do not invest through one of these investment advisory programs, Morgan Stanley Wealth Management is not obligated to provide you notice of any GIMA status changes even though it may give notice to clients in other programs.

Focus List, Approved List and Tactical Opportunities List; Watch Policy

GIMA uses two methods to evaluate investment products in applicable advisory programs: Focus (and investment products meeting this standard are described as being on the Focus List) and Approved (and investment products meeting this standard are described as being on the Approved List). In general, Focus entails a more thorough evaluation of an investment product than Approved. Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List.

Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either process and will no longer be recommended in investment advisory programs (in which case the investment product is given a "Not Approved" status).

GIMA has a "Watch" policy and may describe a Focus List or Approved List investment product as being on "Watch" if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming "Not Approved." The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager or fund to address any concerns. GIMA may, but is not obligated to, note the Watch status in this report with a "W" or "Watch" next to the "Status" on the cover page.

Certain investment products on either the Focus List or Approved List may also be recommended for the Tactical Opportunities List based in part on tactical opportunities existing at a given time. The investment products on the Tactical Opportunities List change over time.

For more information on the Focus List, Approved List, Tactical Opportunities List and Watch processes, please see the applicable Form ADV Disclosure Document for Morgan Stanley Wealth Management. Your Financial Advisor or Private Wealth Advisor can also provide upon request a copy of a publication entitled "Manager Selection Process."

Strategy May Be Available as a Separately Managed Account or Mutual Fund Strategies are sometimes available in Morgan Stanley Wealth Management investment advisory programs both in the form of a separately managed account ("SMA") and a mutual fund. These may have different expenses and investment minimums. Your Financial Advisor or Private Wealth Advisor can provide more information on whether any particular strategy is available in more than one form in a particular investment advisory program.

For mutual funds, the investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Investors should carefully consider the investment objectives and risks as well as charges and expenses of a mutual fund before investing. The prospectus contains this and other important information about the mutual fund. To obtain a prospectus, contact your Financial Advisor or visit the mutual fund company's website. Please read the prospectus carefully before investing.

Asset Class Risk Considerations

For index definitions to the indices referenced in this report please visit the following: http://www.morganstanleyfa.com/public/projectfiles/id.pdf

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Investing in foreign markets entails risks not typically associated with domestic markets, such as currency fluctuations and controls, restrictions on foreign investments, less governmental supervision and regulation, and the potential for political instability. These risks may be magnified in countries with **emerging markets and frontier markets,** since these countries may have relatively unstable governments and less established markets and economies.

Investing in small- to medium-sized companies entails special risks, such as limited product lines, markets and financial resources, and greater volatility than securities of larger, more established companies.

The value of **fixed income securities** will fluctuate and, upon a sale, may be worth more or less than their original cost or maturity value. Bonds are subject to interest rate risk, call risk, reinvestment risk, liquidity risk, and credit risk of the issuer.

High yield bonds (bonds rated below investment grade) may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk, price volatility, and limited liquidity in the secondary market. High yield bonds should comprise only a limited portion of a balanced portfolio.

Interest on **municipal bonds** is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI).

While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Ultrashort-term fixed income asset class is comprised of fixed income securities with high quality, very short maturities. They are therefore subject to the risks associated with debt securities such as credit and interest rate risk.

Alternative Investments Risks

Alternative investments, including hedge funds, private equity funds and managed futures, can be highly illiquid, are speculative and not suitable for all investors. Investing in alternative investments is only intended for experienced and sophisticated investors who are willing to bear the high economic risks associated with such an investment. Investors should carefully review and consider potential risks before investing. Certain of these risks may include:

- loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices;
- lack of liquidity in that there may be no secondary market for the fund and none is expected to develop; volatility of returns;
- restrictions on transferring interests in a fund;
- potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized;
- absence of information regarding valuations and pricing;
- complex tax structures and delays in tax reporting;
- less regulation and higher fees than mutual funds;
- fund of funds often have a higher fee structure than single manager funds as a result of an additional layer of fees; and risks associated with the operations, personnel and processes of the manager.

Asset Class Risk Considerations (cont'd)

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets.

The **indices** are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment.

The **indices selected by Morgan Stanley Wealth Management** to measure performance are representative of broad asset classes. Morgan Stanley Wealth Management retains the right to change representative indices at any time.

Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations.

Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

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