TOWN OF WEST HARTFORD
PENSION BOARD

Regular Meeting

Scheduled For

Monday

November 14, 2022

at 7:45 am

Room 400 Town Hall

TOWN OF WEST HARTFORD PENSION BOARD MEETING
Monday, November 14, 2022 at 7:45 a.m.
Room 400 Town Hall

I. Roll Call/Attendance
Guests: Mayor Shari Cantor; Rick Ledwith, Town Manager; Catherine Lombardi, Acting Director of Human Resources; Lori Kearney, Human Resources Specialist; Kathy Zager, Clerk of the Board; Chris Kachmar, Fiducient Advisors; Mary Fay, Town Council.

II. Lazaro Guzman, Chair
   A. Opening comments

III. Chris Kachmar, Fiducient Advisors
   A. Asset Allocation Review

IV. Brittany MacGilpin, Town Matters

V. Lori Kearney, Human Resources Specialist
   A. Meeting schedule for 2022
   B. Proposed meeting schedule for 2023
   C. Summary of Pension Administration

VI. Formal Actions
   A. Minutes
      1. Approval of the minutes for the regular meeting held on Monday, October 17, 2022.
      "Motion to approve Minutes."
   B. Pension Administration
      1. Memberships
      2. Terminations and Refunds
      3. Applications for Approval
         a. Early retirement applications
         b. Normal retirement applications
         c. QDRO applications
      "Motion to approve Pension Administration."

Anyone requiring auxiliary aid or service for effective communication or modification of policies or procedures to participate in a meeting, service, program or activity of the Town of West Harford, should contact Suzanne Oslander, ADA Coordinator, at suzanneo@westhartfordct.gov or (860) 561-7580, as soon as possible, preferably seven days beforehand.

C. Invoices for Consideration

1. Fiducient Advisors – Invoice for payment in the amount of $12,500 for quarterly consulting costs for the period from 7/1/2022 – 9/30/2022. Invoice date 10/4/2022.
2. Milliman – Invoice for payment in the amount of $5,100 ($4,350 for actuarial services and $750 for special services/QDRO/contingent annuitant factors).

"Motion to approve Invoices for Consideration."

VII. New Business

VIII. Adjournment – *"Motion to adjourn."*

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V(A)

TO: Pension Board

FROM: Lori Kearney, Human Resources Specialist

DATE: November 14, 2022

SUBJECT: **2022 Pension Board Meeting Dates**

The Pension Board meetings are planned for Mondays at 7:45 a.m.

November 14, 2022 (room 400)

V(B)

TO: Pension Board

FROM: Lori Kearney, Human Resources Specialist

DATE: November 14, 2022

SUBJECT: **Proposed 2023 Pension Board Meeting Dates**

Please review the following schedule for the 2023 Pension Board meetings. The meetings are planned for Mondays at 7:45 a.m. at Town Hall in the conference room noted.

January 23, 2023 (room 405)

February 27, 2023 (room 407)

May 15, 2023 (room 407)

September 18, 2023 (room 407)

October 23, 2023 (room 407)

November 27, 2023 (room 407)

A regular meeting of the Town of West Hartford Pension Board was held on Monday, October 17, 2022 at 7:45 a.m. in room 400 of Town Hall.

The meeting was called to order at 7:47 a.m.

I. Roll Call/Attendance

Pension Board Members: Chair Lazaro Guzman and Commissioners Alan Lebow and Perry Salonia

Participants/Guests: Rick Ledwith, Town Manager, Chris Kachmar, Fiducient Advisors, Lori Kearney, Clerk of the Board, and Cathy Lombardi, Acting Director of Human Resources

Absent: Commissioners Peter Privitera and Brittany MacGilpin, Mayor Cantor, Mary Fay, Town Council

II. Chair's Opening Comments

III. Chris Kachmar, Fiducient Advisors

A. Market update/September Flash report

All DCA money is now in the Pension Trust. Fixed income is down and struggling. May see relief in rates towards the back half of next year. Volatility expected to continue through the calendar year and perhaps through the first half of 2023. Higher interest rates across entire yield curve. Approximately $446 million in total pension assets as of 9/30/2022. Timing of POB is not ideal. The last $19 million from POB short term account is now in Trust assets.

B. Continued discussion - active versus passive investment strategy

Board to focus on asset allocation work and active versus passive strategy at the November meeting with deeper discussion of funds that fall in passive and active zones, return potential and risk in existing portfolio, current 70-30 asset class mix and alternative combinations, and managers/manager strategy. The January meeting will focus on execution and implementation.

IV. Brittany MacGilpin, Town Matters – Absent

V. Lori Kearney, HR Specialist/Clerk of the Board

A. Meeting schedule for 2022

The last scheduled meeting for 2022 is planned for November 14. A proposed schedule for 2023 will be presented to the Board at the November meeting.

VI. Formal Actions

A. Minutes

1. Approval of the minutes for the special meeting held on Monday, September 26, 2022.

Chair Guzman requested a clarification to the September meeting minutes to reflect that the fee increase associated with the change in valuation from biennial to annual will be <u>incurred every other year</u>. Under Unfinished Business (IV – A), the first sentence shall be revised to: "Changing from the current biennial valuation to an annual valuation will increase fees by $18,000 <u>**every other year**</u>."

Motion by Chair Guzman for approval of the AMENDED minutes for the special meeting held on Monday, September 26, 2022. Motion seconded by Perry Salonia. All in favor. Motion passed.

B. Pension Administration

Motion by Chair Guzman for approval of the items under Pension Administration. Motion seconded by Perry Salonia. All in favor. Motion passed.

1. Memberships

BOE – Erin Abrams, Leslie Bruenn, Gregory Casale, Chelsey Cefaratti, Kelsey DePercio, Bertha Hill, Renee Huebner, Michelle Macko, Melissa Malave, Sara Milch, Ikechukwu Moemeka, Dominique O'Day, Maria Rosa, Lisa Santiago, Jamie Sharoh, Kristin Shifrin, Stacie Simko, Anita Slaiher-Benjamin, Camden Tougas

Town – Daniel Dubois, Elizabeth Fagan, Gabriel Vega Calderon, Shantelle Weir

2. Terminations and Refunds

BOE – Kenia Severino

3. Applications for Approval

a. Early retirement applications

BOE – Aida Rodriguez, Beth Wolff

b. Normal retirement applications

Town - Penny Stankoski, David Strzalka

c. Survivorships applications

Town – Shelagh Howard (survivor of Douglas Howard, Police)

d. QDRO applications

Town – Aimee Moreau (alternate payee of David Strzalka, Police)

C. Invoices for Consideration

1. Principal Custody Solutions – Invoice for payment in the amount of $9,706.31 for the period from 4/1/2022 – 6/30/2022. Invoice date 7/22/2022

2. Fiducient Advisors – Invoice for payment in the amount of $12,500 for quarterly consulting costs for the period form 7/1/2022 – 9/30/2022. Invoice date 10/4/2022.

The Pension Board requested a breakdown of Principal Custody Solutions' custodial service for next meeting.

Motion by Chair Guzman to approve the invoices for consideration. Motion seconded by Perry Salonia. All in favor. Motion carried.

IX. Adjournment

Motion by Chair Guzman to adjourn the meeting at 9:01 a.m. All in favor. Motion carried.

Attest:

Lori Kearney

Lori Kearney, Clerk of the Board

AMENDED (IV A)

A special meeting of the Town of West Hartford Pension Board was held on Monday, September 26, 2022 at 7:45 a.m. in room 400 of Town Hall.

The meeting was called to order at 7:52 a.m.

I. Roll Call/Attendance

Pension Board Members: Chair Lazaro Guzman and Commissioners Alan Lebow, Perry Salonia (via phone), and Brittany MacGilpin.

Participants/Guests: Rick Ledwith, Town Manager, Chris Kachmar, Fiducient Advisors (via phone), Lori Kearney, Clerk of the Board, Cathy Lombardi, Acting Director of Human Resources, and Kathy Zager, Senior Personnel Analyst

Absent: Commissioner Peter Privitera, Mayor Cantor, Mary Fay, Town Council

II. Chair's Opening Comments

A. Kathy Zager named Clerk of the Board effective November 1, 2022.

III. Chris Kachmar, Fiducient Advisors

A. Quarterly investment review – Q2 2022

Fiducient Advisors reviewed the investment policy statement as part of the fiduciary governance calendar for Q2. There are no recommendations for change. The Pension Board will review the IPS by the end of the year. Fiducient Advisors also reviewed Board Best Practices and consider the Pension Board's governance framework to be in good working order with no action items identified. There was continued volatility in the capital markets year to date that will likely continue for the remainder of the year due to the question on where the Fed will be with rates. Returns across asset classes were largely negative for the quarter. The mild recession YTD may lead to better returns in 1Q 2023. How severe the recession might be remains an unknown. The portfolio dashboard shows the pension plan down by approximately 11% QTD, although it has held up fairly well given the challenges. Current manager performance all in maintain status. The pension portfolio's asset allocation is close to targets. The final POB funds will be invested next week.

B. Active versus passive investment strategy

The portfolio is almost half indexed. Board to focus on asset allocation work and active versus passive strategy over the next few months with deeper discussion of funds that fall in passive and active zones. Total manager value added is -.9% for the one year period ending June 30, 2022.

IV. Unfinished Business

A. Continued discussion on valuation service change (biennial to annual)

Changing from the current biennial valuation to an annual valuation will increase fees by $18,000 **every other year**. There would be a credit of $2,000 if the pension census data comes from the MARC administration system. This credit would cancel out the additional cost to enhance the valuation to provide additional information for Al's pension dashboard. The Board discussed whether changing to an annual valuation schedule would benefit the Board and/or impact or change its actions and decisions. An annual valuation may be more beneficial to Town operations. Biennial valuations seemed to be working for the Pension Board. However, an annual valuation would be beneficial by providing more frequent information for the pension dashboard and POB program in terms of returns, potential asset allocation changes, and funding. **Motion by Chair Guzman to move from biennial to annual valuations. Motion seconded by Al Lebow.**

Brittany MacGilpin – yes
Al Lebow– yes
Perry Salonia – yes

AMENDED (IV A)

Lazaro Guzman– yes
Peter Privitera – absent
All in favor. Motion passed.

V. Brittany MacGilpin, Town Matters
No items to report.

VI. Lori Kearney, Clerk of the Board
A. Meeting schedule for 2022
October 17 and November 14, 2022, both planned as in-person meetings.
B. Status update on MARC pension administration system
Corporation Counsel review the MARC agreement and made suggestions for edits and clarifications. These areas were discussed with Milliman and revisions were made to the agreement based on those negotiations. Lori will provide the pertinent changes to the Board.
C. Summary of Pension Administration

VII. Formal Actions
A. Minutes
1. Approval of the minutes for the virtual regular meeting held on Monday, May 16, 2022.
Motion by Chair Guzman for approval of the minutes for the virtual regular meeting held on Monday, May 16, 2022. It was unanimously voted to approve the minutes for the virtual regular meeting held on Monday, May 16, 2022.
2. Approval of the minutes for the virtual special meeting held on Monday, June 13, 2022.
Motion by Chair Guzman for approval of the minutes for the virtual special meeting held on Monday, June 13, 2022. It was unanimously voted to approve the minutes for the virtual special meeting held on Monday, June 13, 2022.

B. Pension Administration
Motion by Chair Guzman for approval of the items under Pension Administration. It was unanimously voted to approve the items under Pension Administration.
1. Memberships
BOE – Kristen Aceto, Tyanna Arroyo, Kristen Banning, Victoria Batayte, Kelly Condon, Lauren Corneau, Debbie DeJesus, Kathleen Duford, Emily Miller, Erin Peters, Emiko Shin, Eileen Theriault, Linda Todd, Sara West
Town – Derek Andrade, Brandon Barlow, Dustin Belfiore, Debra Biella, Briana Brumaghim, Marie Callahan, Isaiah Colon, Esteban Enriquez, David Frost, Marie Gilbuena, David Kent, Jeffrey Kyle, Patrick Lacruz, Tiana Pelletier, Donato Pesce, Adnan Sadiku, Benjamin Santandreu, Wojciech Sigut, Erica Sledge, Martyna Srebrna, Claudia Tata, Sean Waltman, Ryan Winterberger
2. Terminations and Refunds
BOE – Illona Dubaldo (contributions deducted in error), Polly LaValley
Town – Scott Smith
3. Applications for Approval
a. Vested interest applications
BOE – Kathleen Langan
Town – Paula Knake
b. Early retirement applications
BOE – Mary Daly
c. Normal retirement applications
BOE – Thomas Amodio, Wanda Bender, Linda Epstein, Maryann Hall, Marcia Katz, Ellen Martinelli, Stephen Mason, Alan Pinto, Jeffrey Runyon (100% CA of Dorothy Runyon), Francine Therion

AMENDED (IV A)

Town - Kerry Cloukey, Leopoldo Negron, Lane Pelton, Nelson Petrone III, Susan Rheaume, Eric Rocheleau, Nicholas Roman, Barbara Rowlson (50% CA of Robert Rowlson)

c. Survivorships applications

Town – Borghil Bilak (survivor of Fred Bilak, Fire), Audrey Plourd (survivor of Richard Plourde, Fire)

IX. Adjournment

Motion by Chair Guzman to adjourn the meeting at 8:54 a.m. It was unanimously voted to adjourn.

Attest:

Lori Kearney

Lori Kearney, Clerk of the Board

VI(B)(1)

TO: Pension Board

FROM: Lori Kearney, Human Resources Specialist, Pension Division

DATE: November 14, 2022

SUBJECT: Pension Plan Membership

In accordance with the definition of employee as stated in Section 30-8 of the Pension Ordinance, I recommend that the following employees of the Town of West Hartford be accepted into the Pension Plan as of the dates listed below:

NEW MEMBERS - PBD				
NAME	**POSITION**	**DOH**	**DOE**	**DEPT**
Ali, Amina	Paraprofessional	10/17/2022	1/17/2023	BOE
Cassaretto, Juan	Van Driver	8/31/2022	11/30/2022	BOE
Clifford, Ellen	Systems Analyst	10/17/2022	1/17/2023	BOE
DiNino, Alyssa	Paraprofessional	8/31/2022	11/30/2022	BOE
Ellis, Brian	Paraprofessional	9/29/2022	12/29/2022	BOE
Fishbein, Sharon	Reg Behavior Tech	11/14/2022	2/14/2023	BOE
Karar, Samer	Civil Engineer I	10/31/2022	1/31/2023	Engineer
Knebel, Shelly	Paraprofessional	10/17/2022	1/17/2023	BOE
Laska, Stephanie	Paraprofessional	8/31/2022	11/30/2022	BOE
Lee Jr., Kent	Police Officer	10/10/2022	1/10/2023	Police
Martelle, Mary	Paraprofessional	11/1/2022	2/1/2023	BOE
Savold, Devin	Paraprofessional	8/31/2022	11/30/2022	BOE
Sullivan, Theresa	Paraprofessional	10/26/2022	1/26/2023	BOE
Sweeney, Andrea	Paraprofessional	8/31/2022	11/30/2022	BOE
Twiss, Jacqueline	Police Officer	10/10/2022	1/10/2023	Police

VI(B)(2)

TO: Pension Board

FROM: Lori Kearney, Human Resources Specialist, Pension Division

DATE: November 14, 2022

SUBJECT: Withdrawals and Terminations

NON-VESTED WITHDRAWALS and TERMINATIONS

Reaffirmation of termination for employees with non-vested rights in accordance with Section 30-28 of the Pension Ordinance:

Name	Hire Date	Termination Date	Gross Refund	Department	Plan
Joseph O'Neill III	9/1/2021	8/30/2022	$535.33	BOE – Paraprofessional	E

VESTED WITHDRAWALS and TERMINATIONS

Reaffirmation of termination for employees with vested rights in accordance with Section 30-28 of the Pension Ordinance.

Name	Hire Date	Termination Date	Gross Refund	Department	Plan

ADDITIONAL RETIREMENT CREDIT

Reaffirmation of refund for additional retirement credit in accordance with Section 30-52 of the Pension Ordinance.

Name	Hire Date	Termination Date	Gross Refund	Department	Plan
Shawn DiBella	11/19/2000	11/19/2020	$1,342.72	Police	D

VI(B)(3)(a)

Early Retirements - For Approval - Pension Board Meeting November 14, 2022 - CHART #1

Name		Date of Early	Years of Service	Department	Benefit Before 65	After 65	Status	Plan
LUKAS	TORY	9/29/2022	10 YRS. 0 MOS.	POLICE		$988.63	LA	D

Normal Retirements - For Approval - Pension Board Meeting November 14, 2022 - CHART #2

Name		Date of Normal	Years of Svs.	Dept.	Benefit - Before 62/65	After 62/65	Status	Plan
FIONDELLA-MURPHY	DONNA	9/30/2022	23 YRS 0 MOS	BOE - SECRETARY		$2,357.96	CA	B
LAWTON	ANN-MARIE	9/30/2022	27 YRS 1 MON.	BOE - ATND COOR		$1,348.23	CA	B

VI(B)(3)(b)

VI(B)(3)(c)

Qualified Domestic Relations Order - For Approval - Pension Board Meeting, November 14, 2022 - Chart #3

Name		Date of Benefit	Retiree Name	Benefit	Plan
FOLEY	CAROL	10/1/2022	ROCCO DITARANTO	$1,699.65	B

FIDUCIENT Advisors

INVOICE

HOME OFFICE
CHICAGO
500 West Madison St, Ste 1700
Chicago, IL 60661
312.853.1000

HARTFORD, CT ~ WASHINGTON DC ~ BOSTON, MA ~ PORTLAND, ME ~ AUSTIN, TX ~ LOS ANGELES, CA

www.fiducient.com

Town of West Hartford
50 South Main Street
West Hartford, CT 06107

Date:October 04, 2022
Invoice #: 35_09302022

VI(C)(1)

Invoice for: West Hartford, Town of - Pension
Billing Period: July 01, 2022 to September 30, 2022
Quarter Ending/Valuation Date: September 30, 2022

Total Amount Due: **$12,500.00**

Schedule

Annual Consulting Cost $50,000.00

Invoice sent to: Peter F. Privitera

ACH/Wire
Wells Fargo Bank
420 Montgomery Street
San Francisco, CA 94104
ABA # 121000248
Account # 4677401630
Swift Code WFBIUS6S

Check Payments
Mail to LockBox
Fiducient Advisors LLC
PO Box 856577
Minneapolis, MN 55485-6577

EIN 36-4001764

If you have any questions, please contact your consultant or the Finance Team at FinanceTeam@fiducient.com.

Thank you for your business.

Milliman

Invoice Number **0054WHF01 10 22 P**

Please include the Invoice Number with your remittance.

October 26, 2022

Mr. Peter Privitera
Director of Financial Services
Town of West Hartford
50 South Main Street
West Hartford, CT 06107
Peter.Privitera@WestHartfordCT.gov

Wire Instructions
Wells Fargo Bank, 999 Third Avenue, Seattle WA 98104

ABA Number	121000248
Account Name	Milliman
Account Number	4121331599

Remit checks to
200 Great Pond Drive, Suite 110, Windsor CT 06095

Email remittance address
Hartlandbilling@milliman.com

Late fees will be charged of 1% / month after 90 days

The Retirement Plan for Employees of the Town of West Hartford

* An ERISA employee benefit plan is permitted to pay certain reasonable expenses to administer the plan if its terms authorize the payment of such expenses. The plan administrator is the fiduciary with the responsibility to decide which expenses may be paid by the plan and should rely on legal counsel for advice with respect to this issue. We have noted with an asterisk above any items that we believe should not be paid from plan assets; this indication is based on our understanding of DOL guidelines and should not be construed as our acting in a fiduciary or legal capacity.

Actuarial Services

Basic Services

GASB 67/68 as of June 30, 2022 — $4,350.00

Special Services

Assistance with Survivor/Contingent Factors and QDRO assistance - emails dated 04/25/22 and 7/14/22

	Hours	Rate	Cost
Pelletier	2.00	$375	$750.00

750.00

Total Amount Due $5,100.00

FIDUCIENT Advisors

Helping Clients Prosper

Town of West Hartford

November Pension Board Meeting Materials

Fiducient Advisors Update

Retirement Plans

Featured Insights

- Plan Sponsor Newsletter
- Blog: 4 Ways to Improve Participant Outcomes Today

Coming Soon

- The Public Fiduciary Newsletter

Endowments & Foundations

Featured Insights

- Guide to Mission-Aligned Investing
- Nonprofit Investment Stewards Podcast
- Blog: Portfolio Rebalancing: The Easiest Difficult Decision an Investor Can Make

Coming Soon

- Steward Newsletter

The Wealth Office®

Featured Insights

- Blog: Creating a Legacy Free from Estate Tax

Coming Soon

- Year-End Tax Planning

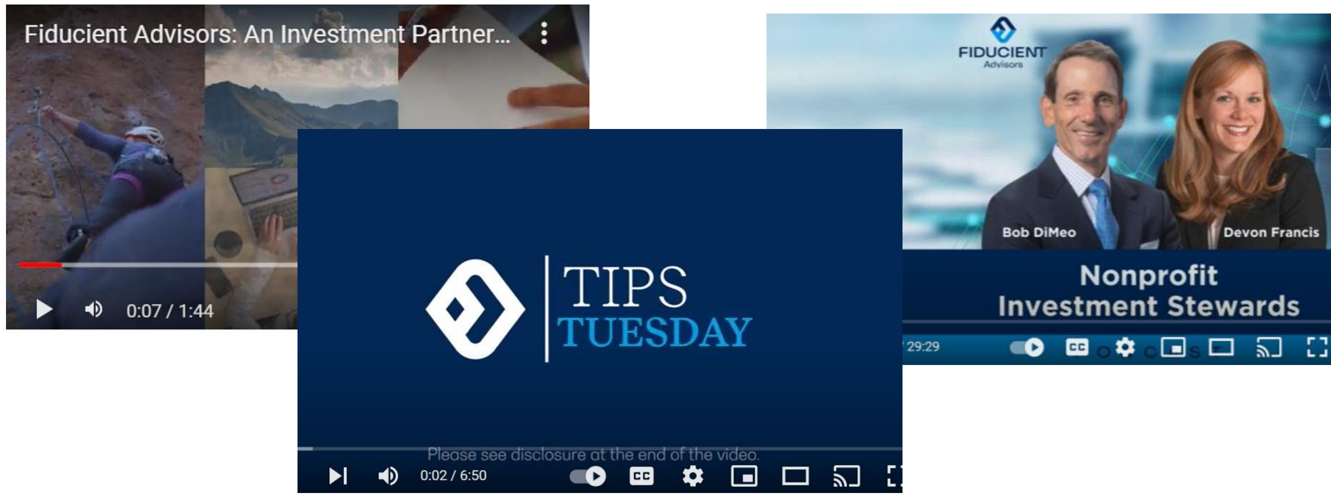
Research Insights

- Monthly Market Recaps
- Monthly Market Updates
  - *Fresh Mountain Air, Same Hawkish Stance* – August
  - *Making Hay While the Sun Shines: Earnings in Focus* – July
- Webcast: Fiducient Speaker Series with Liz Ann Sonders
- Webcast: Mid-Year Capital Markets and Economic Update
- Private Markets Move Along in More Challenging Market Environment

Fiducient Advisors Update

For more research and insights…

Subscribe to the **Fiducient Advisors YouTube Channel**



2022 New Associates – Welcome!

- Carolyn Barenbaum-Meyers, Finance Associate
- Daniel Bell, Director of Finance and Accounting
- Matthew Brophy, Middle Office Associate
- Gina Christodoulou, Performance Analyst
- David Correa, Finance Billing Specialist
- Nakeisha Deodat, Jr. Client Service Associate
- Robert Dunne, Consulting Analyst
- Emily Gildea, Research Associate
- Jeremy Mayeur, Middle Office Associate
- Evan Paretti, Consulting Analyst
- Lauren Rose, Client Service Associate, The Wealth Office®
- Hunter Verbeck, Performance Analyst

As of September 30, 2022

Table of Contents

Asset Allocation Review

June 2022 Investment Outlook

Key Observations

- With inflation remaining stubbornly high despite signs of a cooling economy, the Federal Reserve may have to push the economy into recession in late 2022 or early 2023 to rein in inflation.
- The global bond and stock markets have experienced significant declines in early 2022, which have led to meaningfully higher expected forward-looking returns.

Capital Market Factors

- **Economic Growth:** 2022 economic growth forecasts have steadily declined since the beginning of the year. The risk of recession in late 2022 or early 2023 has steadily risen throughout the year.
- **Monetary Policy:** The Fed has materially accelerated its path to increasing interest rates. As of mid June, market futures* indicate an expected year-end Fed Funds rate ranging between 3.5 and 4.0%.
- **Fiscal Policy:** Much of the pandemic relief spending has expired.
- **Inflation:** Current year-over-year inflation is running at a level in excess of 8.5 percent, which is meaningfully above the Fed's stated target, and is likely to remain high in the immediate future. However, the bond market's expectation is for inflation to gradually moderate back towards 2.6 percent over the next decade.
- **Currency**: Monetary tightening and higher U.S. interest rates has led to a stronger U.S. Dollar in the first half of 2022.

*CBOE FedWatch Tool

2022-2031 Ten-Year Outlook

Executive Summary of Return Assumption Changes

Asset Class	2022 Mid Year Update E(R) - 10 Year	Original 2022 Outlook E(R) - 10 Year	Year Over Year Change
Inflation	2.6%	2.5%	**0.1%**
Cash*	0.9%	0.1%	**0.8%**
TIPS	3.1%	1.3%	**1.8%**
Muni Bond**	3.8%	1.2%	**2.7%**
Muni High Yield**	7.8%	4.9%	**2.9%**
US Bond	3.4%	1.7%	**1.7%**
Dynamic Bonds***	3.4%	2.0%	**1.4%**
Global Bonds	3.0%	1.4%	**1.6%**
Corp HY Bond	5.5%	3.7%	**1.8%**
Global Equity	8.1%	7.2%	**0.9%**
US Equity (AC)	6.6%	5.9%	**0.8%**
US Equity (LC)	6.5%	5.7%	**0.8%**
US Equity (MC)	6.8%	6.1%	**0.8%**
US Equity (SC)	6.8%	6.1%	**0.7%**
Int'l Dev. Equity	9.3%	7.7%	**1.6%**
EM Equity	10.6%	9.6%	**1.0%**
Real Estate	5.8%	5.4%	**0.4%**
Broad Real Assets****	5.4%	4.7%	**0.7%**
Marketable Alternatives	7.2%	5.9%	**1.3%**
Private Equity	9.6%	8.9%	**0.8%**

**3-month forecast*

***Tax equivalent yield based on highest marginal tax rate (37%)*

****33% Cash, 33% Corp HY, and 34% Global Bonds*

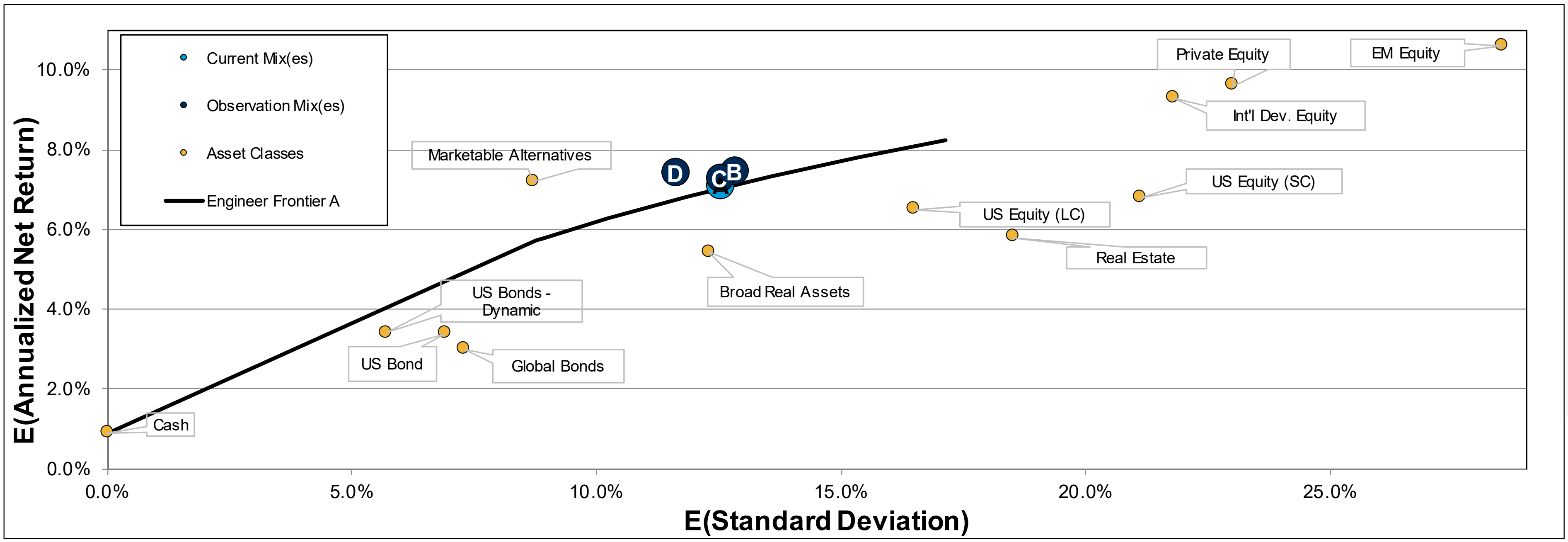
*****'20% REITs, 20% Global Infrastructure, 20% Commodities, 20% US Bonds, 15% Corp High Yield, 5% TIPS*

Intra-Year Shifts

- Forecasted inflation increased modestly
- Nominal and real Interest rates rose significantly across the globe leading to meaningfully higher forecasted returns.
- Except for cash, all fixed income categories now have a positive real return expectation.
- The meaningful global equity market rout in the first half of 2022 has led to a meaningfully higher rate of return across all equity asset classes.
- With inflation expectations remaining stubbornly high, real assets remain an important diversifier.
- Alternative asset class return expectations rose modestly.

Frontier Engineer® Analysis

9/30/2022	Asset Allocation																Forecasts				Past (1/88-9/22)	
	Fixed Income	Equity	Real Assets	Alternatives	Cash	US Bond	US Bonds - Dynamic	Global Bonds	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Real Estate	Broad Real Assets	Marketable Alternatives	Private Equity	Annualized Net Return	Annualized Volatility	Normal 100 Year Flood*	Non-Normal 100 Year Flood**	Annualized Net Return	Annualized Volatility
Current Allocation (A)	30%	65%	5%			30.0%			29.3%	14.3%	19.3%	2.3%	5.0%				7.1%	12.5%	-21%	-29%	8.4%	10.6%
Optimized w/ Current Asset Classes	30%	65%	5%			30%			28%	9%	19%	9%	5%				7.4%	12.8%	-22%	-31%	8.4%	10.7%
Optimized without Alternatives	30%	61%	9%			18%	9%	3%	26%	9%	18%	8%	3%	6%			7.3%	12.5%	-21%	-30%	8.2%	10.4%
Unconstrained Portfolio	30%	52%	8%	10%		18%	9%	3%	22%	7%	15%	7%	3%	5%	5%	5%	7.4%	11.6%	-19%	-26%	8.5%	9.3%



*The expected one in a hundred worst case calendar year return based on normally distributed capital market assumptions. Greater losses are possible (1% expected likelihood).

**The expected one in a hundred worst case calendar year return based on non-normally distributed capital market assumptions (factoring in skewness & kurtosis). Greater losses are possible (1% expected likelihood).

Historical Returns and Risk Metrics for each Mix represent back-tested calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. Please ask for a copy of Fiducient Advisors' white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing. Please refer to the Capital Markets Assumptions Slide for the hypothetical alpha and hypothetical fee inputs used in the calculation methodology.

Capital Market Assumptions

Return & Risk Assumptions (Forecasts)	Arithmetic Return	Geometric Return	Standard Deviation	Skewness	Kurtosis
Cash	0.9%	0.9%	0.0%	0	0
US Bond	3.6%	3.4%	6.9%	-0.45	1.45
US Bonds - Dynamic	3.6%	3.4%	5.7%	-1.05	7.64
Global Bonds	3.3%	3.0%	7.3%	-0.34	0.48
US Equity (LC)	7.9%	6.5%	16.5%	-0.59	0.99
US Equity (SC)	9.0%	6.8%	21.1%	-0.50	1.34
Int'l Dev. Equity	11.7%	9.3%	21.8%	-0.57	1.45
EM Equity	14.7%	10.6%	28.5%	-0.67	2.07
Real Estate	7.5%	5.8%	18.5%	-0.77	7.24
Broad Real Assets	6.2%	5.4%	12.3%	-1.67	10.13
Marketable Alternatives	7.6%	7.2%	8.7%	-0.84	4.94
Private Equity	12.2%	9.6%	23.0%	0.00	0.00

Correlation Assumptions (Forecasts)	Cash	US Bond	US Bonds - Dynamic	Global Bonds	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Real Estate	Broad Real Assets	Marketable Alternatives	Private Equity
Cash	1	0	0	0	0	0	0	0	0	0	0	0
US Bond	0	1.00	0.37	0.95	0.19	0.11	0.16	0.05	0.21	0.33	0.10	-0.05
US Bonds - Dynamic	0	0.37	1.00	0.52	0.53	0.51	0.47	0.53	0.53	0.71	0.50	0.20
Global Bonds	0	0.95	0.52	1.00	0.11	0.01	0.08	0.04	0.17	0.27	0.10	-0.05
US Equity (LC)	0	0.19	0.53	0.11	1.00	0.84	0.69	0.66	0.63	0.62	0.59	0.38
US Equity (SC)	0	0.11	0.51	0.01	0.84	1.00	0.62	0.66	0.70	0.63	0.63	0.39
Int'l Dev. Equity	0	0.16	0.47	0.08	0.69	0.62	1.00	0.71	0.51	0.59	0.59	0.33
EM Equity	0	0.05	0.53	0.04	0.66	0.66	0.71	1.00	0.47	0.58	0.67	0.31
Real Estate	0	0.21	0.53	0.17	0.63	0.70	0.51	0.47	1.00	0.82	0.35	0.21
Broad Real Assets	0	0.33	0.71	0.27	0.62	0.63	0.59	0.58	0.82	1.00	0.52	0.23
Marketable Alternatives	0	0.10	0.50	0.10	0.59	0.63	0.59	0.67	0.35	0.52	1.00	0.51
Private Equity	0	-0.05	0.20	-0.05	0.38	0.39	0.33	0.31	0.21	0.23	0.51	1.00

May 31, 2022 Ten-Year Forecasted CMAs

*Historical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hypothetical fee of 0.25

For additional information on forecast methodologies, please speak with your advisor. Please see Index Proxy Summary slide at the end of this presentation for summary of indexes used to represent each asset class. Past performance does not indicate future performance. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information.

2022-2041 Twenty-Year Outlook

Executive Summary of Return Assumption Changes

Asset Class	2022 Mid Year Update E(R) - 20 Year	Original 2022 Outlook E(R) - 20 Year	Year Over Year Change
Inflation	2.8%	2.6%	**0.2%**
Cash*	1.4%	0.7%	**0.7%**
TIPS	3.6%	2.1%	**1.6%**
Muni Bond**	4.6%	2.1%	**2.5%**
Muni High Yield**	8.6%	5.6%	**2.9%**
US Bond	3.9%	2.5%	**1.5%**
Dynamic Bonds***	3.9%	2.8%	**1.2%**
Global Bonds	3.5%	2.2%	**1.4%**
Corp HY Bond	6.0%	4.5%	**1.6%**
Global Equity	8.9%	8.1%	**0.8%**
US Equity (AC)	7.4%	6.8%	**0.6%**
US Equity (LC)	7.3%	6.6%	**0.7%**
US Equity (MC)	7.6%	7.0%	**0.6%**
US Equity (SC)	7.6%	7.0%	**0.6%**
Int'l Dev. Equity	10.1%	8.6%	**1.5%**
EM Equity	11.4%	10.5%	**0.9%**
Real Estate	6.6%	6.3%	**0.3%**
Broad Real Assets****	6.2%	5.6%	**0.6%**
Marketable Alternatives	8.0%	6.8%	**1.2%**
Private Equity	10.4%	9.8%	**0.6%**

**3-month forecast*

***Tax equivalent yield based on highest marginal tax rate (37%)*

****33% Cash, 33% Corp HY, and 34% Global Bonds*

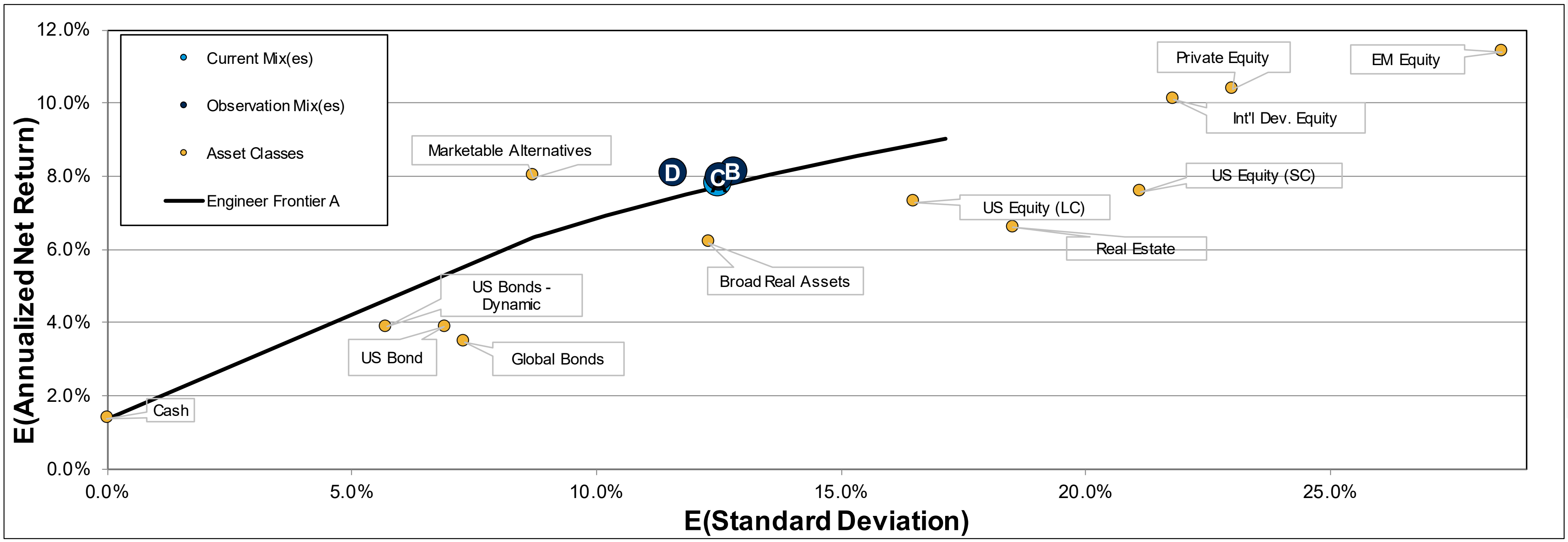
*****'20% REITs, 20% Global Infrastructure, 20% Commodities, 20% US Bonds, 15% Corp High Yield, 5% TIPS*

Intra-Year Shifts

- Forecasted inflation increased modestly
- Nominal and real Interest rates rose significantly across the globe leading to meaningfully higher forecasted returns.
- Except for cash, all fixed income categories now have a positive real return expectations.
- The meaningful global equity market rout in the first half of 2022 has led to a meaningfully higher rate of return across all equity asset classes.
- With inflation expectations remaining stubbornly high, real assets remain an important diversifier.
- Alternative asset class return expectations rose modestly.

Frontier Engineer® Analysis

9/30/2022	Asset Allocation																Forecasts				Past (1/88-9/22)	
	Fixed Income	Equity	Real Assets	Alternatives	Cash	US Bond	US Bonds - Dynamic	Global Bonds	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Real Estate	Broad Real Assets	Marketable Alternatives	Private Equity	Annualized Net Return	Annualized Volatility	Normal 100 Year Flood*	Non-Normal 100 Year Flood**	Annualized Net Return	Annualized Volatility
Current Allocation (A)	30%	65%	5%			30.0%			29.3%	14.3%	19.3%	2.3%	5.0%				7.8%	12.5%	-20%	-29%	8.4%	10.6%
Optimized w/ Current Asset Classes	30%	65%	5%			30%			28%	9%	19%	9%	5%				8.1%	12.8%	-21%	-31%	8.4%	10.7%
Optimized without Alternatives	30%	61%	9%			18%	9%	3%	26%	9%	18%	8%	3%	6%			8.0%	12.5%	-20%	-30%	8.2%	10.4%
Unconstrained Portfolio	30%	52%	8%	10%		18%	9%	3%	22%	7%	15%	7%	3%	5%	5%	5%	8.1%	11.6%	-18%	-26%	8.5%	9.3%



*The expected one in a hundred worst case calendar year return based on normally distributed capital market assumptions. Greater losses are possible (1% expected likelihood).
**The expected one in a hundred worst case calendar year return based on non-normally distributed capital market assumptions (factoring in skewness & kurtosis). Greater losses are possible (1% expected likelihood).
Historical Returns and Risk Metrics for each Mix represent back-tested calculations developed with the benefit of hindsight. Return calculations use an asset-weighted methodology based on the target asset allocation of each mix and the total return of index proxies used to represent each asset class and are net of fees. Historical returns are hypothetical and do not represent returns earned by a client. It is not possible to invest in an index. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information, including index proxies used to represent each asset class. Please ask for a copy of Fiducient Advisors' white paper titled 10-Year Capital Market Forecasts. Past performance does not indicate future performance and it is possible to lose money when investing. Please refer to the Capital Markets Assumptions Slide for the hypothetical alpha and hypothetical fee inputs used in the calculation methodology.

Capital Market Assumptions

Return & Risk Assumptions (Forecasts)	Arithmetic Return	Geometric Return	Standard Deviation	Skewness	Kurtosis
Cash	1.4%	1.4%	0.0%	0	0
US Bond	4.1%	3.9%	6.9%	-0.45	1.45
US Bonds - Dynamic	4.0%	3.9%	5.7%	-1.05	7.64
Global Bonds	3.7%	3.5%	7.3%	-0.34	0.48
US Equity (LC)	8.6%	7.3%	16.5%	-0.59	0.99
US Equity (SC)	9.8%	7.6%	21.1%	-0.50	1.34
Int'l Dev. Equity	12.5%	10.1%	21.8%	-0.57	1.45
EM Equity	15.4%	11.4%	28.5%	-0.67	2.07
Real Estate	8.3%	6.6%	18.5%	-0.77	7.24
Broad Real Assets	6.9%	6.2%	12.3%	-1.67	10.13
Marketable Alternatives	8.4%	8.0%	8.7%	-0.84	4.94
Private Equity	13.0%	10.4%	23.0%	0.00	0.00

Correlation Assumptions (Forecasts)	Cash	US Bond	US Bonds - Dynamic	Global Bonds	US Equity (LC)	US Equity (SC)	Int'l Dev. Equity	EM Equity	Real Estate	Broad Real Assets	Marketable Alternatives	Private Equity
Cash	1	0	0	0	0	0	0	0	0	0	0	0
US Bond	0	1.00	0.35	0.94	0.18	0.09	0.15	0.03	0.21	0.33	0.08	-0.14
US Bonds - Dynamic	0	0.35	1.00	0.49	0.52	0.51	0.47	0.53	0.53	0.72	0.50	0.16
Global Bonds	0	0.94	0.49	1.00	0.08	-0.02	0.07	0.02	0.17	0.28	0.07	-0.13
US Equity (LC)	0	0.18	0.52	0.08	1.00	0.84	0.69	0.67	0.62	0.61	0.59	0.37
US Equity (SC)	0	0.09	0.51	-0.02	0.84	1.00	0.62	0.67	0.70	0.63	0.63	0.37
Int'l Dev. Equity	0	0.15	0.47	0.07	0.69	0.62	1.00	0.71	0.50	0.59	0.58	0.32
EM Equity	0	0.03	0.53	0.02	0.67	0.67	0.71	1.00	0.47	0.58	0.67	0.31
Real Estate	0	0.21	0.53	0.17	0.62	0.70	0.50	0.47	1.00	0.82	0.35	0.19
Broad Real Assets	0	0.33	0.72	0.28	0.61	0.63	0.59	0.58	0.82	1.00	0.52	0.22
Marketable Alternatives	0	0.08	0.50	0.07	0.59	0.63	0.58	0.67	0.35	0.52	1.00	0.50
Private Equity	0	-0.14	0.16	-0.13	0.37	0.37	0.32	0.31	0.19	0.22	0.50	1.00

May 31, 2022 Twenty-Year Forecasted CMAs

*Historical mix return calculations assume a weighted average excess return assumption of 0.5% with a Fiducient Advisors' hypothetical fee of 0.25

For additional information on forecast methodologies, please speak with your advisor. Please see Index Proxy Summary slide at the end of this presentation for summary of indexes used to represent each asset class. Past performance does not indicate future performance. Please see the Frontier Engineer Hypothetical Performance Disclosures at the end of the presentation for additional information.

Frontier Engineer Hypothetical Performance Disclosures

Disclosure

The historical performance information derived from the Frontier Engineer and used or presented in charts, tables, or graphs represent simulated historical performance, which has been derived by retroactively applying an asset allocation modeling process in its most recently developed form with its most recently derived ten-year (forward-looking) capital market assumptions. Such historical return simulations (or back testing) was performed by simulating the combination of actual index returns for the historical period with a buy and hold strategy effective January 1, 1988 through the most recently available month-end date with simulated rebalancing occurring every month-end (with the reinvestment of dividends and capital gains from each index).

Back tested performance is hypothetical and does not reflect actual trades or actual client performance. As with all models, there are inherent limitations which are derived from the retroactive application developed with the benefit of hindsight, including the risk that certain factors such as material economic and market conditions could have contributed to materially different (either higher or lower) performance results than those depicted, or that certain material factors may have been included or excluded from consideration. As such, actual results during the applicable back tested period would have been different than those depicted.

The asset allocation modeling process currently used was initially developed in 2002, and was not offered as a strategy prior to that time. The output of a forward-looking model (or process) is a representation of allocation percentages among specific asset classes. Clients cannot invest directly in a target allocation, but rather, in underlying securities within designated asset classes. Advisor may change its models from time to time, and regularly updates its model as additional capital market assumption information becomes available or to increase or decrease relative weightings or emphasis on certain factors. Consequently, the Advisor may choose to deviate from a stated model over time as the model itself is revised, which could have a materially positive or negative impact on performance.

During the period represented, numerous modelling changes were made, including the regular changes in (ten-year) forward-looking expected returns, expected volatilities, expected non-normal return distribution assumptions, as well as tracking-error assumptions and risk budgets. Furthermore, such assumptions can be modified client-by-client depending on certain preferences, priorities, constraints or unique considerations applicable to each client.

Other economic and market factors may have impacted decision-making when using the model to manage client funds, including the list of approved asset classes by a client or client type as well as any client-directed or Advisor implemented constraints.

All investments bear the risk of loss, including the loss of principal. Past performance, actual or hypothetical, is no guarantee of future results.

The hypothetical annual Fiducient Advisors' fee is divided by 12 and subtracted from the historical monthly (index) returns. The hypothetical excess return assumption is divided by 12 and added to the historical monthly (index) returns. Furthermore, for forecasted total portfolio (index-based) annual returns based on capital market assumptions, the annual Fiducient Advisors' fee assumption is subtracted from the hypothetical annual manager excess return assumption. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

Disclosure

INDEX DEFINITIONS

FTSE Treasury Bill 3 Month measures return equivalents of yield averages and are not marked to market. It is an average of the last three three-month Treasury bill month-end rates.

Bloomberg Capital US Treasury Inflation Protected Securities Index consists of Inflation-Protection securities issued by the U.S. Treasury.

Bloomberg Muni 5 Year Index is the 5 year (4-6) component of the Municipal Bond index.

Bloomberg High Yield Municipal Bond Index covers the universe of fixed rate, non-investment grade debt.

Bloomberg U.S. Aggregate Index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

FTSE World Government Bond Index (WGBI) (Unhedged) provides a broad benchmark for the global sovereign fixed income market by measuring the performance of fixed-rate, local currency, investment-grade sovereign debt from over 20 countries,

FTSE World Government Bond Index (WGBI) (Hedged) is designed to represent the FTSE WGBI without the impact of local currency exchange rate fluctuations.

Bloomberg US Corporate High Yield TR USD covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

JP Morgan Government Bond Index-Emerging Market Index (GBI-EMI) is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.

JPMorgan EMBI Global Diversified is an unmanaged, market-capitalization weighted, total-return index tracking the traded market for U.S.-dollar-denominated Brady bonds, Eurobonds, traded loans, and local market debt instruments issued by sovereign and quasi-sovereign entities.

MSCI ACWI is designed to represent performance of the full opportunity set of large- and mid-cap stocks across multiple developed and emerging markets, including cross-market tax incentives.

The S&P 500 is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

Russell 3000 is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.

Russell Mid Cap measures the performance of the 800 smallest companies in the Russell 1000 Index.

Russell 2000 consists of the 2,000 smallest U.S. companies in the Russell 3000 index.

MSCI EAFE is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI Emerging Markets captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country

The Wilshire US Real Estate Securities Index (Wilshire US RESI) is comprised of publicly-traded real estate equity securities and designed to offer a market-based index that is more reflective of real estate held by pension funds.

Alerian MLP Index is a float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.

Bloomberg Commodity Index (BCI) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.

Treasury Inflation-Protected Securities (TIPS) are Treasury bonds that are indexed to inflation to protect investors from the negative effects of rising prices. The principal value of TIPS rises as inflation rises.

HFRI Fund of Funds Composite is an equal-weighted index consisting of over 800 constituent hedge funds, including both domestic and offshore funds.

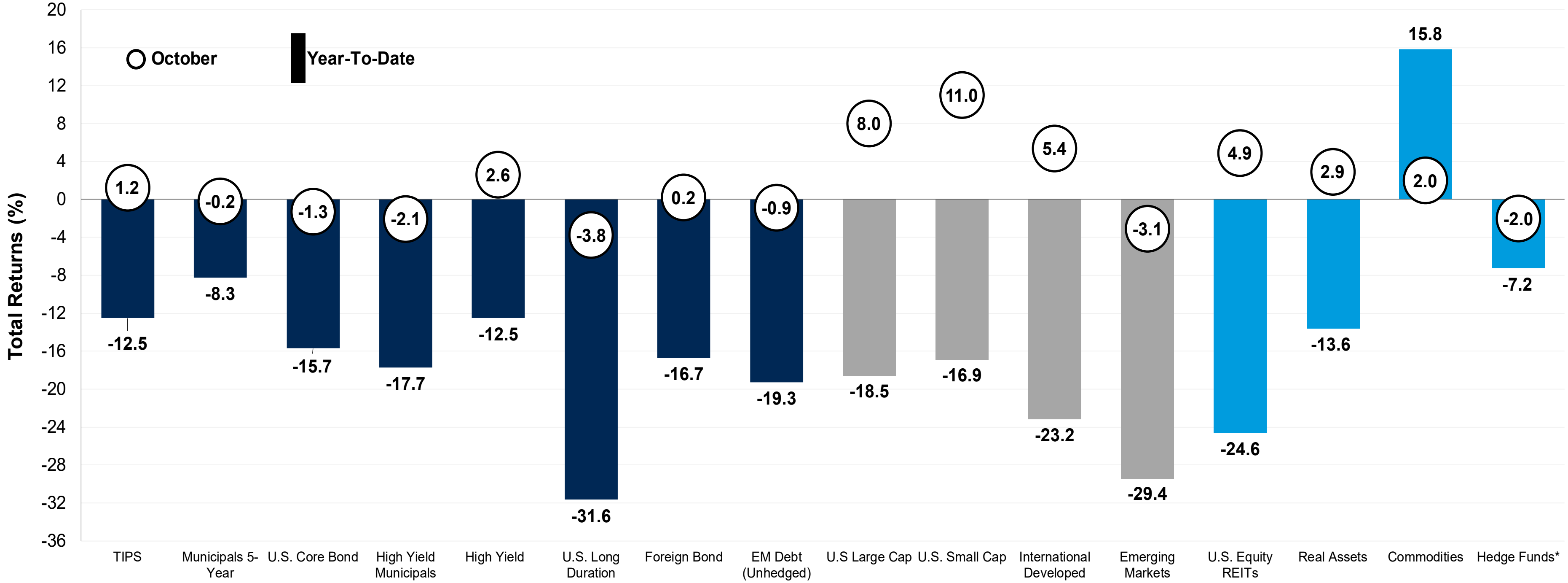
Cambridge Associates U.S. Private Equity Index (67% Buyout vs. 33% Venture) is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.

HFN Hedge Fund Aggregate Average is an equal weighted average of all hedge funds and CTA/managed futures products reporting to the HFN Database. Constituents are aggregated from each of the HFN Strategy Specific Indices.

Goldman Sachs Commodity Index (GSCI) is a broadly diversified, unleveraged, long-only composite index of commodities that measures the performance of the commodity market.

October Flash Report

Asset Class Performance



Source: Morningstar Direct. As of October 31, 2022. *Hedge fund returns are as of September 30, 2022.

Fixed Income (October)

- October brought more pain for investors interest rates moved higher and the yield curve remained inverted.

+ An upside inflation surprise led to higher breakevens and positive returns for TIPS.

+ High yield bonds benefited from falling spreads over the month with low issuance and a risk-on sentiment from investors over the month.

Equity (October)

+ Domestic and developed markets equities delivered strong returns in October as data revealing a slowdown gave investors hope for a Fed pause.

+ Clarity around political leadership in Italy and the UK benefited developed market equities after heightened uncertainty in recent months.

- While most emerging markets countries were strong in October, confirmation of President Xi's record third term in China dragged EM down.

Real Asset / Alternatives (October)

+ Positive equity momentum helped REITs as well, which saw a broad-based rally.

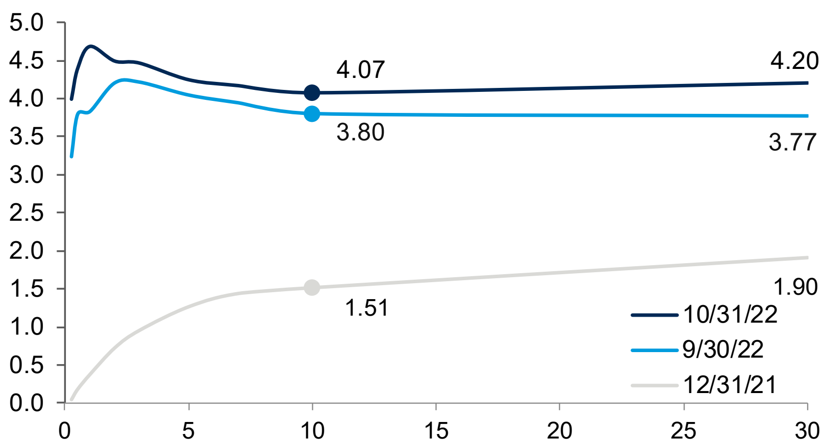
+ Commodities and real assets also gained in October, although disparities persisted among constituents of the indices.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

Fixed Income Market Update

U.S. Treasury Yield Curve

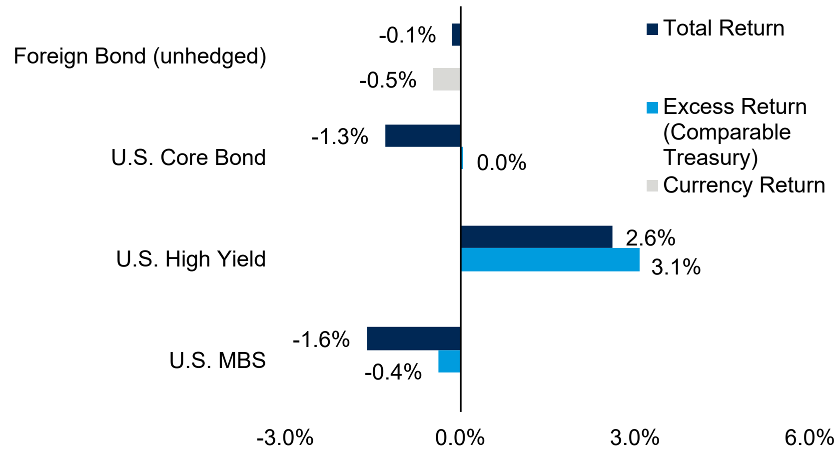
While rates continue to trudge higher, the pace of upward moves has slowed in recent months as markets have started to solidify forecasts for terminal rates for this hiking cycle. The yield curve remains inverted.



Source: FactSet. As of October 31, 2022.

Index Performance Attribution (October 2022)

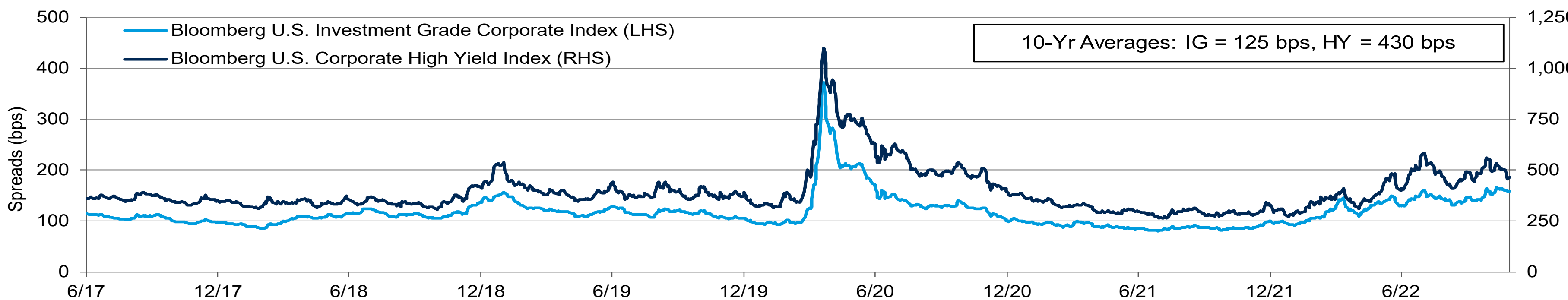
High yield bonds benefited from low issuance and tightening spreads, while other fixed income markets were broadly lower during the month as rates continued to rise.



Source: FactSet. As of October 31, 2022.

Credit Market Spreads – Trailing 5 Years

October saw investment grade spreads essentially unchanged, ending the month 1 basis point lower than the previous month's level. On the other hand, high yield spreads were 88 basis points tighter during the month. Spreads in both markets, however, remain elevated relative to their 10-year averages.



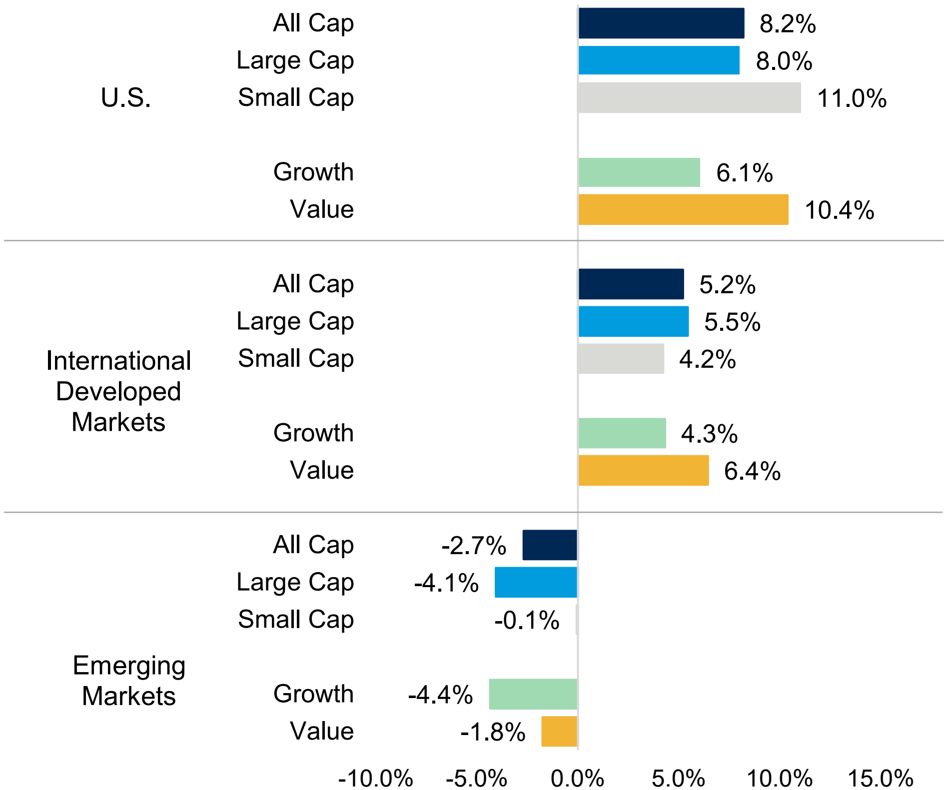
Source: FactSet. As of October 31, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

Equity Market Update

Market Capitalization & Style Performance (October 2022)

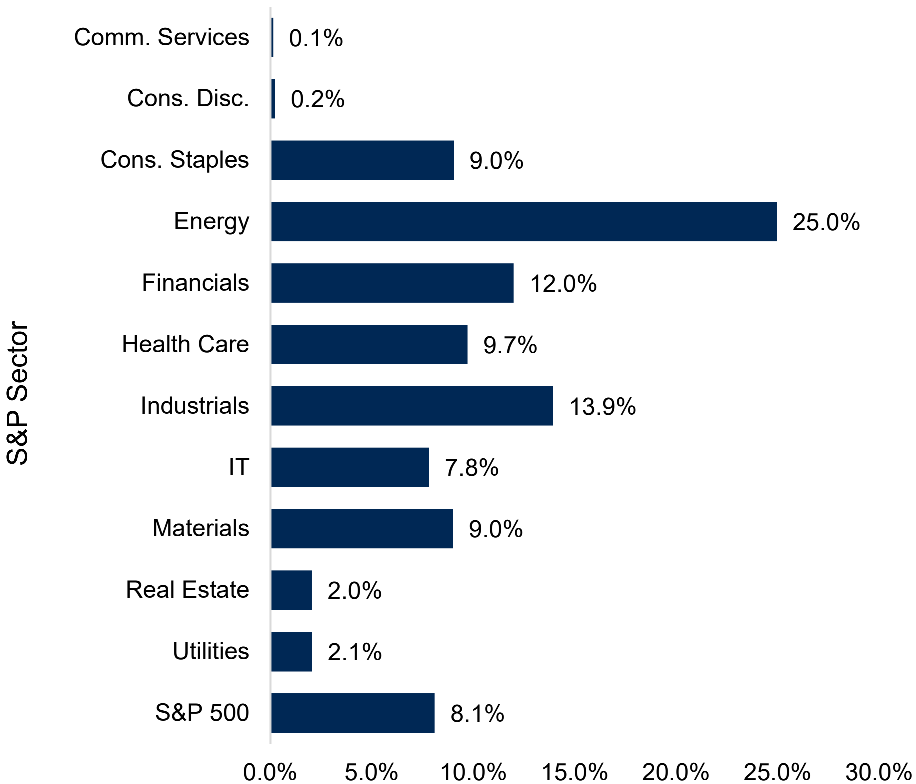
Value maintained its leadership over growth across geographies. US and developed international markets saw a relief rally after September's weakness, while emerging markets were dragged lower by China as President Xi firmed his grasp over the world's second-largest economy.



Source: Morningstar Direct. As of October 31, 2022.

U.S. Equities – Returns by Sector (October 2022)

All sectors of the S&P 500 gained in October despite weak earnings for the third-quarter. Energy continues its record run, benefiting from high crude prices, while industrials and financials also rallied during the month.



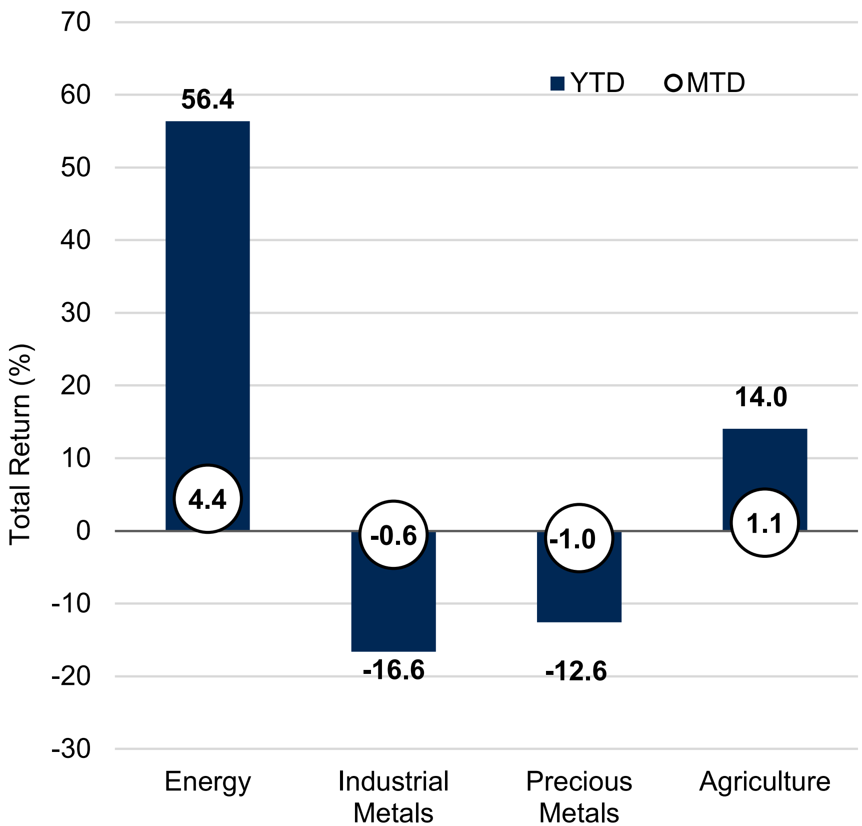
Source: Morningstar Direct. As of October 31, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

Real Asset Market Update

Real Assets Performance (October 2022)

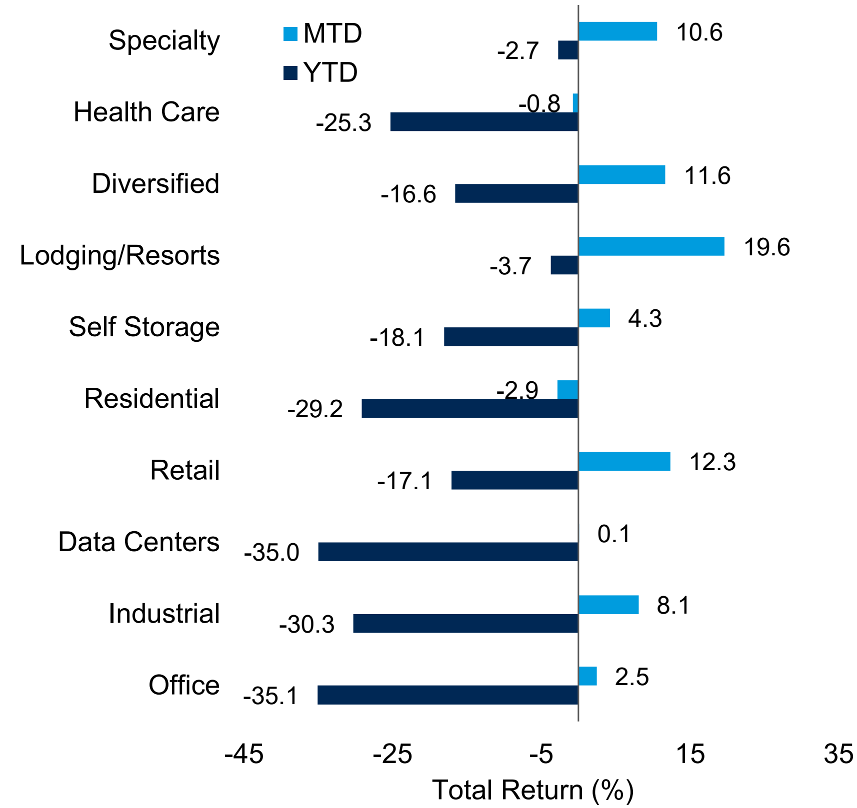
Real assets delivered mix results in October, with the primary headline being supply cuts announced by OPEC nations early in the month, which pushed oil prices higher. Evidence of an economic slowdown weighed on industrial and precious metals.



Source: FactSet. As of October 31, 2022.

REIT Sector Performance (October 2022)

REITs exhibited strength in October. The Lodging/Resorts sector benefited from continued strength in travel demand and the Retail sector was buoyed by consumer spending. Residential, however, was weaker as house prices fell from the previous month.



Source: FactSet. As of October 31, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

Financial Markets Performance

Financial Markets Performance

Total Return as of October 31, 2022

Periods greater than one year are annualized

All returns are in U.S. dollar terms

Global Fixed Income Markets	MTD	YTD	1YR	3YR	5YR	7YR	10YR	15YR
Bloomberg 1-3-Month T-Bill	0.2%	0.8%	0.9%	0.6%	1.1%	0.9%	0.7%	0.6%
Bloomberg U.S. TIPS	1.2%	-12.5%	-11.5%	1.1%	2.2%	2.4%	1.0%	3.3%
Bloomberg Municipal Bond (5 Year)	-0.2%	-8.3%	-8.0%	-1.2%	0.4%	0.8%	1.2%	2.6%
Bloomberg High Yield Municipal Bond	-2.1%	-17.7%	-16.5%	-2.2%	1.8%	2.9%	3.1%	3.8%
Bloomberg U.S. Aggregate	-1.3%	-15.7%	-15.7%	-3.8%	-0.5%	0.4%	0.7%	2.6%
Bloomberg U.S. Corporate High Yield	2.6%	-12.5%	-11.8%	0.3%	2.0%	4.1%	4.1%	5.8%
Bloomberg Global Aggregate ex-U.S. Hedged	0.5%	-9.5%	-9.0%	-2.6%	0.7%	1.5%	2.2%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	-0.1%	-24.0%	-24.6%	-8.1%	-3.9%	-1.8%	-2.4%	0.2%
Bloomberg U.S. Long Gov / Credit	-3.8%	-31.6%	-31.3%	-8.5%	-2.0%	0.4%	0.8%	4.1%
JPMorgan GBI-EM Global Diversified	-0.9%	-19.3%	-20.3%	-8.2%	-3.5%	-0.4%	-2.6%	0.8%
Global Equity Markets	**MTD**	**YTD**	**1YR**	**3YR**	**5YR**	**7YR**	**10YR**	**15YR**
S&P 500	8.1%	-17.7%	-14.6%	10.2%	10.4%	11.4%	12.8%	8.5%
Dow Jones Industrial Average	14.1%	-8.4%	-6.7%	8.8%	9.3%	11.7%	12.2%	8.5%
NASDAQ Composite	3.9%	-29.3%	-28.6%	10.7%	11.3%	12.8%	15.2%	10.5%
Russell 3000	8.2%	-18.4%	-16.5%	9.8%	9.9%	10.9%	12.5%	8.4%
Russell 1000	8.0%	-18.5%	-16.4%	10.0%	10.2%	11.1%	12.7%	8.5%
Russell 1000 Growth	5.8%	-26.6%	-24.6%	11.7%	12.6%	13.3%	14.7%	10.3%
Russell 1000 Value	10.3%	-9.3%	-7.0%	7.3%	7.2%	8.5%	10.3%	6.4%
Russell Mid Cap	8.9%	-17.5%	-17.2%	7.8%	8.0%	9.2%	11.4%	8.0%
Russell Mid Cap Growth	7.9%	-26.1%	-28.9%	6.3%	8.7%	9.8%	12.0%	8.4%
Russell Mid Cap Value	9.4%	-12.8%	-10.2%	7.5%	6.5%	8.1%	10.4%	7.4%
Russell 2000	11.0%	-16.9%	-18.5%	7.0%	5.6%	8.3%	9.9%	6.9%
Russell 2000 Growth	9.5%	-22.6%	-26.0%	5.1%	5.2%	7.7%	10.1%	7.2%
Russell 2000 Value	12.6%	-11.2%	-10.7%	8.1%	5.3%	8.4%	9.4%	6.5%
MSCI ACWI	6.0%	-21.1%	-20.0%	4.8%	5.2%	7.2%	8.0%	4.2%
MSCI ACWI ex. U.S.	3.0%	-24.3%	-24.7%	-1.7%	-0.6%	2.7%	3.3%	0.4%
MSCI EAFE	5.4%	-23.2%	-23.0%	-1.3%	-0.1%	2.5%	4.1%	0.7%
MSCI EAFE Growth	4.3%	-30.1%	-29.6%	-1.3%	1.1%	3.4%	5.1%	1.7%
MSCI EAFE Value	6.4%	-16.0%	-16.3%	-1.9%	-1.7%	1.3%	2.9%	-0.4%
MSCI EAFE Small Cap	4.2%	-29.2%	-30.3%	-2.3%	-1.3%	3.0%	5.6%	2.3%
MSCI Emerging Markets	-3.1%	-29.4%	-31.0%	-4.4%	-3.1%	2.4%	0.8%	-0.6%
Alternatives	**MTD**	**YTD**	**1YR**	**3YR**	**5YR**	**7YR**	**10YR**	**15YR**
Consumer Price Index*	0.4%	5.9%	8.2%	5.0%	3.8%	3.2%	2.5%	2.4%
FTSE NAREIT Equity REITs	4.9%	-24.6%	-18.5%	-0.9%	4.1%	4.7%	6.9%	5.1%
S&P Real Assets	2.9%	-13.6%	-12.1%	0.9%	2.7%	3.8%	3.2%	3.5%
FTSE EPRA NAREIT Developed	3.0%	-27.3%	-24.3%	-5.5%	0.8%	2.0%	4.0%	1.8%
FTSE EPRA NAREIT Developed ex U.S.	0.3%	-30.8%	-31.7%	-10.5%	-3.1%	-0.7%	1.1%	-0.9%
Bloomberg Commodity Total Return	2.0%	15.8%	11.2%	13.4%	6.9%	4.8%	-1.6%	-2.5%
HFRI Fund of Funds Composite*	-2.0%	-7.2%	-6.8%	4.0%	3.0%	3.1%	3.4%	1.7%
HFRI Fund Weighted Composite*	-2.4%	-6.3%	-5.9%	6.1%	4.5%	4.9%	4.6%	3.5%
Alerian MLP	14.3%	35.9%	30.2%	11.6%	5.6%	3.2%	2.0%	5.4%

*Sources: Morningstar, FactSet. As of October 31, 2022. *Consumer Price Index and HFRI indexes as of September 30, 2022.*

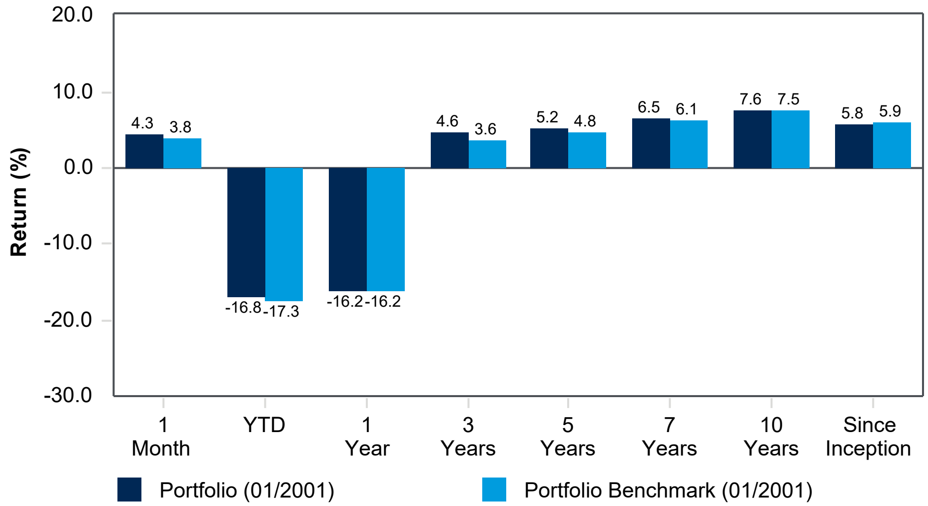
See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss. Indices cannot be invested in directly.

Portfolio Dashboard

West Hartford Total Pension

As of October 31, 2022

Historical Performance



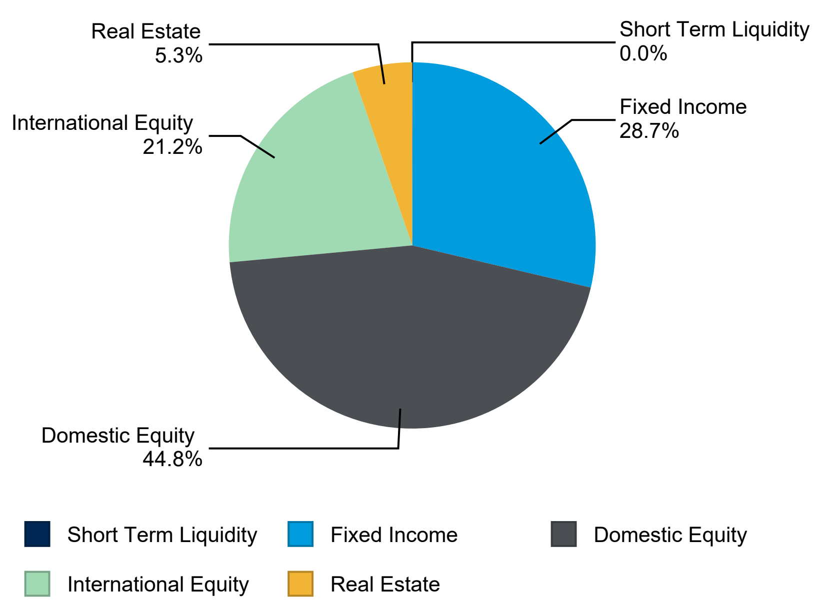
Summary of Cash Flows

	1 Month	YTD	1 Year
Beginning Market Value	444,978,022	384,591,877	387,359,086
Net Contributions	19,174,727	181,343,031	175,816,059
Gain/Loss	19,996,701	-81,785,459	-79,025,696
Ending Market Value	484,149,449	484,149,449	484,149,449

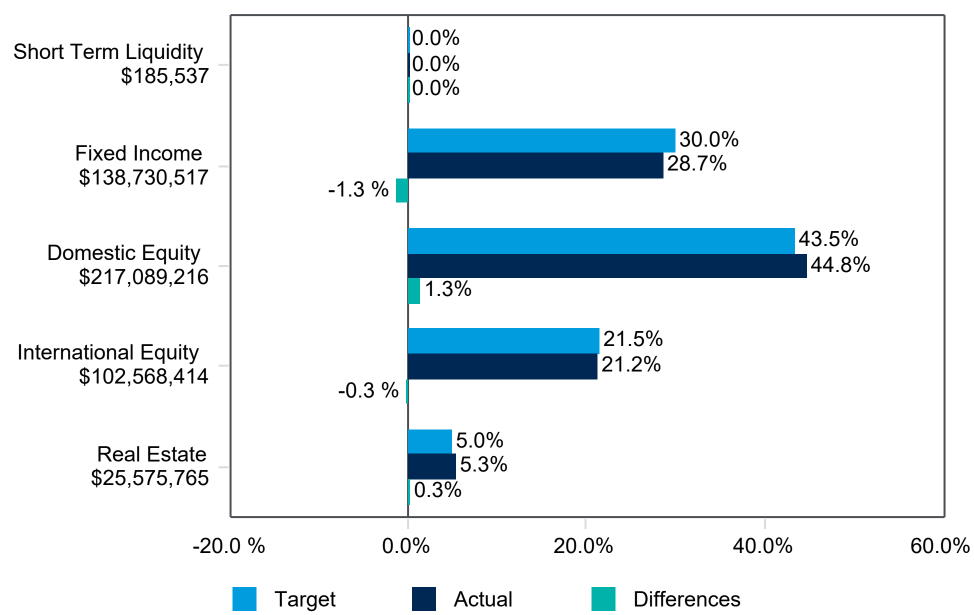
Current Benchmark Composition

From Date	To Date	
04/2018	Present	30.00% Blmbg. U.S. Aggregate, 43.50% Russell 3000 Index, 21.50% MSCI AC World ex USA (Net), 5.00% NCREIF Fund Index - ODCE (net)

Portfolio Allocation



Actual vs. Target Allocations



Asset Allocation

West Hartford Total Pension

As of October 31, 2022

	Asset Allocation ($)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
West Hartford Total Pension	**484,149,449**	**100.0**	**100.0**	**0.0**
Short Term Liquidity	**185,537**	**0.0**	**0.0**	**0.0**
AllSpring Govt Money Market Fund	185,537	0.0	0.0	0.0
Fixed Income	**138,730,517**	**28.7**	**30.0**	**-1.3**
Vanguard Total Bond Market Index Instl	78,684,201	16.3	17.0	-0.7
Metropolitan West Total Return Bond Pl	60,046,316	12.4	13.0	-0.6
Domestic Equity	**217,089,216**	**44.8**	**43.5**	**1.3**
Vanguard Total Stock Market Index Instl	154,560,071	31.9	31.3	0.7
T. Rowe Price Instl Large Cap Value	20,512,631	4.2	4.3	0.0
Silvercrest Small Cap Value	20,964,506	4.3	4.0	0.3
Pier Capital Small Cap Growth	21,046,288	4.3	4.0	0.3
Equity Holdings	5,720	0.0	0.0	0.0
International Equity	**102,568,414**	**21.2**	**21.5**	**-0.3**
Acadian Non-US All Cap Equity Fund,USD Hedged	25,014,223	5.2	5.0	0.2
Harbor Diversified International All Cap Ret	25,822,865	5.3	5.5	-0.2
Causeway International Value Instl	26,556,477	5.5	5.5	0.0
Vanguard International Growth Adm	25,174,849	5.2	5.5	-0.3
Real Estate	**25,575,765**	**5.3**	**5.0**	**0.3**
Barings Core Property Fund LP	25,575,765	5.3	5.0	0.3

Manager Performance

West Hartford Total Pension

As of October 31, 2022

	Allocation		Performance(%)							
	Market Value ($)	%	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
West Hartford Total Pension	**484,149,449**	**100.0**	**4.3**	**-16.8**	**-16.2**	**4.6**	**5.2**	**7.6**	**5.8**	**01/2001**
Pension Blended Benchmark			*3.8*	*-17.3*	*-16.2*	*3.6*	*4.8*	*7.5*	*5.9*	
Short Term Liquidity	**185,537**	**0.0**	**0.2**	**1.6**	**1.6**	**0.7**	**1.2**	**0.7**	**0.5**	**06/2010**
90 Day U.S. Treasury Bill			*0.2*	*0.8*	*0.8*	*0.6*	*1.2*	*0.7*	*0.6*	
AllSpring Govt Money Market Fund	**185,537**	**0.0**	**0.2**	**1.6**	**1.6**	**0.7**	**1.2**	**0.7**	**0.5**	**06/2010**
90 Day U.S. Treasury Bill			*0.2*	*0.8*	*0.8*	*0.6*	*1.2*	*0.7*	*0.6*	
Fixed Income	**138,730,517**	**28.7**	**-1.5**	**-16.4**	**-16.5**	**-3.8**	**-0.5**	**0.7**	**3.1**	**12/2008**
Blmbg. U.S. Aggregate			*-1.3*	*-15.7*	*-15.7*	*-3.8*	*-0.5*	*0.7*	*2.5*	
Vanguard Total Bond Market Index Instl	**78,684,201**	**16.3**	**-1.4**	**-15.7**	**-15.8**	**-3.8**	**-0.5**	**0.7**	**1.4**	**11/2010**
Blmbg. U.S. Aggregate			*-1.3*	*-15.7*	*-15.7*	*-3.8*	*-0.5*	*0.7*	*1.5*	
IM U.S. Broad Market Core Fixed Income (MF) Median			-1.4	-16.4	-16.4	-3.8	-0.6	0.7	1.5	
Vanguard Total Bond Market Index Instl Rank			50	27	26	51	41	50	57	
Metropolitan West Total Return Bond Pl	**60,046,316**	**12.4**	**-1.6**	**-17.5**	**-17.6**	**-3.8**	**-0.4**	**1.1**	**0.3**	**05/2015**
Blmbg. U.S. Aggregate			*-1.3*	*-15.7*	*-15.7*	*-3.8*	*-0.5*	*0.7*	*0.3*	
IM U.S. Broad Market Core+ Fixed Income (MF) Median			-1.3	-16.4	-16.4	-3.4	-0.5	0.9	0.4	
Metropolitan West Total Return Bond Pl Rank			80	75	76	70	47	38	57	
Domestic Equity	**217,089,216**	**44.8**	**8.7**	**-17.3**	**-16.1**	**9.9**	**9.5**	**12.2**	**13.2**	**12/2008**
Russell 3000 Index			*8.2*	*-18.4*	*-16.5*	*9.8*	*9.9*	*12.5*	*13.3*	
Vanguard Total Stock Market Index Instl	**154,560,071**	**31.9**	**8.2**	**-18.7**	**-16.9**	**9.7**	**9.8**	**12.4**	**13.4**	**06/2009**
CRSP US Total Market Spliced Index			*8.2*	*-18.7*	*-16.9*	*9.7*	*9.8*	*12.4*	*13.4*	
IM U.S. Multi-Cap Core Equity (MF) Median			8.2	-18.3	-16.0	8.6	8.4	11.1	11.9	
Vanguard Total Stock Market Index Instl Rank			51	57	61	32	21	17	10	
T. Rowe Price Instl Large Cap Value	**20,512,631**	**4.2**	**9.6**	**-6.9**	**-4.9**	**8.7**	**7.6**	**10.9**	**8.1**	**07/2005**
Russell 1000 Value Index			*10.3*	*-9.3*	*-7.0*	*7.3*	*7.2*	*10.3*	*7.4*	
IM U.S. Large Cap Value Equity (MF) Median			10.7	-7.7	-5.0	8.6	8.1	10.5	7.5	
T. Rowe Price Instl Large Cap Value Rank			78	38	49	49	64	34	33	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Manager Performance

West Hartford Total Pension **As of October 31, 2022**

	Allocation		Performance(%)							
	Market Value ($)	%	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Silvercrest Small Cap Value	**20,964,506**	**4.3**	**14.1**	**-6.2**	**-2.8**	**9.4**	**6.2**	**-**	**7.2**	**12/2016**
Russell 2000 Value Index			*12.6*	*-11.2*	*-10.7*	*8.1*	*5.3*	*9.4*	*6.2*	
IM U.S. Small Cap Value Equity (MF) Median			13.1	-9.0	-7.6	9.6	5.4	9.3	6.2	
Silvercrest Small Cap Value Rank			32	23	18	53	38	-	31	
Pier Capital Small Cap Growth	**21,046,288**	**4.3**	**7.4**	**-30.5**	**-36.0**	**8.0**	**8.1**	**12.1**	**9.7**	**01/2001**
Russell 2000 Growth Index			*9.5*	*-22.6*	*-26.0*	*5.1*	*5.2*	*10.1*	*6.7*	
IM U.S. Small Cap Growth Equity (MF) Median			8.5	-24.3	-27.4	7.0	7.6	10.5	7.4	
Pier Capital Small Cap Growth Rank			79	83	87	39	43	16	7	
Equity Holdings	**5,720**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**0.0**	**11/2016**
International Equity	**102,568,414**	**21.2**	**4.8**	**-22.2**	**-23.3**	**3.7**	**2.7**	**5.5**	**8.4**	**12/2008**
International Equity Benchmark			*3.0*	*-24.3*	*-24.7*	*-1.7*	*-0.7*	*3.8*	*5.6*	
Acadian Non-US All Cap Equity Fund,USD Hedged	**25,014,223**	**5.2**	**6.0**	**-7.6**	**-5.8**	**9.4**	**-**	**-**	**6.5**	**05/2018**
MSCI EAFE US Dollar Hedged Index (Net)			*5.5*	*-8.2*	*-6.5*	*5.3*	*5.2*	*9.0*	*5.4*	
IM International Multi-Cap Core Equity (MF) Median			5.1	-23.6	-23.9	-1.4	-0.7	3.7	-1.3	
Acadian Non-US All Cap Equity Fund,USD Hedged Rank			21	1	1	1	-	-	1	
Harbor Diversified International All Cap Ret	**25,822,865**	**5.3**	**4.5**	**-23.5**	**-24.0**	**-1.0**	**-0.1**	**-**	**-0.6**	**03/2018**
MSCI AC World ex USA (Net)			*3.0*	*-24.3*	*-24.7*	*-1.7*	*-0.6*	*3.3*	*-1.4*	
IM International Large Cap Core Equity (MF) Median			5.4	-23.5	-23.4	-1.3	-0.6	3.5	-1.0	
Harbor Diversified International All Cap Ret Rank			76	51	65	47	34	-	36	
Causeway International Value Instl	**26,556,477**	**5.5**	**7.8**	**-18.1**	**-18.4**	**0.2**	**-1.0**	**3.4**	**4.4**	**05/2004**
MSCI EAFE Value Index (Net)			*6.5*	*-16.0*	*-16.3*	*-1.9*	*-1.7*	*2.9*	*3.6*	
IM International Large Cap Value Equity (MF) Median			7.0	-19.2	-19.4	-1.2	-1.3	2.8	3.9	
Causeway International Value Instl Rank			13	26	34	28	35	26	24	
Vanguard International Growth Adm	**25,174,849**	**5.2**	**2.3**	**-37.1**	**-41.1**	**3.0**	**3.1**	**7.4**	**2.0**	**03/2018**
MSCI AC World ex USA Growth (Net)			*2.0*	*-30.5*	*-31.0*	*-1.9*	*0.1*	*4.1*	*-0.7*	
IM International Large Cap Growth Equity (MF) Median			4.6	-27.9	-28.0	-0.2	0.3	4.3	-0.3	
Vanguard International Growth Adm Rank			97	95	96	15	14	4	24	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Manager Performance

West Hartford Total Pension | **As of October 31, 2022**

	Allocation		Performance(%)							
	Market Value ($)	%	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Real Estate	**25,575,765**	**5.3**	**0.0**	**5.6**	**13.4**	**8.3**	**7.4**	**8.4**	**5.0**	**01/2008**
NCREIF Fund Index - ODCE (net)			*0.0*	*12.4*	*21.0*	*11.4*	*9.3*	*9.9*	*5.7*	
Barings Core Property Fund LP	**25,575,765**	**5.3**	**0.0**	**5.6**	**13.4**	**8.3**	**7.4**	**8.4**	**5.0**	**01/2008**
NCREIF Fund Index - ODCE (net)			*0.0*	*12.4*	*21.0*	*11.4*	*9.3*	*9.9*	*5.7*	

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Benchmark History

West Hartford Total Pension | As of October 31, 2022

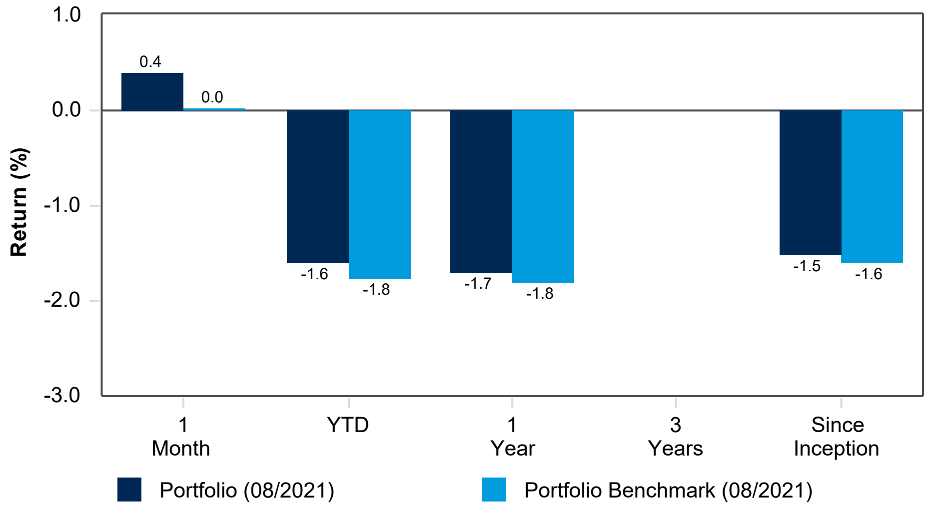
Account Name	From Date	To Date	Benchmark
West Hartford Total Pension	**04/2018**	**Present**	**30.0% Blmbg. U.S. Aggregate, 43.5% Russell 3000 Index, 21.5% MSCI AC World ex USA (Net), 5.0% NCREIF Fund Index - ODCE (net)**
	03/2018	04/2018	30.0% Blmbg. U.S. Aggregate, 50.0% Russell 3000 Index, 15.0% MSCI AC World ex USA (Net), 5.0% NCREIF Fund Index - ODCE (net)
	12/2017	03/2018	30.0% Blmbg. U.S. Aggregate, 57.0% Russell 3000 Index, 8.0% MSCI EAFE (Net), 5.0% NCREIF Fund Index - ODCE (net)
	10/2010	12/2017	30.0% Blmbg. U.S. Aggregate, 54.0% Russell 3000 Index, 11.0% MSCI EAFE (Net), 5.0% NCREIF Fund Index - ODCE (net)
	01/2008	10/2010	30.0% Blmbg. U.S. Aggregate, 12.0% Russell 1000 Value Index, 12.0% Russell 1000 Growth Index, 19.0% Russell 3000 Index, 11.0% Russell 2000 Index, 11.0% MSCI EAFE (Net), 5.0% NCREIF Fund Index - ODCE (net)
	08/2003	01/2008	11.0% MSCI EAFE (Net), 35.0% Blmbg. U.S. Aggregate, 12.0% Russell 1000 Growth Index, 12.0% Russell 1000 Value Index, 19.0% Russell 3000 Index, 11.0% Russell 2000 Index
	07/2002	08/2003	12.0% MSCI EAFE (Net), 3.0% 90 Day U.S. Treasury Bill, 35.0% Blmbg. U.S. Aggregate, 10.0% Russell 1000 Growth Index, 14.0% Russell 1000 Value Index, 19.0% Russell 3000 Index, 7.0% Russell 2000 Index
	06/2002	07/2002	12.0% MSCI EAFE (Net), 3.0% 90 Day U.S. Treasury Bill, 35.0% Blmbg. U.S. Aggregate, 10.0% Russell 1000 Growth Index, 14.0% Russell 1000 Value Index, 19.0% Russell 3000 Index, 7.0% Russell 2000 Index
	01/2001	06/2002	15.0% MSCI EAFE (Net), 35.0% Blmbg. U.S. Aggregate, 10.0% Russell 1000 Growth Index, 14.0% Russell 1000 Value Index, 19.0% Russell 3000 Index, 7.0% Russell 2000 Index

Portfolio Dashboard

West Hartford POB ST Account

As of October 31, 2022

Historical Performance



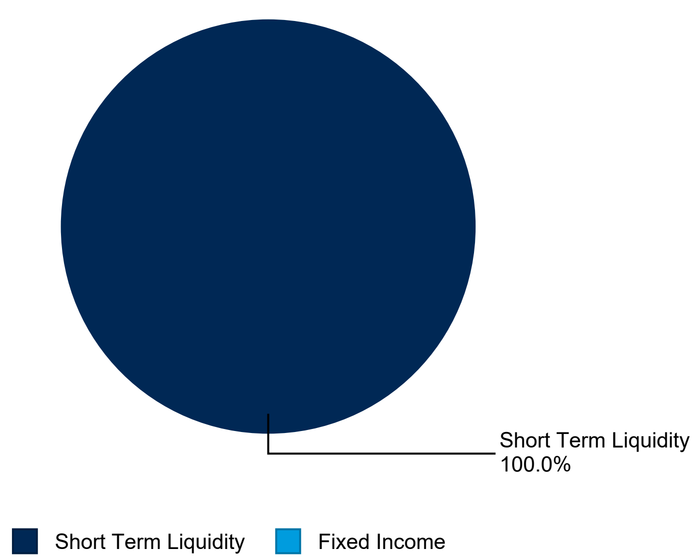
Summary of Cash Flows

	1 Month	YTD	Since Inception
Beginning Market Value	19,111,668	214,645,209	269,288,163
Net Contributions	-19,131,280	-212,131,280	-266,131,280
Gain/Loss	26,429	-2,507,113	-3,150,066
Ending Market Value	6,817	6,817	6,817

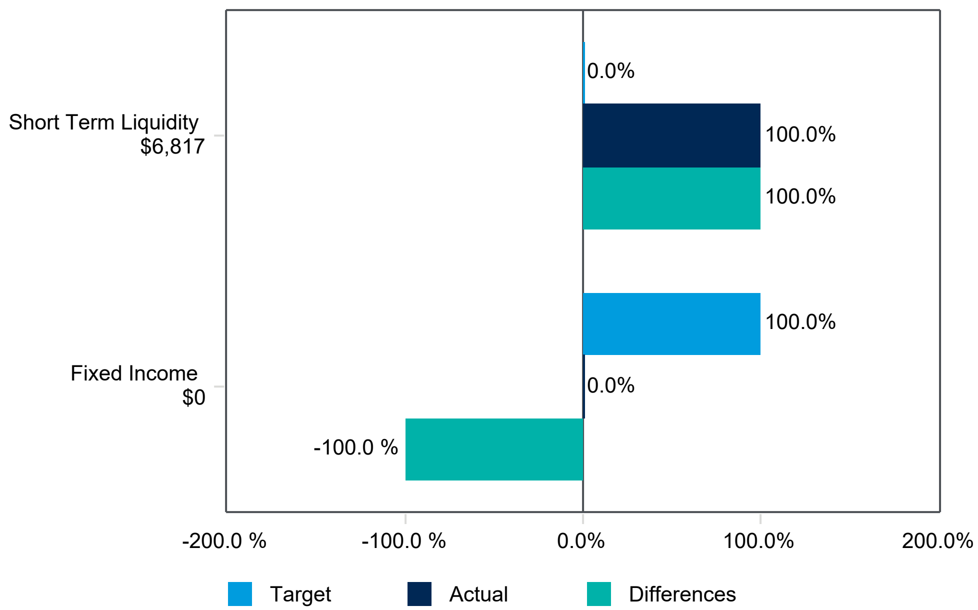
Current Benchmark Composition

From Date	To Date	
08/2021	Present	25.00% 90 Day U.S. Treasury Bill, 25.00% Blmbg. U.S. Credit 1-5 Year Index, 50.00% Blmbg. Short-term Government/Corporate

Portfolio Allocation



Actual vs. Target Allocations



Asset Allocation

West Hartford POB ST Account

As of October 31, 2022

	Asset Allocation ($)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
West Hartford POB ST Account	**6,817**	**100.0**	**100.0**	**0.0**
Short Term Liquidity	**6,817**	**100.0**	**0.0**	**100.0**
AllSpring Govt Money Market Fund	6,817	100.0	0.0	100.0
Fixed Income	**-**	**0.0**	**100.0**	**-100.0**
Baird Ultra Short Term Bond Fund Instl	-	0.0	50.0	-50.0
Payden Limited Maturity Fund SI	-	0.0	25.0	-25.0
Vanguard Short Term Invst Grade Inst	-	0.0	25.0	-25.0

Manager Performance

West Hartford POB ST Account | As of October 31, 2022

	Allocation		Performance(%)								Manager Status
	Market Value ($)	%	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
West Hartford POB ST Account	**6,817**	**100.0**	**0.4**	**-1.6**	**-1.7**	**-**	**-**	**-**	**-1.5**	**08/2021**	
POB ST Blended Benchmark			*0.0*	*-1.8*	*-1.8*	*-*	*-*	*-*	*-1.6*		
Short Term Liquidity	**6,817**	**100.0**	**0.2**	**0.7**	**0.7**	**-**	**-**	**-**	**0.6**	**08/2021**	
90 Day U.S. Treasury Bill			*0.2*	*0.8*	*0.8*	*0.6*	*1.2*	*0.7*	*0.6*		
AllSpring Govt Money Market Fund	**6,817**	**100.0**	**0.2**	**0.7**	**0.7**	**-**	**-**	**-**	**0.6**	**08/2021**	
90 Day U.S. Treasury Bill			*0.2*	*0.8*	*0.8*	*0.6*	*1.2*	*0.7*	*0.6*		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Benchmark History

West Hartford POB ST Account

As of October 31, 2022

Account Name	From Date	To Date	Benchmark
West Hartford POB ST Account	08/2021	Present	25.0% 90 Day U.S. Treasury Bill, 25.0% Blmbg. U.S. Credit 1-5 Year Index, 50.0% Blmbg. Short-term Government/Corporate

Definitions & Disclosures

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

REGULATORY DISCLOSURES

Offer of ADV Part 2A: Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to compliance@fiducient.com.

INDEX DEFINITIONS

- **Citigroup 3 Month T-Bill** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- **Ryan 3 Yr. GIC** is an arithmetic mean of market rates of $1 million Guaranteed Interest Contracts held for three years.
- **Bloomberg Treasury U.S. T-Bills-1-3 Month Index** includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- **Bloomberg Capital US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg Muni 1 Year Index** is the 1-year (1-2) component of the Municipal Bond index.
- **Bloomberg Muni 3 Year Index** is the 3-year (2-4) component of the Municipal Bond index.
- **Bloomberg Muni 5 Year Index** is the 5-year (4-6) component of the Municipal Bond index.
- **Bloomberg Muni 7 Year Index** is the 7-year (6-8) component of the Municipal Bond index.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index** is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- **The S&P 500** is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **The Dow Jones Industrial Index** is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- **The NASDAQ** is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- **Russell 3000** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2500** consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- **Russell 2500 Growth** measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2500 Value** measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI World** captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- **MSCI EAFE** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

- **MSCI EAFE Value** captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float- adjusted market capitalization of the MSCI EAFE Index.
- **MSCI EAFE Growth** captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI Emerging Markets** captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **Consumer Price Index** is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- **FTSE NAREIT Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **S&P Developed World Property** defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **Fund Specific Broad Real Asset Benchmarks:**
  - **DWS Real Assets:** 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index,15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: U.S. Treasury Inflation Notes Total Return Index
  - **PIMCO Inflation Response Multi Asset Fund:** 45% Bloomberg U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
  - **Principal Diversified Real Assets:** 35% BBgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
  - **Wellington Diversified Inflation H:** 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Bloomberg US TIPS 1 – 10 Year Index
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRI Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of $50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **The Alerian MLP Index** is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- **The Adjusted Alerian MLP Index** is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- **Cambridge Associates U.S. Private Equity Index** is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- **Cambridge Associates U.S. Venture Capital Index** is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- **Vanguard Spliced Bloomberg US1-5Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US5-10Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Agg Flt Adj Index:** Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Long Gov/Cr Flt Adj Index:** Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.
- **Vanguard Balanced Composite Index:** Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Blomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Intermediate-Term Tax-Exempt Index:** Bloomberg 1–15 Year Municipal Bond Index.
- **Vanguard Spliced Extended Market Index:** Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- **Vanguard Spliced Value Index:** S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- **Vanguard Spliced Large Cap Index:** Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- **Vanguard Spliced Growth Index:** S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- **Vanguard Spliced Mid Cap Value Index:** MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- **Vanguard Spliced Mid Cap Index:** S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- **Vanguard Spliced Mid Cap Growth Index:** MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- **Vanguard Spliced Total Stock Market Index:** Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- **Vanguard Spliced Small Cap Value Index:** SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.

- **Vanguard Spliced Small Cap Index:** Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- **Vanguard Spliced Small Cap Growth Index:** S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- **Vanguard Spliced Total International Stock Index:** Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI AC USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Developed Markets Index:** MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Emerging Markets Index:** Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard REIT Spliced Index:** MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Additional:

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interest rate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with $100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded- funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

DEFINITION OF KEY STATISTICS AND TERMS

- **Returns:** A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- **Universe Comparison:** The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming75%.
- **Returns In Up/Down Markets:** This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio is the ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- **Standard Deviation:** Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- **R-Squared**: This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta**: This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse that the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- **Alpha:** The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the manager performed if the market's return was zero. A positive alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- **Sharpe Ratio:** The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The higher the Sharpe ratio, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- **Treynor Ratio:** The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.

- **Tracking Error:** Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference between manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's an return.
- **Information Ratio:** The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividin the standard deviation of excess return.
- **Consistency:** Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- **M-Squared:** M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

DEFINITION OF KEY PRIVATE EQUITY TERMS

- **PIC (Paid in Capital):** The amount of committed capital that has been transferred from the limited partner to the general partner.
- **TVPI (Total Value to Paid in Capital):** Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- **DPI (Distribution to Paid In Capital):** Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- **RVPI (Residual Value to Paid In Capital):** The value of a fund's unrealized investments divided by money paid-in to the partnership.
- **Internal rate of return (IRR):** This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- **Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- **Capital Distribution:** These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- **Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment**: Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- **General Partner (GP):** This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- **Leveraged Buy-Out (LBO):** The acquisition of a company using debt and equity finance.
- **Limited Partner (LP):** Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- **Public Market Equivalent (PME):** Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

VALUATION POLICY

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.

Custodian reports are the reports that govern the account. There will be different account values between Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past perfor not indicate future performance and there is a possibility of a loss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) $1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be $5,228 in the first year, and cumulative effects of $30,342 over five years and $73,826 over ten years. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

OTHER

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

CUSTODIAN STATEMENTS

Please remember to review the periodic statements you receive from you custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.

FIDUCIENT
Advisors
Helping Clients Prosper

West Hartford, CT

Quarterly Investment Review - Third Quarter 2022

Fiducient Advisors Update

Retirement Plans

Featured Insights

- Plan Sponsor Newsletter
- Blog: 4 Ways to Improve Participant Outcomes Today

Coming Soon

- The Public Fiduciary Newsletter

Endowments & Foundations

Featured Insights

- Guide to Mission-Aligned Investing
- Nonprofit Investment Stewards Podcast
- Blog: Portfolio Rebalancing: The Easiest Difficult Decision an Investor Can Make

Coming Soon

- Steward Newsletter

The Wealth Office®

Featured Insights

- Blog: Creating a Legacy Free from Estate Tax

Coming Soon

- Year-End Tax Planning

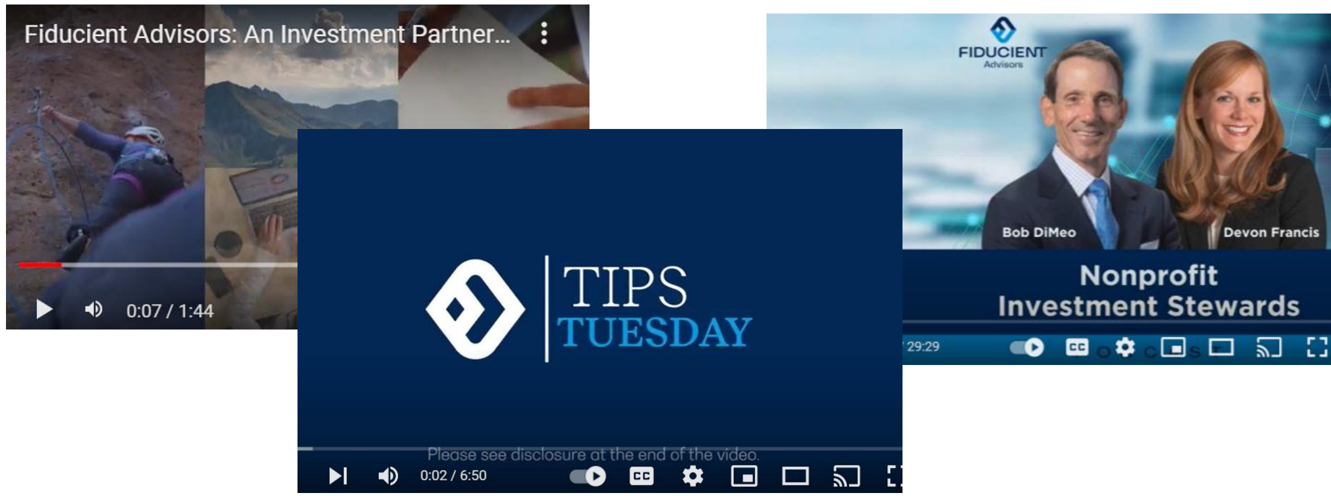
Research Insights

- Monthly Market Recaps
- Monthly Market Updates
  - *Fresh Mountain Air, Same Hawkish Stance* – August
  - *Making Hay While the Sun Shines: Earnings in Focus* – July
- Webcast: Fiducient Speaker Series with Liz Ann Sonders
- Webcast: Mid-Year Capital Markets and Economic Update
- Private Markets Move Along in More Challenging Market Environment

Fiducient Advisors Update

For more research and insights…

Subscribe to the **Fiducient Advisors YouTube Channel**



2022 New Associates – Welcome!

- Carolyn Barenbaum-Meyers, Finance Associate
- Daniel Bell, Director of Finance and Accounting
- Matthew Brophy, Middle Office Associate
- Gina Christodoulou, Performance Analyst
- David Correa, Finance Billing Specialist
- Nakeisha Deodat, Jr. Client Service Associate
- Robert Dunne, Consulting Analyst
- Emily Gildea, Research Associate
- Jeremy Mayeur, Middle Office Associate
- Evan Paretti, Consulting Analyst
- Lauren Rose, Client Service Associate, The Wealth Office®
- Hunter Verbeck, Performance Analyst

As of September 30, 2022

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Fiduciary Governance Calendar

Fiduciary Governance Calendar

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- **Fiduciary Training**

Q3 Municipal Landscape

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- **Municipal Landscape Update**
- **Annual Actuarial Review***

Q4 Asset/Liability Focus

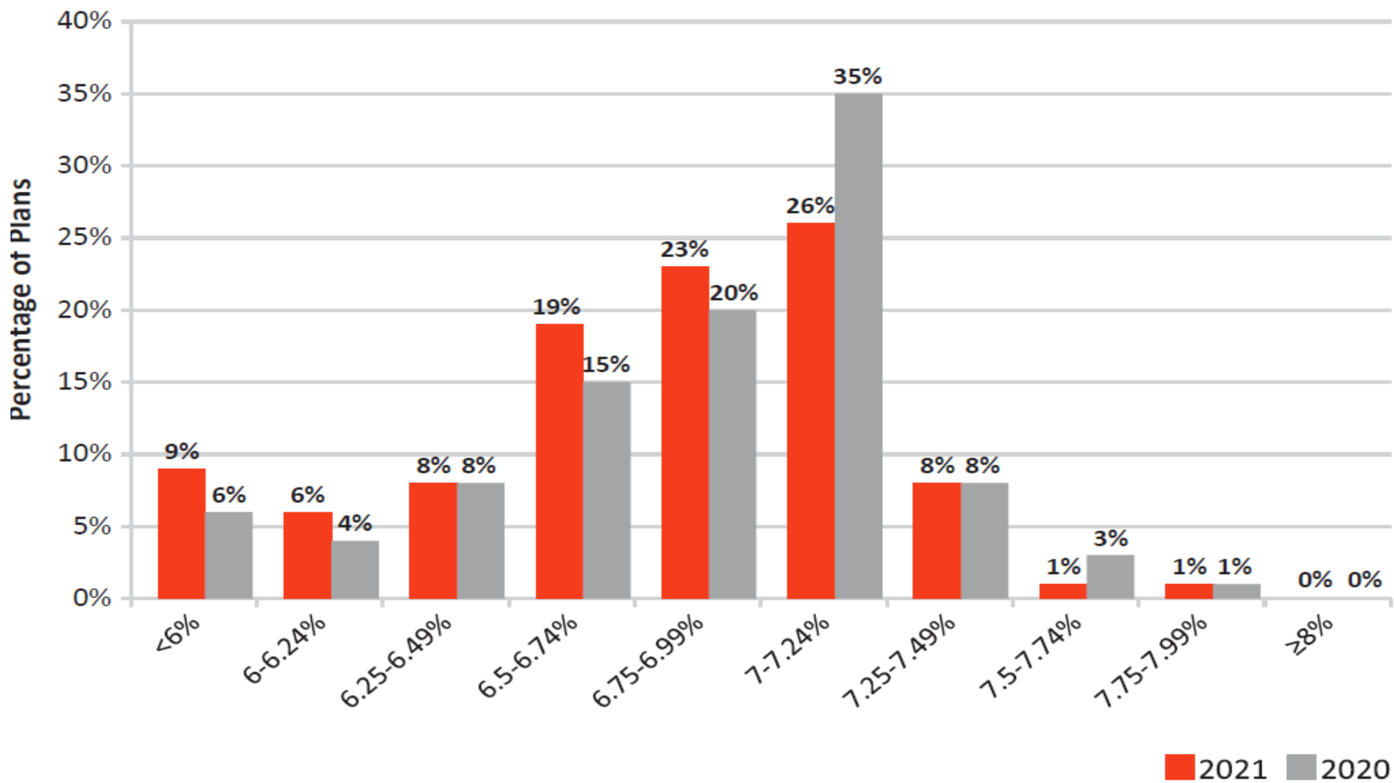
- **Investment Review**
- **Asset Allocation Review**
- **Asset/Liability Modeling**

Fiduciary Trail® Fiduciary Lockbox®

*Timing of actuarial review is dependent on client's individual plan and/or fiscal year and actuarial input.

Trends in Investment Return Assumptions

- The average investment return assumption across Connecticut municipal pension plans was 6.53% and the median was 6.75% for FY 2021. This represents a continued trend of public plans setting the assumed rate of return at lower, more achievable targets. According to the study, roughly 45% of plans reduced the long-term rate of return assumption from FY 2020 to FY 2021, with the most common reduction being 25 basis points.
- We may see a pause in setting lower assumed rates of return on a go forward bases due to higher bond yields and lackluster investment returns in FY 2022 resulting in lower funded ratios.

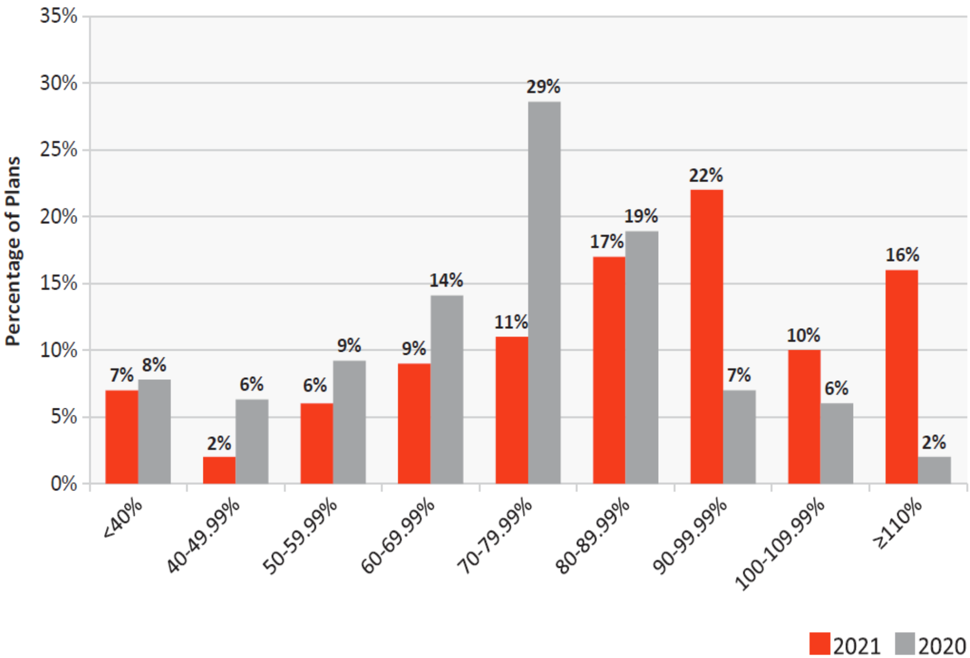


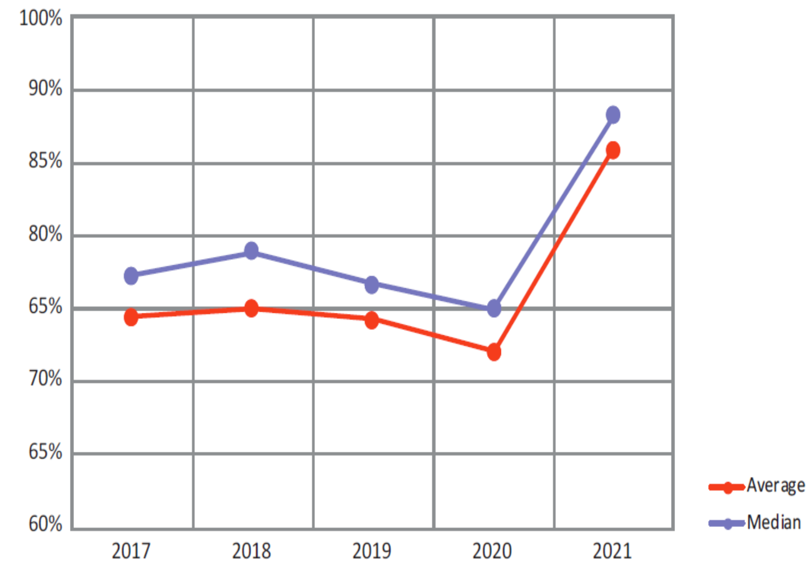
Source: Hooker & Holcombe 2022 Municipal Pension & OPEB Report: 200 Municipal CT Plans. Data extracted from the CAFRs submitted by local municipalities in CT for fiscal year ending June 30, 2021

Trends in Funded Ratios

- Funded ratios for CT municipal pension plans improved meaningfully in FY 2021 following outsized investment returns. The average funded ratio stood at 85.8% as of FY 2021 versus an average funded ratio of 72.2% for FY 2020.

- FY 2022's sub par investment performance will likely have a negative impact on funded ratios for CT public pension plans.

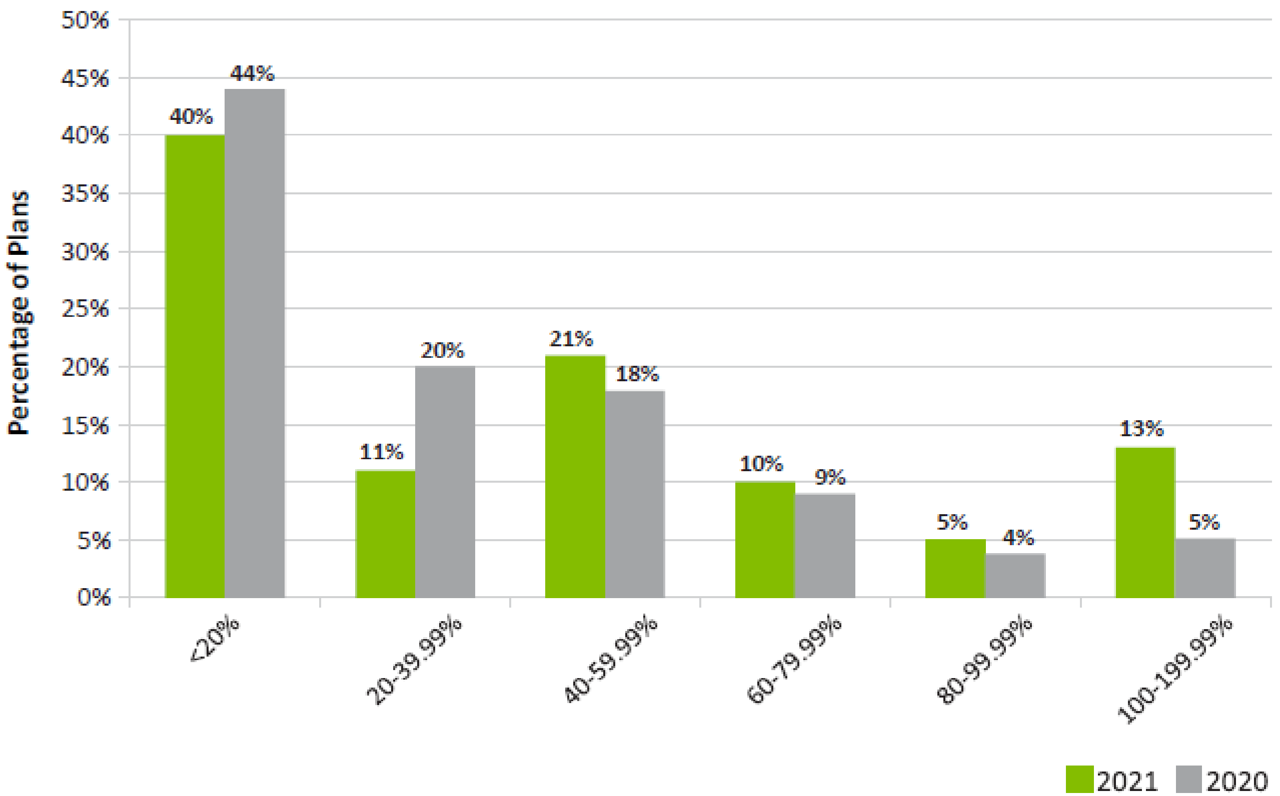




Source: Hooker & Holcombe 2022 Municipal Pension & OPEB Report: 200 Municipal CT Plans. Data extracted from the CAFRs submitted by local municipalities in CT for fiscal year ending June 30, 2021

Trends in Funded Ratios for OPEB Plans

- For OPEB plans funded via a trust, funded ratio improved for FY 2021 with the average funded status reported at 43.1%. The average investment return assumption was 6.50% as of FY 2021.
- 13% of plans are at 100% funded as reported by actuarial firm Hooker & Holcombe who also notes that the increase was driven largely by strong investment returns in FY 2021 and funding policy contributions.



Average Funded Ratio of Funded OPEB Plan:
FYE 2021: 43.1%
FYE 2020: 31.7%

Average Investment Return Assumption:
6.50%

Funded OPEB

Source: Hooker & Holcombe 2022 Municipal Pension & OPEB Report: 175 municipal OPEB plans. Data extracted from the CAFRs submitted by local municipalities in CT for fiscal year ending June 30, 2021

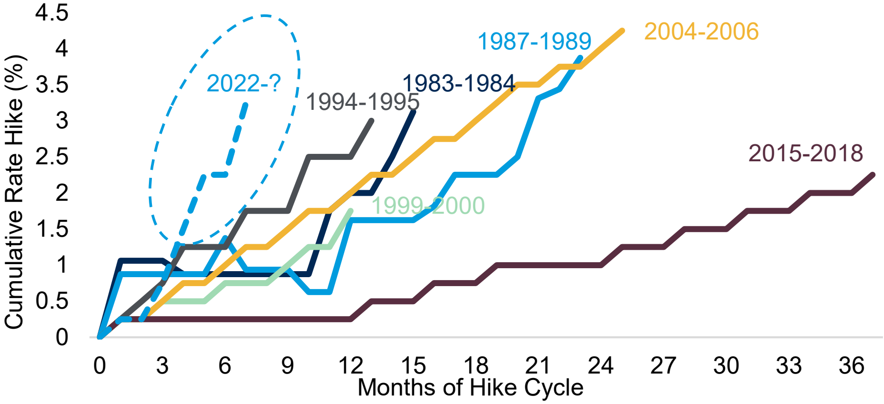
Capital Markets Overview

Market Themes

1. The pace of the current rate hiking cycle is among the fastest we've experienced, as the Fed remains steadfast in its mission to combat inflation at the potential expense of slowing economic demand.
2. For much of the year, higher interest rates in the U.S., along with recent elevated concerns for growth stemming from Europe, have provided a tailwind for the U.S. dollar.
3. A host of macroeconomic factors – global inflation, tightening monetary policy, supply chain logistics – are contributing to slowing global demand. Uncertainty around economic growth has resulted in elevated market volatility which is likely to continue in the near term.

Federal Reserve Hiking Cycles

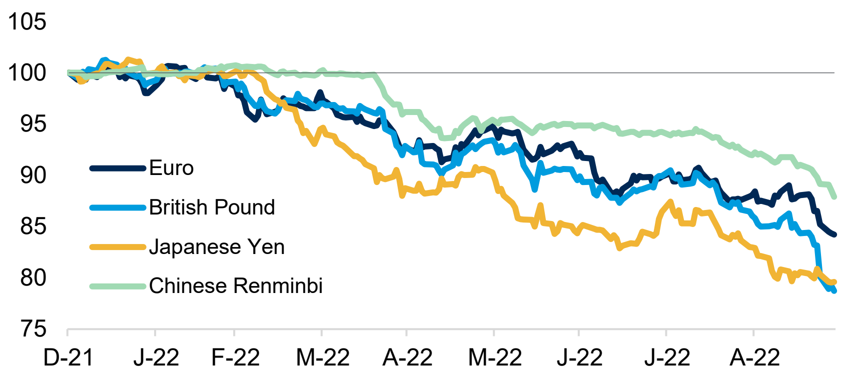
The Federal Reserve reaffirmed its commitment on fighting inflation at the September policy meeting by raising its policy rate an additional 75 bps and projected a more aggressive policy path compared to June.



Sources: FactSet, Federal Reserve. As of September 30, 2022.

Foreign Currencies Weaker versus U.S. Dollar

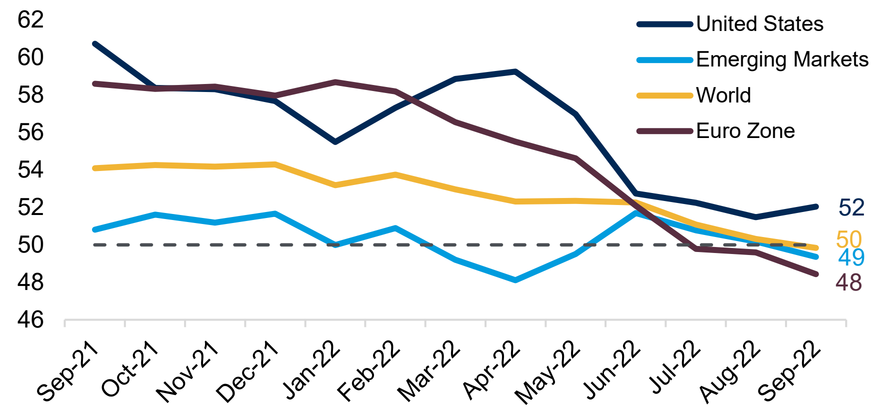
Foreign exchange markets have been volatile this year and the U.S. dollar has shined relative to many major currencies. The British pound came under pressure late in September following the announcement of the new Prime Minister's tax cut agenda; the Bank of Japan also stepped in to help curb the decline of the yen.



Source: FactSet. Indexed to 100 = December 31, 2021. Relative to the U.S. dollar. As of September 30, 2022.

Manufacturing PMI Shows Signs of Slowing

The Euro Zone and Emerging Market regions have moved into contraction territory based on purchasing managers indices. The U.S. remains resilient and saw a move higher in September, one factor contributing to demand for U.S. dollars.

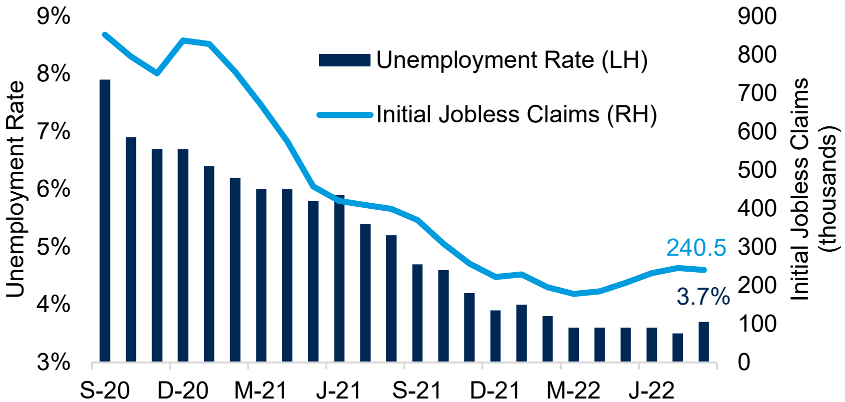


Sources: FactSet, Market. As of September 30, 2022. A reading above 50 indicates expansion.

Economic Review

Labor Market Remains Resilient

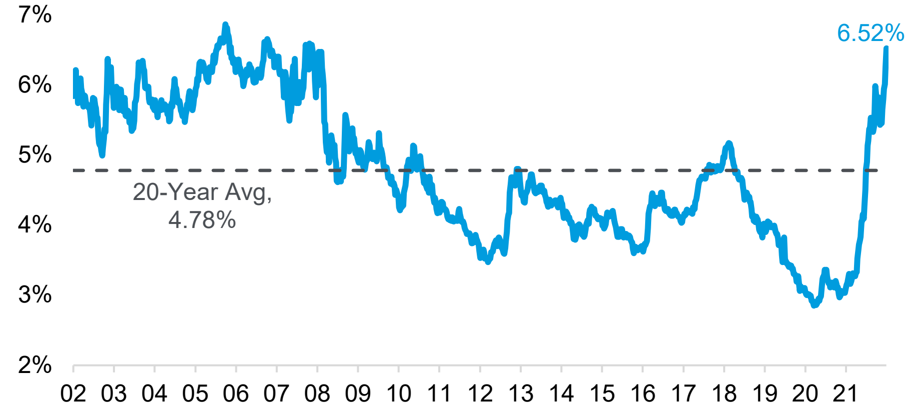
The U.S. labor market remains strong, with both unemployment and jobless claims at pre-COVID levels, providing a solid foundation for the U.S. consumer and support for the broader economy.



Sources: FactSet, DOL. As of August 31, 2022.

Tightening Financial Conditions – 30-Year Mortgage Rates

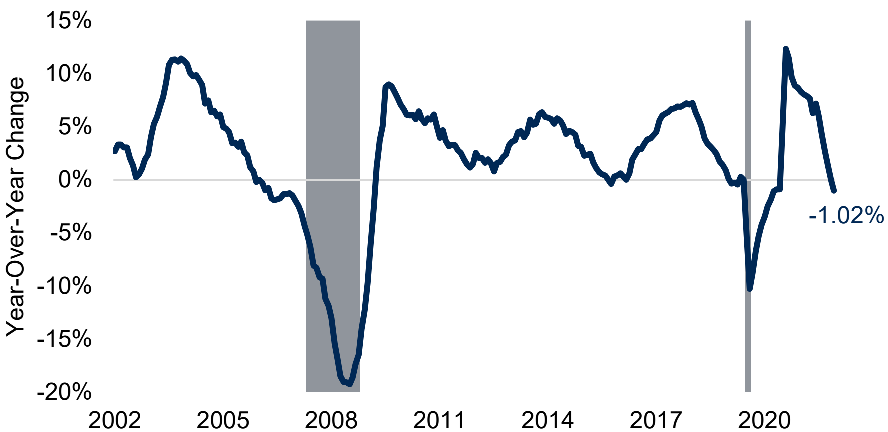
Rates on 30-year fixed mortgages crossed six percent for the first time since 2008, resulting in mortgage payments that are over $800 higher per month than the beginning of the year.



Sources: FactSet, Mortgage Bankers Association. As of September 23, 2022.

Leading Economic Indicator Index

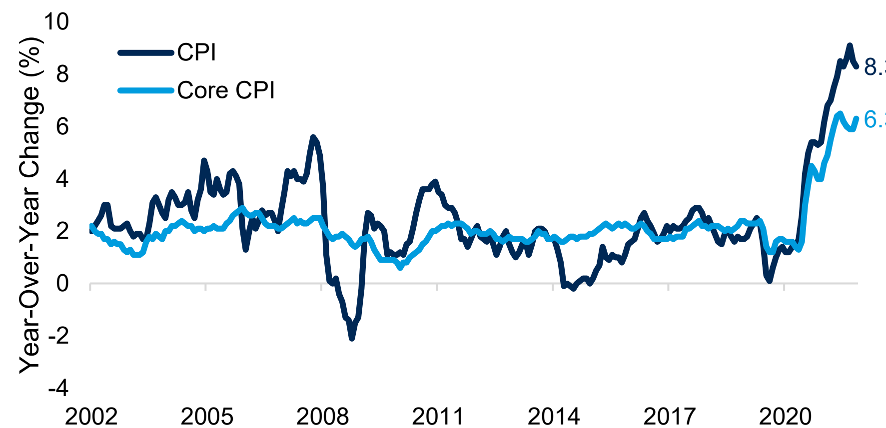
The LEI moved into negative territory on a year-over-year basis, the first time since February 2021, indicating an elevated risk of recession.



Sources: FactSet, Conference Board, ECRI. As of August 31, 2022. Grey bars indicate recession period.

U.S. Inflation

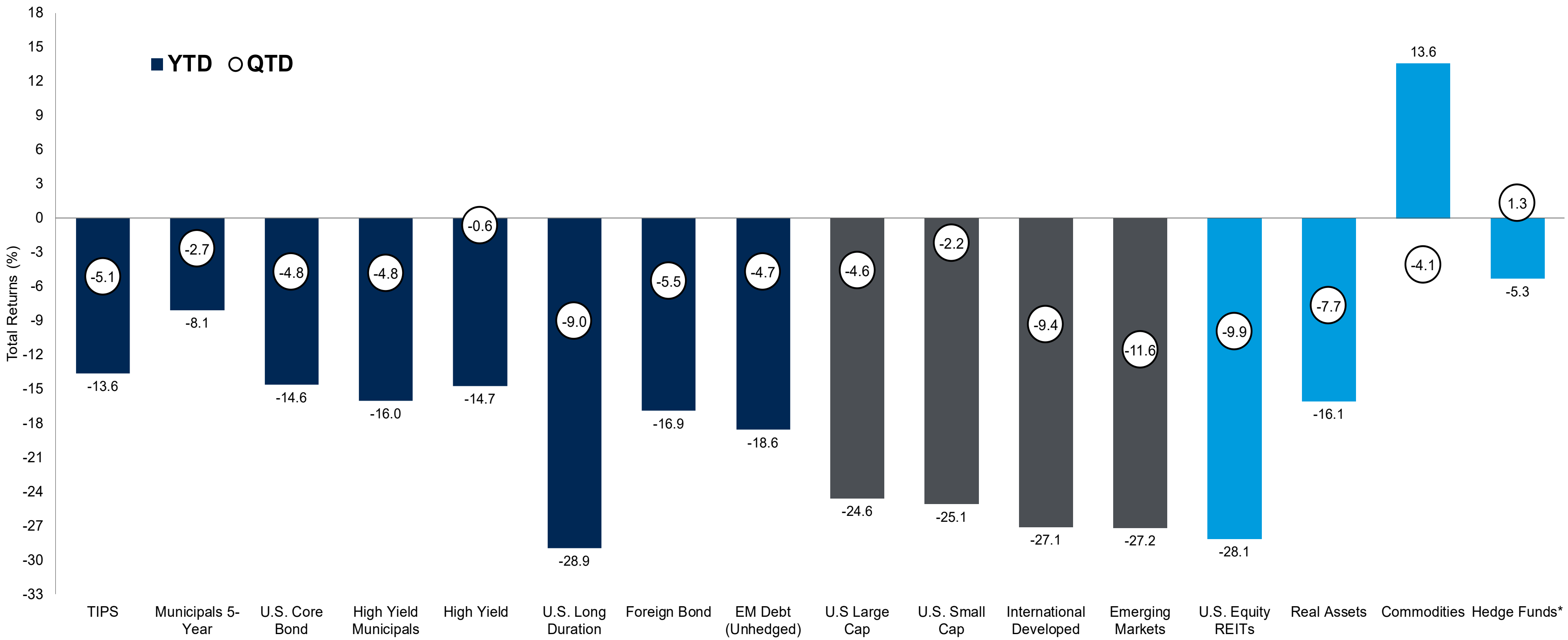
Inflation remains elevated but has tapered from recent peaks. Energy and food continue to drive the headline number – the food component saw the largest year over year increase since May 1979.



Sources: FactSet, BLS. As of August 31, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Asset Class Returns



Source: Morningstar Direct. As of September 30, 2022. *Hedge fund returns as of August 31, 2022.

Fixed Income (3Q)

- Central banks grappled with dampening inflation and raised policy rates globally; interest rates moved higher as a result and bonds were broadly negative for the quarter.

- U.S. high yield held in relatively well, benefiting from a bull market rally early in the quarter but gave some back as concerns about the business cycle turning took hold in September.

- A strong U.S. dollar, as well as a spike in interest rates in the UK, pushed foreign debt lower for the quarter, trailing the U.S. market.

Equity (3Q)

- Investors continued to digest the impact of global inflation and a reduced outlook for economic growth sent risk assets lower, touching new 2022 lows in the quarter.

- U.S. equities outpaced their international counterparts as many see the U.S. positioned relatively better than non-U.S. regions. A strong U.S. dollar was an added headwind for non-U.S. equity markets.

- Diminished natural gas supply in Europe was a headwind for developed markets, while China was among the leading detractors within emerging markets.

Real Asset / Alternatives (3Q)

- Commodity markets took a step back in the third quarter on the back of slowing growth, improved supply, and the likelihood of reduced demand.

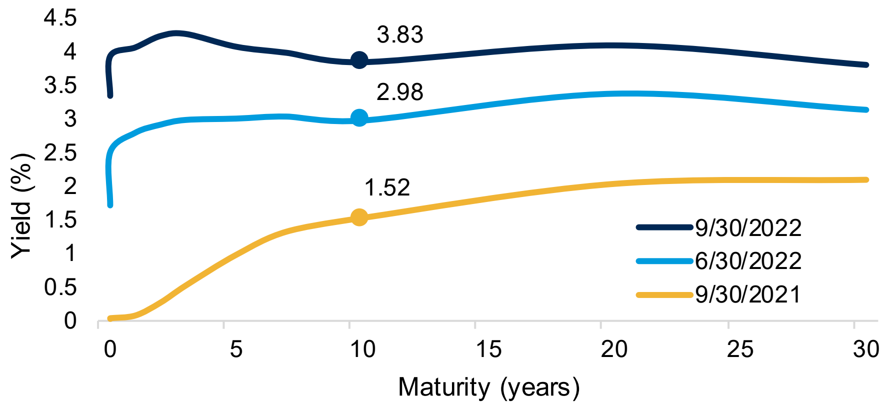
- REITs fell alongside the broader equity market in a risk-off move. Rising rates, falling home prices and reduced affordability contributed to the decline as well.

\+ One of the few positive areas in the quarter, hedge funds have performed well YTD relative to both equities and fixed income and are earning their keep.

Fixed Income Market Update

U.S. Treasury Yield Curve

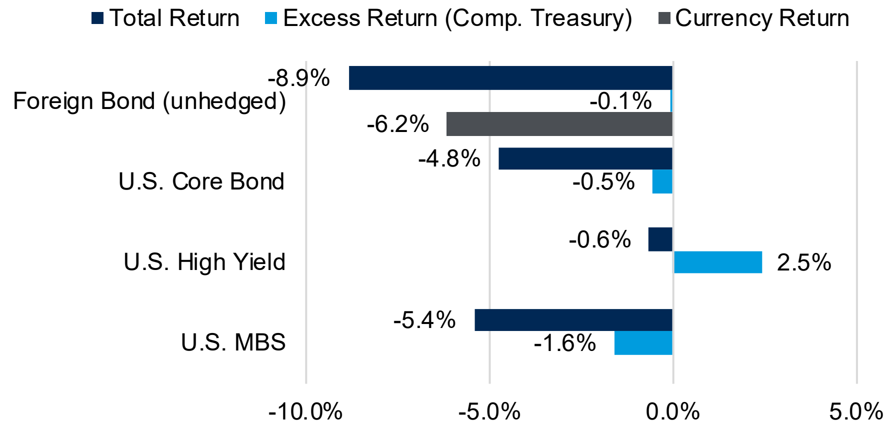
The Fed raised its target rate by 75 basis points for the third time in a row as it aims to bring inflation back to more manageable levels. The yield curve remains inverted across many parts of the curve as short-dated rates shifted higher in response to the Fed's actions.



Source: FactSet. As of September 30, 2022.

Index Performance Attribution (3Q 2022)

A strong U.S. dollar was once again a headwind for foreign bonds, while fiscal policy in the U.K. drove yields significantly higher. High yield outpaced similar duration Treasuries despite a late quarter sell-off.



Source: FactSet. As of September 30, 2022.

Corporate Market Spreads – Trailing 5 Years

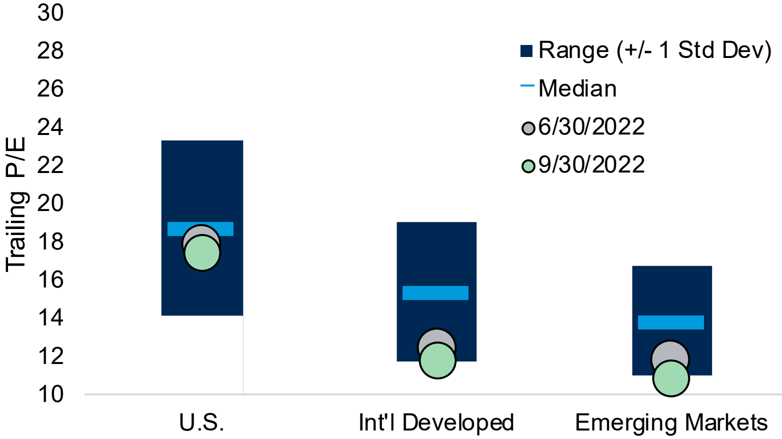
Point to point, credit spreads were little changed in the quarter as investment grade spreads were four basis points wider and high yield spreads were 17 basis points lower. Investors were remiss to rerate credit securities in similar fashion to the equity market as the prospects for recession grew.

Source: FactSet. As of September 30, 2022.

Equity Market Update

Equity Valuations (Trailing PE – Last 15 Years)

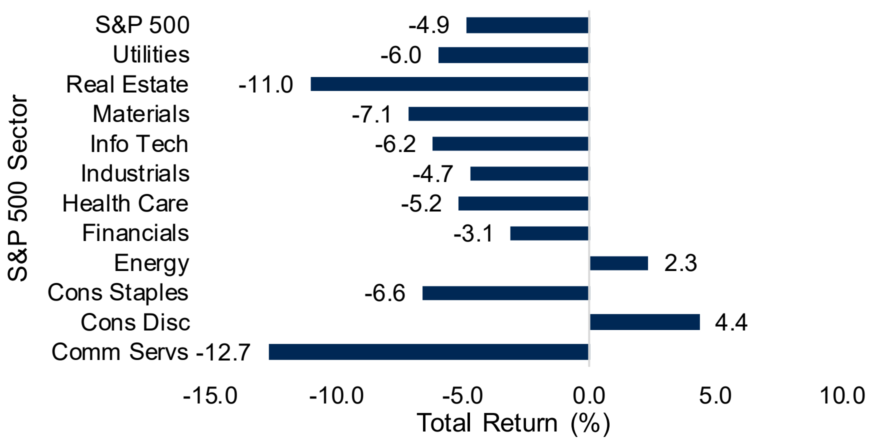
Falling equity prices pushed valuations lower across regions, a silver lining as entry points are now more attractive, especially abroad. It remains to be seen if earnings – the "E" in P/E – will follow suit, as analysts reduce their estimates.



Source: FactSet. As of September 30, 2022.

U.S. Equities – Return by Sector (3Q 2022)

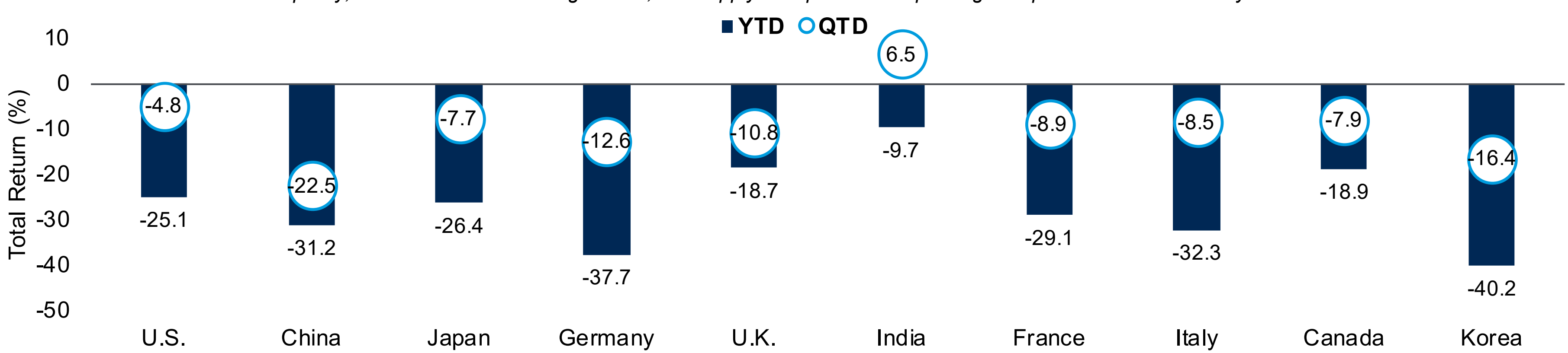
Equity sectors were broadly negative, but energy and consumer discretionary were the lone positive standouts in the quarter. Energy is one of the few areas with positive EPS growth expected for the third quarter.



Source: Morningstar Direct. As of September 30, 2022.

Country Total Returns (%) – Top 10 Largest Economies

Global inflation continues to roil equity markets around the world, sending risk assets lower. Europe has come under pressure as of late as the energy crisis continues to unfold amidst restricted natural gas supplies from Russia and the impact it has on electricity prices, industrial production and household heat as we move into colder months. China's zero-COVID policy, weakness in the housing market, and supply disruptions have put negative pressure on the country's stock market.

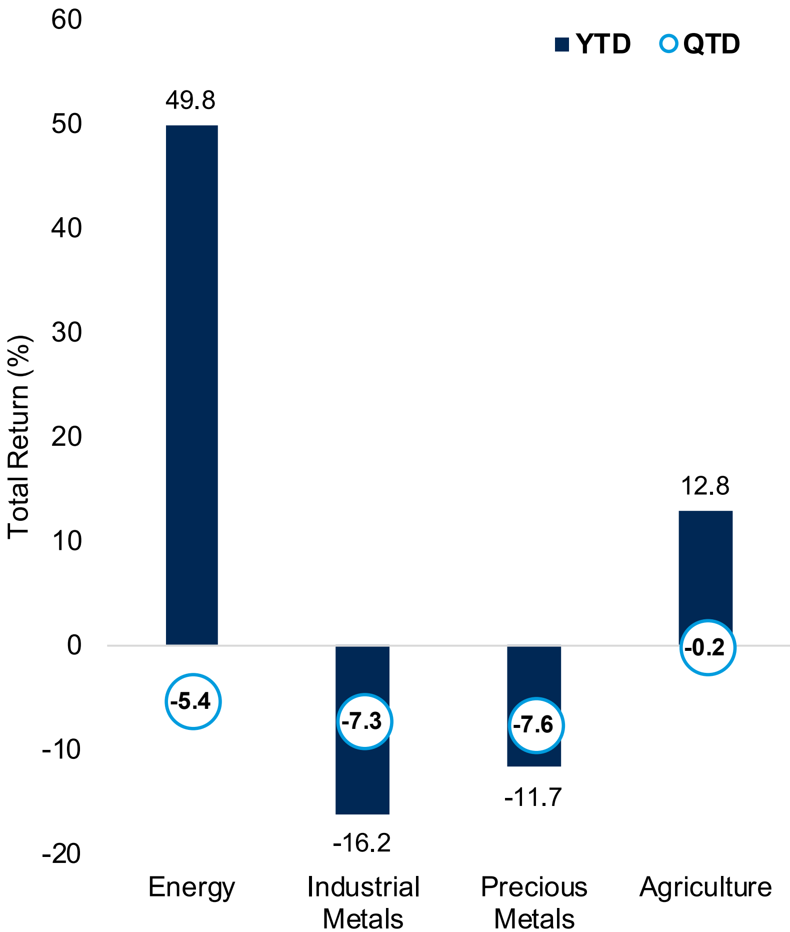


Source: Morningstar Direct. As of September 30, 2022.

Real Assets Market Update

Commodity Performance

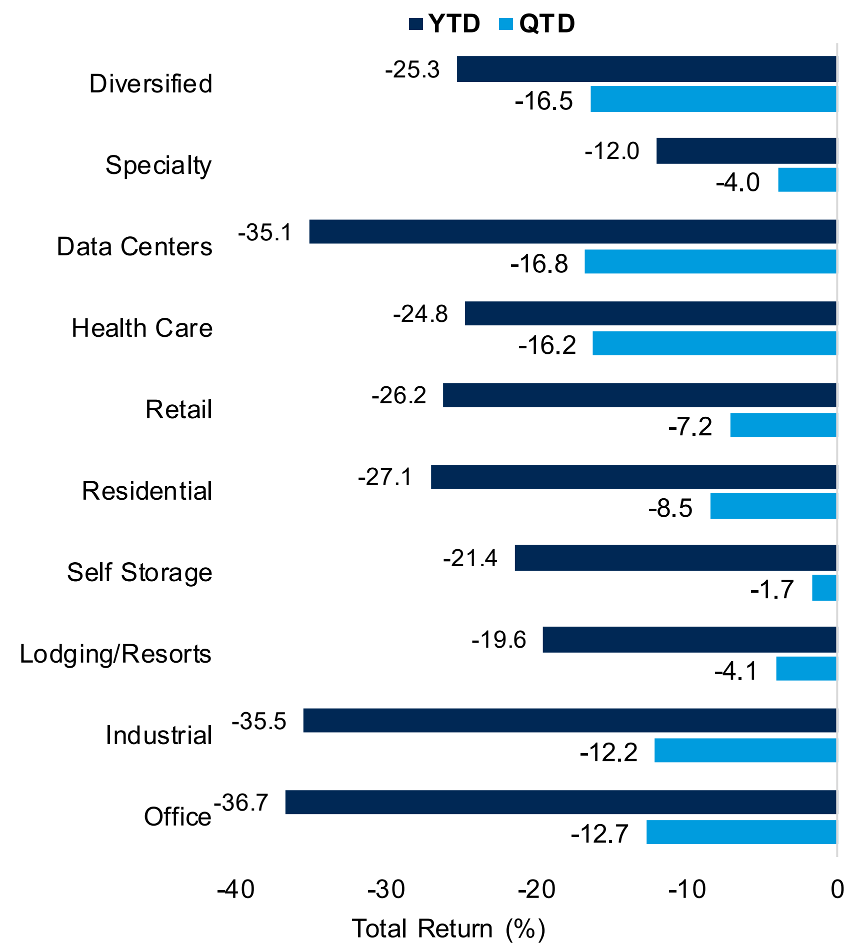
Commodity prices were generally weaker in the quarter as investors grew concerned that a slowing global economy will weaken demand for the assets. Energy remains the standout year-to-date as natural gas supply in Europe has been significantly reduced as a result of the Russia-Ukraine conflict.



Source: Morningstar Direct. As of September 30, 2022.

REIT Sector Performance

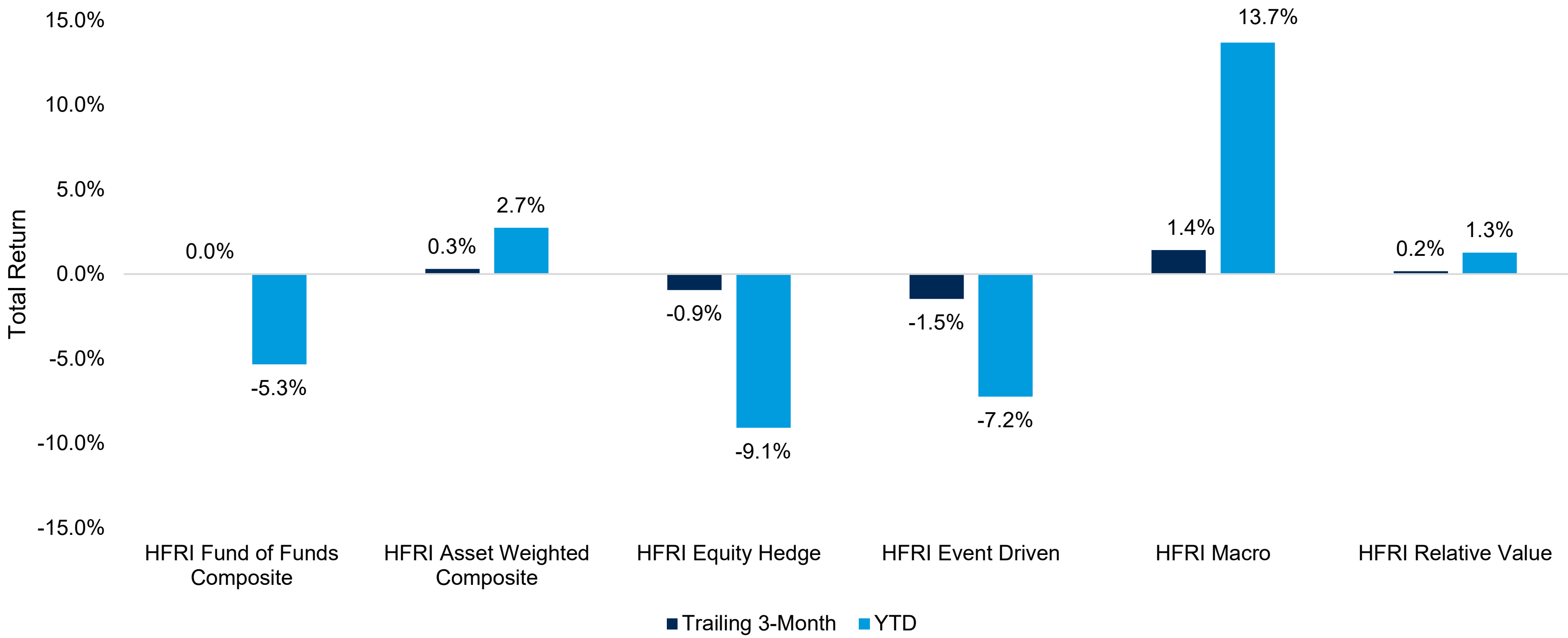
Real estate continues to come under pressure. A myriad of forces worked against the asset class – higher interest rates, a cooling housing market, and uncertainty as to what the office space landscape will look like in the future – resulting in negative price moves for REITs.



Source: Morningstar Direct. As of September 30, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Marketable Alternatives



Source: Morningstar Direct. As of August 31, 2022.

Fund of Funds / Asset Weighted (3Q)

+/- The HFRI Fund of Funds Composite was flat over the trailing 3-month period, keeping year-to-date returns in negative territory at -5.3%.

+ The HFRI Asset Weighted Composite was positive over the trailing 3-month period, bringing year-to-date returns to 2.7%.

+ While there has been significant dispersion across strategies, hedge funds have largely served their purpose this year in limiting drawdowns.

Equity Hedge / Event Driven (3Q)

- Equity hedge strategies detracted during the period, though still outperformed equities as many strategies reduced net leverage and added index-level shorts.

- Event driven strategies were the largest detractors during the period, led by activist and distressed restructuring strategies.

+ Merger arbitrage strategies were positive during the period and have now generated positive returns year-to-date.

Macro / Relative Value (3Q)

+ Macro strategies were positive over the period, adding to a strong year of performance as an abundance of political and economic activity has provided significant opportunity.

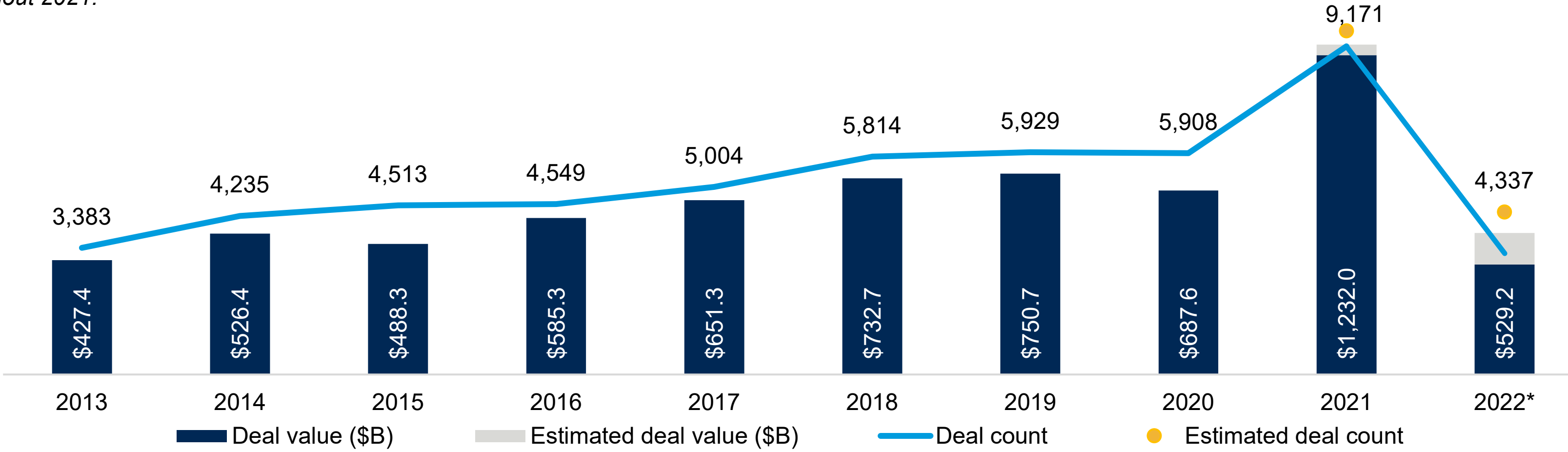
+ Relative value strategies were slightly positive over the period, led by volatility strategies.

- Corporate and sovereign fixed income strategies were the largest detractors.

Private Equity Market Update

U.S. Private Equity Deal Activity

U.S. Private Equity deal activity, while still high historically, moderated during the first half of the year relative to the frantic environment that consumed investors throughout 2021.



Source: Pitchbook. As of June 30, 2022.

Private Equity Performance (As of March 31, 2022)

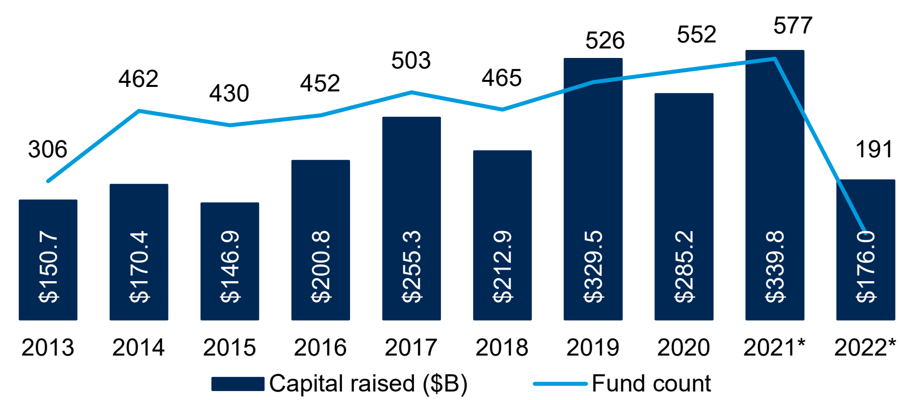
Private equity performance was flat during the first quarter with US Growth and Venture modestly negative. Over the one-year and longer time periods, performance remains strong with dispersion between asset classes normalizing in recent quarters.

Benchmark	1-YR	3-YR	5-YR	10-Y	15-Y
US Private Equity	27.4%	26.6%	22.7%	17.9%	13.3%
US Buyout Index	27.1%	24.3%	21.0%	17.3%	12.6%
US Growth Equity Index	28.2%	33.8%	28.2%	20.3%	16.3%
US Venture Capital Index	26.6%	37.0%	28.0%	20.1%	14.6%
S&P 500 Index	15.6%	18.9%	16.0%	14.6%	10.3%

Source: Cambridge Associates. As of March 31, 2022. Returns presented as horizon pooled return, net of fees. S&P 500 Index as of March 31, 2022. Indices cannot be invested in directly.

U.S. Private Equity Fundraising Activity

The fundraising market continues to be competitive for both investors and fund managers. With more LPs nearing target allocations due, in part, to the denominator effect, many have had to assess commitment levels.



Source: Pitchbook. As of June 30, 2022.

The Case for Diversification

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	10 Years (Ann)
Emerging Markets 18.2	U.S. Small Cap 38.8	U.S. Equity REITs 30.1	U.S. Equity REITs 3.2	U.S. Small Cap 21.3	Emerging Markets 37.3	High Yield Munis 4.8	U.S. Large Cap 31.5	U.S. Small Cap 20.0	U.S. Equity REITs 43.2	Commodities 13.6	U.S. Large Cap 11.6
High Yield Munis 18.1	U.S. Large Cap 32.4	High Yield Munis 13.8	Municipals 5-Year 2.4	High Yield 17.1	International Dev. 25.0	Municipals 5-Year 1.7	U.S. Equity REITs 26.0	U.S. Large Cap 18.4	Commodities 27.1	Hedge Funds -5.3	U.S. Small Cap 8.6
U.S. Equity REITs 18.1	International Dev. 22.8	U.S. Large Cap 13.7	High Yield Munis 1.8	U.S. Large Cap 12.0	U.S. Large Cap 21.8	Foreign Bond 0.5	U.S. Small Cap 25.5	Emerging Markets 18.3	US Large Cap 26.5	Municipals 5-Year -8.1	U.S. Equity REITs 6.3
International Dev. 17.3	Balanced 12.2	Core Bond 6.0	U.S. Large Cap 1.4	Commodities 11.7	EM Debt (unhedged) 15.2	Core Bond 0.0	International Dev. 22.5	TIPS 11.0	US Small Cap 14.8	TIPS -13.6	Balanced 4.0
EM Debt (unhedged) 16.9	Hedge Funds 9.0	Balanced 5.1	Core Bond 0.6	Emerging Markets 11.2	U.S. Small Cap 14.6	TIPS -1.3	Emerging Markets 18.4	Balanced 8.8	International Dev. 11.3	U.S. Core Bond -14.6	High Yield 3.9
U.S. Small Cap 16.3	High Yield 7.4	U.S. Small Cap 4.9	Hedge Funds -0.3	EM Debt (unhedged) 9.9	Balanced 13.6	High Yield -2.1	Balanced 17.5	International Dev. 7.8	Balanced 9.8	High Yield -14.7	International Developed 3.7
U.S. Large Cap 16.0	U.S. Equity REITs 2.5	TIPS 3.6	International Dev. -0.8	U.S. Equity REITs 8.5	High Yield Munis 9.7	Hedge Funds -4.0	High Yield 14.3	Core Bond 7.5	High Yield Munis 7.8	High Yield Municipals -16.0	Hedge Funds 3.7
High Yield 15.8	Municipals 5-Year 0.8	Hedge Funds 3.4	TIPS -1.4	Balanced 7.6	Hedge Funds 7.8	U.S. Large Cap -4.4	EM Debt (unhedged) 13.5	Hedge Funds 7.1	TIPS 6.0	Foreign Bond -16.9	High Yield Municipals 3.5
Balanced 11.5	Foreign Bond -1.0	Municipals 5-Year 3.2	Foreign Bond -2.3	TIPS 4.7	High Yield 7.5	U.S. Equity REITs -4.6	High Yield Munis 10.7	High Yield 7.1	Hedge Funds 5.7	EM Debt (unhedged) -18.6	Municipals 5-Year 1.2
TIPS 7.0	Core Bond -2.0	Foreign Bond 2.9	Balanced -3.3	Foreign Bond 3.2	Foreign Bond 6.5	Balanced -5.8	Core Bond 8.7	Foreign Bond 7.0	High Yield 5.3	Balanced -20.0	Emerging Markets 1.0
Foreign Bond 5.3	Emerging Markets -2.6	High Yield 2.5	U.S. Small Cap -4.4	High Yield Munis 3.0	U.S. Equity REITs 5.2	EM Debt (unhedged) -6.2	TIPS 8.4	High Yield Munis 4.9	Municipals 5-Year 0.3	U.S. Large Cap -24.6	TIPS 1.0
Hedge Funds 4.8	High Yield Munis -5.5	Emerging Markets -2.2	High Yield -4.5	Core Bond 2.6	Core Bond 3.5	U.S. Small Cap -11.0	Hedge Funds 7.8	Municipals 5-Year 4.3	Core Bond -1.5	U.S. Small Cap -25.1	U.S. Core Bond 0.9
Core Bond 4.2	TIPS -8.6	International Dev. -4.9	Emerging Markets -14.9	International Dev. 1.0	Municipals 5-Year 3.1	Commodities -11.2	Commodities 7.7	EM Debt (unhedged) 2.7	Emerging Markets -2.5	International Developed -27.1	Foreign Bond -0.1
Municipals 5-Year 3.0	EM Debt (unhedged) -9.0	EM Debt (unhedged) -5.7	EM Debt (unhedged) -14.9	Hedge Funds 0.5	TIPS 3.0	International Dev. -13.8	Foreign Bond 6.3	Commodities -3.1	Foreign Bond -4.2	Emerging Markets -27.2	Commodities -2.1
Commodities -1.1	Commodities -9.5	Commodities -17.0	Commodities -24.7	Municipals 5-Year -0.4	Commodities 1.7	Emerging Markets -14.6	Municipals 5-Year 5.4	U.S. Equity REITs -8.0	EM Debt (unhedged) -8.7	U.S. Equity REITs -28.1	EM Debt (unhedged) -2.4

Sources: Morningstar, FactSet. As of September 30, 2022. *Periods greater than one year are annualized. Total returns in U.S. dollars. Hedge Funds as of August 31, 2022.

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

Financial Markets Performance

Total Return as of September 30, 2022
Periods greater than one year are annualized
All returns are in U.S. dollar terms

Global Fixed Income Markets	**QTD**	**YTD**	**1YR**	**3YR**	**5YR**	**7YR**	**10YR**	**15YR**
Bloomberg 1-3-Month T-Bill	0.5%	0.6%	0.6%	0.6%	1.1%	0.9%	0.6%	0.6%
Bloomberg U.S. TIPS	-5.1%	-13.6%	-11.6%	0.8%	2.0%	2.2%	1.0%	3.2%
Bloomberg Municipal Bond (5 Year)	-2.7%	-8.1%	-8.0%	-0.9%	0.5%	0.9%	1.2%	2.7%
Bloomberg High Yield Municipal Bond	-4.8%	-16.0%	-15.1%	-1.4%	2.3%	3.4%	3.5%	3.9%
Bloomberg U.S. Aggregate	-4.8%	-14.6%	-14.6%	-3.3%	-0.3%	0.5%	0.9%	2.7%
Bloomberg U.S. Corporate High Yield	-0.6%	-14.7%	-14.1%	-0.5%	1.6%	4.1%	3.9%	5.7%
Bloomberg Global Aggregate ex-U.S. Hedged	-2.2%	-9.9%	-9.9%	-3.0%	0.7%	1.5%	2.2%	3.1%
Bloomberg Global Aggregate ex-U.S. Unhedged	-8.8%	-23.9%	-24.8%	-7.8%	-4.0%	-1.7%	-2.4%	0.3%
Bloomberg U.S. Long Gov / Credit	-9.0%	-28.9%	-27.4%	-7.3%	-1.2%	1.0%	1.4%	4.4%
JPMorgan GBI-EM Global Diversified	-4.7%	-18.6%	-20.6%	-7.1%	-3.9%	0.4%	-2.4%	1.2%
Global Equity Markets	**QTD**	**YTD**	**1YR**	**3YR**	**5YR**	**7YR**	**10YR**	**15YR**
S&P 500	-4.9%	-23.9%	-15.5%	8.2%	9.2%	11.4%	11.7%	8.0%
Dow Jones Industrial Average	-6.2%	-19.7%	-13.4%	4.4%	7.4%	11.0%	10.5%	7.6%
NASDAQ Composite	-3.9%	-32.0%	-26.3%	10.6%	11.2%	13.7%	14.2%	10.7%
Russell 3000	-4.5%	-24.6%	-17.6%	7.7%	8.6%	10.9%	11.4%	7.9%
Russell 1000	-4.6%	-24.6%	-17.2%	7.9%	9.0%	11.2%	11.6%	8.0%
Russell 1000 Growth	-3.6%	-30.7%	-22.6%	10.7%	12.2%	13.7%	13.7%	10.1%
Russell 1000 Value	-5.6%	-17.8%	-11.4%	4.4%	5.3%	8.1%	9.2%	5.7%
Russell Mid Cap	-3.4%	-24.3%	-19.4%	5.2%	6.5%	8.8%	10.3%	7.5%
Russell Mid Cap Growth	-0.7%	-31.5%	-29.5%	4.3%	7.6%	9.5%	10.9%	8.0%
Russell Mid Cap Value	-4.9%	-20.4%	-13.6%	4.5%	4.8%	7.7%	9.4%	6.8%
Russell 2000	-2.2%	-25.1%	-23.5%	4.3%	3.6%	7.5%	8.6%	6.4%
Russell 2000 Growth	0.2%	-29.3%	-29.3%	2.9%	3.6%	7.1%	8.8%	6.8%
Russell 2000 Value	-4.6%	-21.1%	-17.7%	4.7%	2.9%	7.4%	7.9%	5.7%
MSCI ACWI	-6.8%	-25.6%	-20.7%	3.7%	4.4%	7.4%	7.3%	4.1%
MSCI ACWI ex. U.S.	-9.9%	-26.5%	-25.2%	-1.5%	-0.8%	3.3%	3.0%	0.6%
MSCI EAFE	-9.4%	-27.1%	-25.1%	-1.8%	-0.8%	2.8%	3.7%	0.6%
MSCI EAFE Growth	-8.5%	-33.0%	-30.3%	-1.5%	0.7%	3.9%	4.7%	1.6%
MSCI EAFE Value	-10.2%	-21.1%	-20.2%	-2.8%	-2.7%	1.4%	2.4%	-0.6%
MSCI EAFE Small Cap	-9.8%	-32.1%	-32.1%	-2.2%	-1.8%	3.2%	5.3%	2.4%
MSCI Emerging Markets	-11.6%	-27.2%	-28.1%	-2.1%	-1.8%	3.9%	1.0%	0.3%
Alternatives	**QTD**	**YTD**	**1YR**	**3YR**	**5YR**	**7YR**	**10YR**	**15YR**
Consumer Price Index*	0.1%	5.5%	8.2%	4.9%	3.8%	3.1%	2.5%	2.4%
FTSE NAREIT Equity REITs	-9.9%	-28.1%	-16.4%	-2.0%	2.9%	4.9%	6.3%	4.9%
S&P Real Assets	-7.7%	-16.1%	-12.0%	0.4%	2.1%	4.0%	3.0%	3.6%
FTSE EPRA NAREIT Developed	-11.4%	-29.4%	-22.1%	-5.6%	0.1%	2.4%	3.8%	1.7%
FTSE EPRA NAREIT Developed ex U.S.	-13.6%	-31.0%	-29.6%	-9.5%	-3.1%	0.0%	1.3%	-0.7%
Bloomberg Commodity Total Return	-4.1%	13.6%	11.8%	13.5%	7.0%	4.5%	-2.1%	-2.4%
HFRI Fund of Funds Composite*	1.3%	-5.3%	-4.8%	4.6%	3.5%	3.1%	3.7%	2.0%
HFRI Fund Weighted Composite*	1.7%	-4.0%	-3.8%	6.9%	5.1%	5.1%	5.0%	3.9%
Alerian MLP	8.1%	18.9%	19.6%	4.5%	1.9%	2.5%	0.7%	4.9%

*Sources: Morningstar, FactSet. As of September 30, 2022. *Consumer Price Index and HFRI indexes as of August 31, 2022.*

See disclosures for list of indices representing each asset class. Past performance does not indicate future performance and there is a possibility of a loss.

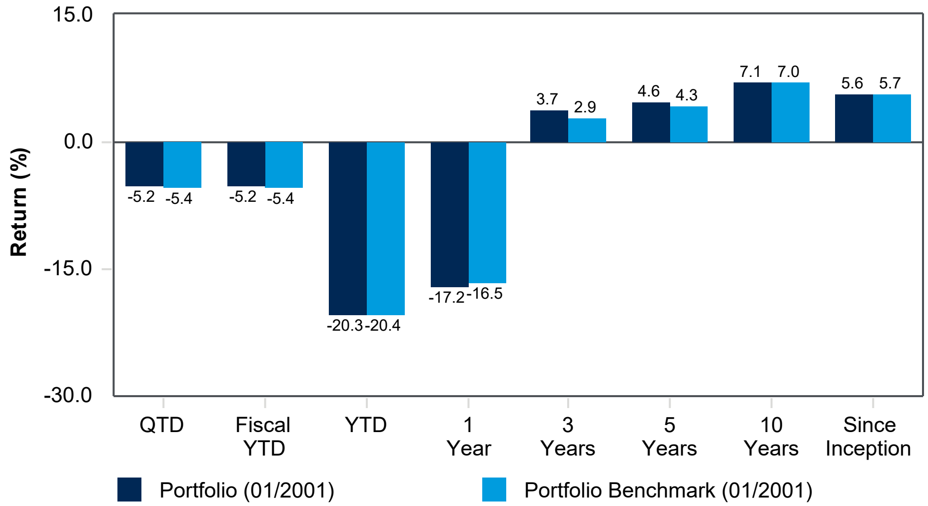
Portfolio and Manager Review

Portfolio Dashboard

West Hartford Total Pension

As of September 30, 2022

Historical Performance



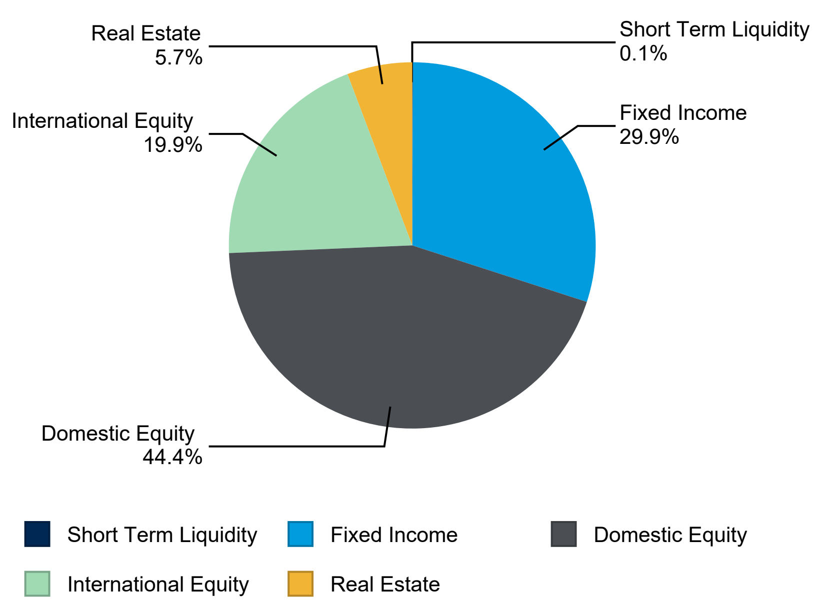
Summary of Cash Flows

	QTD	Fiscal YTD	YTD	1 Year	Since Inception
Beginning Market Value	469,366,511	469,366,511	384,591,877	321,789,416	193,768,000
Net Contributions	57,536	57,536	162,168,304	210,671,701	95,918,975
Gain/Loss	-24,441,225	-24,441,225	-101,777,359	-87,478,295	155,295,847
Ending Market Value	444,982,822	444,982,822	444,982,822	444,982,822	444,982,822

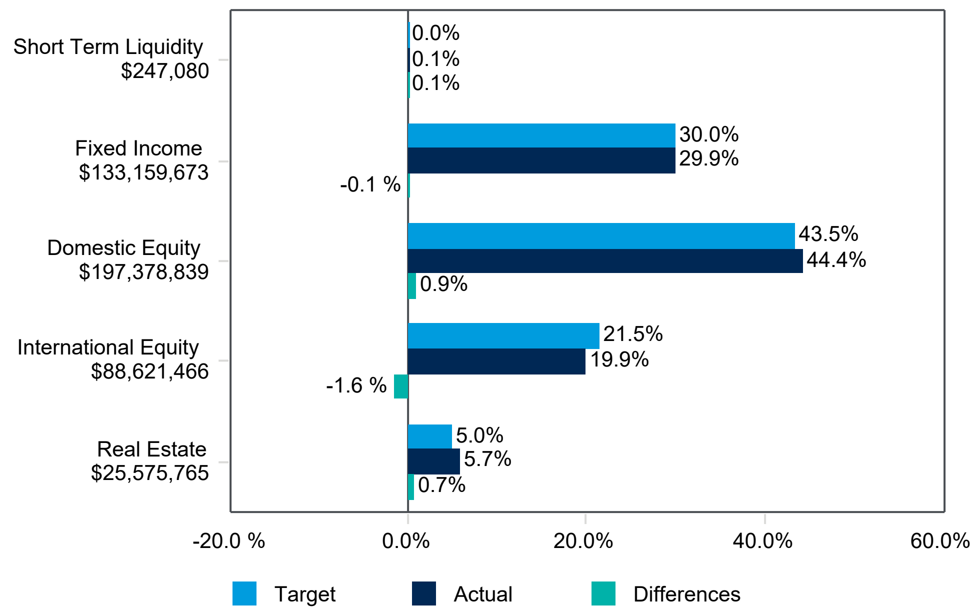
Current Benchmark Composition

From Date	To Date	
04/2018	Present	30.00% Blmbg. U.S. Aggregate, 43.50% Russell 3000 Index, 21.50% MSCI AC World ex USA (Net), 5.00% NCREIF Fund Index - ODCE (net)

Portfolio Allocation



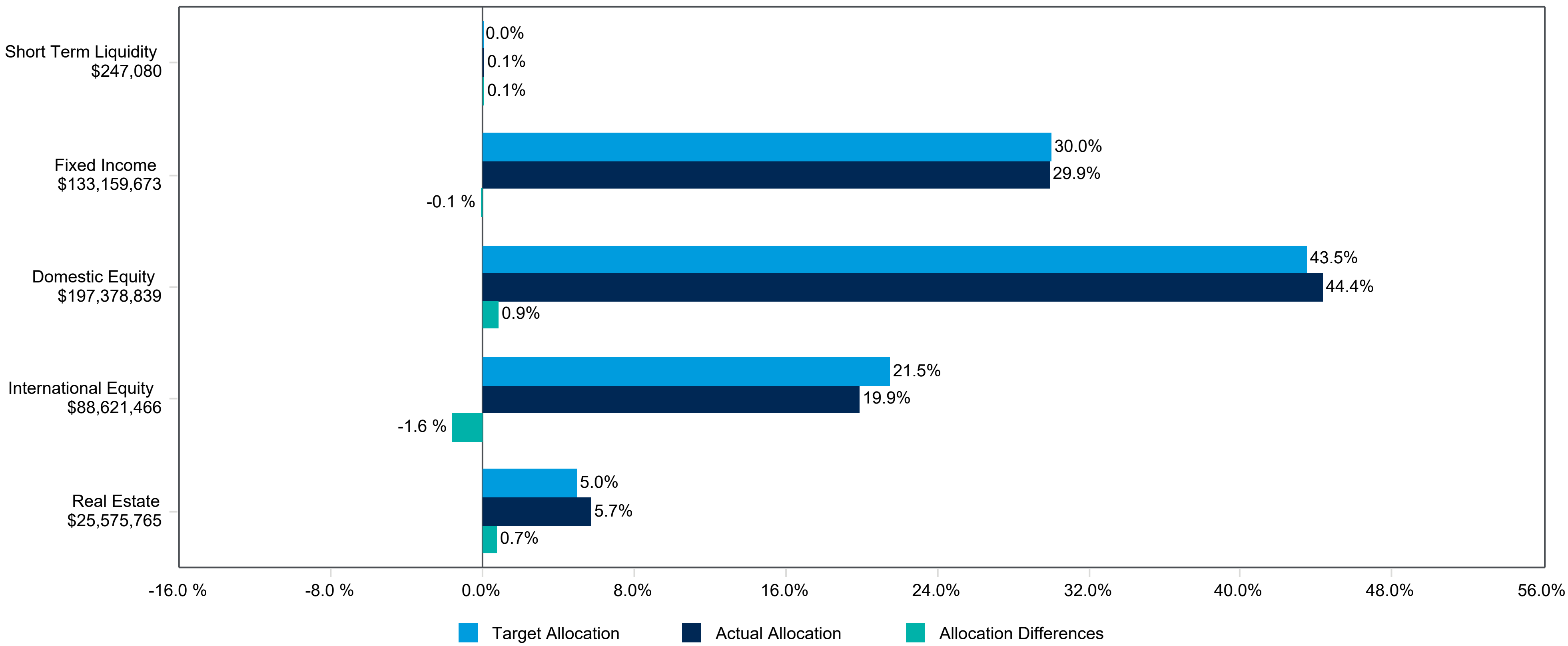
Actual vs. Target Allocations



Asset Allocation

West Hartford Total Pension | **As of September 30, 2022**

Actual vs. Target



	Asset Allocation ($)	Asset Allocation (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Short Term Liquidity	247,080	0.1	0.0	0.1	0.0	0.0
Fixed Income	133,159,673	29.9	30.0	-0.1	20.0	40.0
Domestic Equity	197,378,839	44.4	43.5	0.9	30.0	60.0
International Equity	88,621,466	19.9	21.5	-1.6	8.0	35.0
Real Estate	25,575,765	5.7	5.0	0.7	0.0	10.0
West Hartford Total Pension	**444,982,822**	**100.0**	**100.0**	**0.0**	**-**	**-**

Asset Allocation

West Hartford Total Pension | As of September 30, 2022

	Asset Allocation ($)	Asset Allocation (%)	Target Allocation (%)	Differences (%)
West Hartford Total Pension	**444,982,822**	**100.0**	**100.0**	**0.0**
Short Term Liquidity	**247,080**	**0.1**	**0.0**	**0.1**
AllSpring Govt Money Market Fund	247,080	0.1	0.0	0.1
Fixed Income	**133,159,673**	**29.9**	**30.0**	**-0.1**
Vanguard Total Bond Market Index Instl	75,980,765	17.1	17.0	0.1
Metropolitan West Total Return Bond Pl	57,178,907	12.8	13.0	-0.2
Domestic Equity	**197,378,839**	**44.4**	**43.5**	**0.9**
Vanguard Total Stock Market Index Instl	141,444,369	31.8	31.3	0.5
T. Rowe Price Instl Large Cap Value	17,991,059	4.0	4.3	-0.2
Silvercrest Small Cap Value	18,341,771	4.1	4.0	0.1
Pier Capital Small Cap Growth	19,595,920	4.4	4.0	0.4
Equity Holdings	5,720	0.0	0.0	0.0
International Equity	**88,621,466**	**19.9**	**21.5**	**-1.6**
Acadian Non-US All Cap Equity Fund,USD Hedged	22,422,623	5.0	5.0	0.0
Harbor Diversified International All Cap Ret	22,158,948	5.0	5.5	-0.5
Causeway International Value Instl	21,717,346	4.9	5.5	-0.6
Vanguard International Growth Adm	22,322,549	5.0	5.5	-0.5
Real Estate	**25,575,765**	**5.7**	**5.0**	**0.7**
Barings Core Property Fund LP	25,575,765	5.7	5.0	0.7

Performance Overview

West Hartford Total Pension | **As of September 30, 2022**

Trailing Performance Summary

	QTD	Fiscal YTD	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
West Hartford Total Pension	**-5.2**	**-5.2**	**-20.3**	**-17.2**	**3.7**	**4.6**	**6.5**	**7.1**	**5.6**	**01/2001**
Pension Blended Benchmark	*-5.4*	*-5.4*	*-20.4*	*-16.5*	*2.9*	*4.3*	*6.3*	*7.0*	*5.7*	*01/2001*

Calendar Year Performance Summary

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
West Hartford Total Pension	**13.2**	**16.6**	**20.9**	**-5.4**	**15.8**	**7.7**	**0.1**	**7.1**	**21.8**	**14.1**
Pension Blended Benchmark	*13.0*	*14.3*	*20.8*	*-4.8*	*15.3*	*8.3*	*1.2*	*8.6*	*19.8*	*12.6*

Plan Reconciliation

	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
West Hartford Total Pension								**01/2001**
Beginning Market Value	469,366,511	384,591,877	321,789,416	213,327,869	201,856,746	149,769,972	193,768,000	
Net Contributions	57,536	162,168,304	210,671,701	247,922,018	235,737,557	206,887,885	95,918,975	
Gain/Loss	-24,441,225	-101,777,359	-87,478,295	-16,267,066	7,388,519	88,324,965	155,295,847	
Ending Market Value	444,982,822	444,982,822	444,982,822	444,982,822	444,982,822	444,982,822	444,982,822	

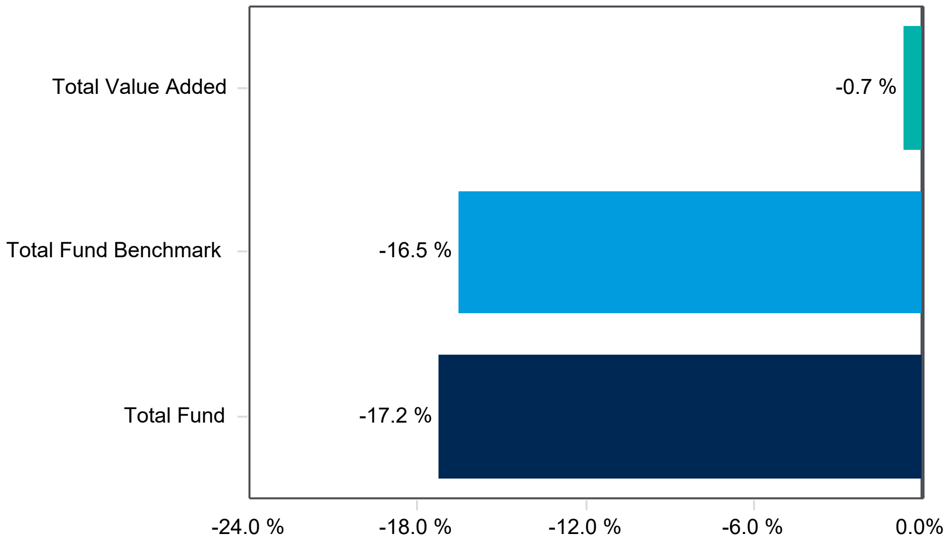
Benchmark Composition

	Weight (%)
Apr-2018	
Blmbg. U.S. Aggregate	30.0
Russell 3000 Index	43.5
MSCI AC World ex USA (Net)	21.5
NCREIF Fund Index - ODCE (net)	5.0

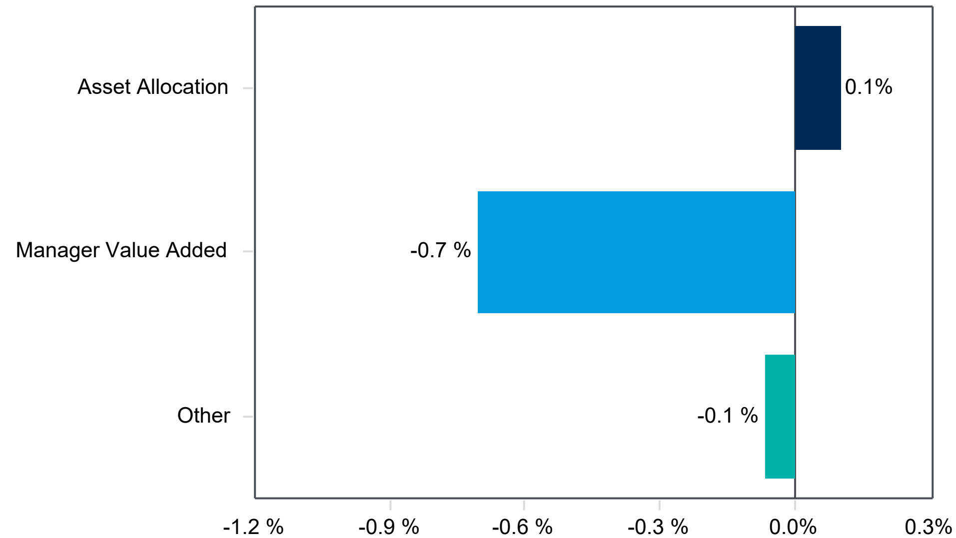
Performance Attribution

West Hartford Total Pension vs. Pension Attribution Hybrid | **1 Year Ending September 30, 2022**

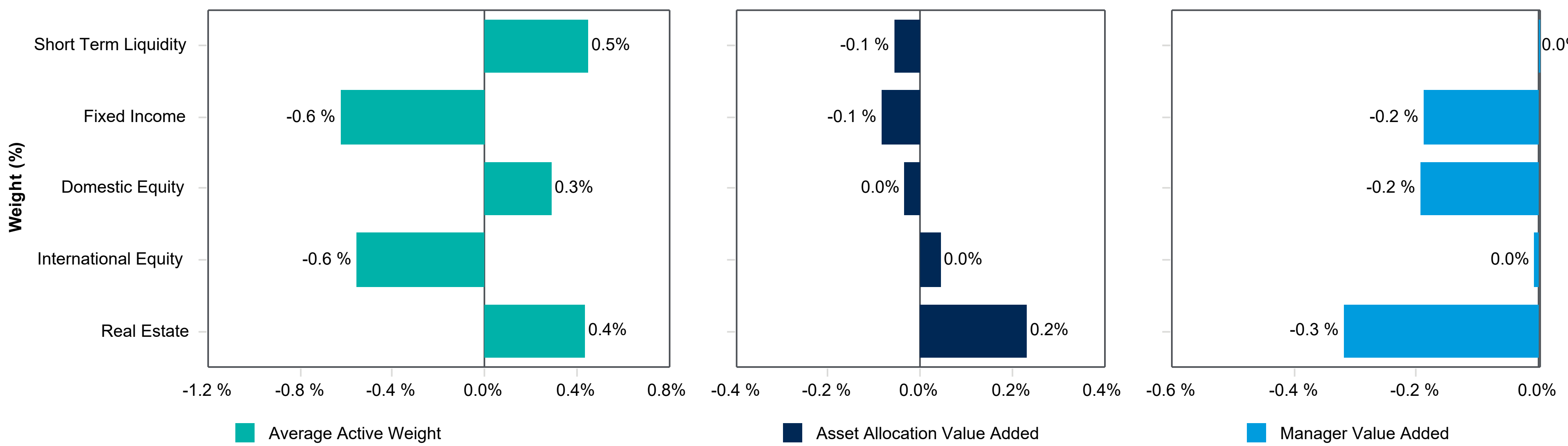
Total Fund Performance



Total Value Added:-0.7 %



Total Asset Allocation:0.1% | **Total Manager Value Added:-0.7 %**



Manager Status Commentary

As of September 30, 2022

Manager	Recommendation	Comments
Vanguard Total Bond Market Index Instl	Maintain	
Metropolitan West Total Return Bond Pl	Maintain	
Vanguard Total Stock Market Index Instl	Maintain	
T. Rowe Price Instl Large Cap Value	Maintain	
Silvercrest Small Cap Value	Maintain	
Pier Capital Small Cap Growth	Maintain	
Acadian Non-US All Cap Equity Fund,USD Hedged	Maintain	
Harbor Diversified International All Cap Ret	Maintain	
Causeway International Value Instl	Maintain	
Vanguard International Growth Adm	Maintain	
Barings Core Property Fund LP	Maintain	

Commentary produced upon change of status.

Manager Performance

West Hartford Total Pension — **As of September 30, 2022**

	Allocation		Performance(%)									Manager Status
	Market Value ($)	%	QTD	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
West Hartford Total Pension	**444,982,822**	**100.0**	**-5.2**	**-5.2**	**-20.3**	**-17.2**	**3.7**	**4.6**	**7.1**	**5.6**	**01/2001**	
Pension Blended Benchmark			*-5.4*	*-5.4*	*-20.4*	*-16.5*	*2.9*	*4.3*	*7.0*	*5.7*		
Short Term Liquidity	**247,080**	**0.1**	**0.8**	**0.8**	**1.3**	**1.3**	**0.7**	**1.1**	**0.6**	**0.5**	**06/2010**	
90 Day U.S. Treasury Bill			*0.5*	*0.5*	*0.6*	*0.6*	*0.6*	*1.1*	*0.7*	*0.6*		
AllSpring Govt Money Market Fund	**247,080**	**0.1**	**0.8**	**0.8**	**1.3**	**1.3**	**0.7**	**1.1**	**0.6**	**0.5**	**06/2010**	
90 Day U.S. Treasury Bill			*0.5*	*0.5*	*0.6*	*0.6*	*0.6*	*1.1*	*0.7*	*0.6*		
Fixed Income	**133,159,673**	**29.9**	**-4.9**	**-4.9**	**-15.2**	**-15.2**	**-3.2**	**-0.2**	**0.9**	**3.2**	**12/2008**	
Blmbg. U.S. Aggregate			*-4.8*	*-4.8*	*-14.6*	*-14.6*	*-3.3*	*-0.3*	*0.9*	*2.6*		
Vanguard Total Bond Market Index Instl	**75,980,765**	**17.1**	**-4.6**	**-4.6**	**-14.6**	**-14.6**	**-3.3**	**-0.2**	**0.9**	**1.5**	**11/2010**	**Maintain**
Blmbg. U.S. Aggregate			*-4.8*	*-4.8*	*-14.6*	*-14.6*	*-3.3*	*-0.3*	*0.9*	*1.6*		
IM U.S. Broad Market Core Fixed Income (MF) Median			-4.7	-4.7	-15.2	-15.3	-3.2	-0.3	0.9	1.6		
Vanguard Total Bond Market Index Instl Rank			47	47	26	26	55	40	53	58		
Metropolitan West Total Return Bond Pl	**57,178,907**	**12.8**	**-5.2**	**-5.2**	**-16.2**	**-16.3**	**-3.2**	**-0.1**	**1.3**	**0.6**	**05/2015**	**Maintain**
Blmbg. U.S. Aggregate			*-4.8*	*-4.8*	*-14.6*	*-14.6*	*-3.3*	*-0.3*	*0.9*	*0.5*		
IM U.S. Broad Market Core+ Fixed Income (MF) Median			-4.4	-4.4	-15.3	-15.4	-2.9	-0.2	1.1	0.6		
Metropolitan West Total Return Bond Pl Rank			88	88	72	70	66	44	34	55		
Domestic Equity	**197,378,839**	**44.4**	**-4.1**	**-4.1**	**-23.9**	**-18.0**	**7.5**	**8.2**	**11.0**	**12.6**	**12/2008**	
Russell 3000 Index			*-4.5*	*-4.5*	*-24.6*	*-17.6*	*7.7*	*8.6*	*11.4*	*12.8*		
Vanguard Total Stock Market Index Instl	**141,444,369**	**31.8**	**-4.5**	**-4.5**	**-24.9**	**-18.0**	**7.6**	**8.6**	**11.3**	**12.8**	**06/2009**	**Maintain**
CRSP US Total Market Spliced Index			*-4.4*	*-4.4*	*-24.9*	*-18.0*	*7.6*	*8.6*	*11.3*	*12.8*		
IM U.S. Multi-Cap Core Equity (MF) Median			-4.6	-4.6	-24.3	-17.3	6.4	7.1	10.2	11.3		
Vanguard Total Stock Market Index Instl Rank			41	41	59	60	28	21	18	9		
T. Rowe Price Instl Large Cap Value	**17,991,059**	**4.0**	**-5.7**	**-5.7**	**-15.1**	**-9.2**	**5.6**	**5.9**	**9.9**	**7.6**	**07/2005**	**Maintain**
Russell 1000 Value Index			*-5.6*	*-5.6*	*-17.8*	*-11.4*	*4.4*	*5.3*	*9.2*	*6.8*		
IM U.S. Large Cap Value Equity (MF) Median			-5.6	-5.6	-16.7	-9.6	5.3	6.1	9.3	6.9		
T. Rowe Price Instl Large Cap Value Rank			54	54	26	44	45	55	29	30		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Manager Performance

West Hartford Total Pension | As of September 30, 2022

	Allocation		Performance(%)									
	Market Value ($)	%	QTD	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	Manager Status
Silvercrest Small Cap Value	**18,341,771**	**4.1**	**-3.5**	**-3.5**	**-17.8**	**-11.2**	**5.5**	**3.6**	**-**	**4.9**	**12/2016**	**Maintain**
Russell 2000 Value Index			*-4.6*	*-4.6*	*-21.1*	*-17.7*	*4.7*	*2.9*	*7.9*	*4.2*		
IM U.S. Small Cap Value Equity (MF) Median			-5.4	-5.4	-19.9	-15.2	5.8	3.2	7.8	4.2		
Silvercrest Small Cap Value Rank			26	26	25	19	58	39	-	34		
Pier Capital Small Cap Growth	**19,595,920**	**4.4**	**0.0**	**0.0**	**-35.3**	**-36.5**	**5.5**	**7.1**	**10.9**	**9.4**	**01/2001**	**Maintain**
Russell 2000 Growth Index			*0.2*	*0.2*	*-29.3*	*-29.3*	*2.9*	*3.6*	*8.8*	*6.2*		
IM U.S. Small Cap Growth Equity (MF) Median			-1.4	-1.4	-30.4	-29.1	4.7	5.9	9.3	7.1		
Pier Capital Small Cap Growth Rank			31	31	82	82	39	38	16	6		
Equity Holdings	**5,720**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**0.0**	**11/2016**	
International Equity	**88,621,466**	**19.9**	**-8.6**	**-8.6**	**-25.7**	**-25.2**	**3.2**	**2.1**	**5.1**	**8.0**	**12/2008**	
International Equity Benchmark			*-9.9*	*-9.9*	*-26.5*	*-25.2*	*-1.5*	*-1.0*	*3.6*	*5.4*		
Acadian Non-US All Cap Equity Fund,USD Hedged	**22,422,623**	**5.0**	**-1.8**	**-1.8**	**-12.8**	**-9.4**	**7.9**	**-**	**-**	**5.3**	**05/2018**	**Maintain**
MSCI EAFE US Dollar Hedged Index (Net)			*-2.8*	*-2.8*	*-13.0*	*-9.4*	*4.0*	*4.7*	*8.5*	*4.2*		
IM International Multi-Cap Core Equity (MF) Median			-10.4	-10.4	-27.4	-25.7	-1.9	-1.3	3.3	-2.5		
Acadian Non-US All Cap Equity Fund,USD Hedged Rank			1	1	1	1	1	-	-	1		
Harbor Diversified International All Cap Ret	**22,158,948**	**5.0**	**-10.2**	**-10.2**	**-26.8**	**-25.9**	**-1.4**	**-0.6**	**-**	**-1.5**	**03/2018**	**Maintain**
MSCI AC World ex USA (Net)			*-9.9*	*-9.9*	*-26.5*	*-25.2*	*-1.5*	*-0.8*	*3.0*	*-2.1*		
IM International Large Cap Core Equity (MF) Median			-10.2	-10.2	-27.7	-25.4	-1.8	-1.4	3.0	-2.1		
Harbor Diversified International All Cap Ret Rank			51	51	35	58	46	25	-	27		
Causeway International Value Instl	**21,717,346**	**4.9**	**-11.6**	**-11.6**	**-24.0**	**-23.3**	**-0.9**	**-2.1**	**2.8**	**4.0**	**05/2004**	**Maintain**
MSCI EAFE Value Index (Net)			*-10.2*	*-10.2*	*-21.1*	*-20.2*	*-2.8*	*-2.7*	*2.4*	*3.2*		
IM International Large Cap Value Equity (MF) Median			-10.7	-10.7	-24.4	-22.6	-2.0	-2.4	2.3	3.5		
Causeway International Value Instl Rank			62	62	41	62	28	35	28	24		
Vanguard International Growth Adm	**22,322,549**	**5.0**	**-10.2**	**-10.2**	**-38.5**	**-40.2**	**3.7**	**3.1**	**7.3**	**1.5**	**03/2018**	**Maintain**
MSCI AC World ex USA Growth (Net)			*-9.4*	*-9.4*	*-31.8*	*-30.2*	*-1.4*	*0.2*	*4.0*	*-1.1*		
IM International Large Cap Growth Equity (MF) Median			-9.6	-9.6	-30.9	-28.7	-0.8	-0.1	3.9	-1.1		
Vanguard International Growth Adm Rank			72	72	92	96	7	9	2	15		

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Manager Performance

West Hartford Total Pension | As of September 30, 2022

	Allocation		Performance(%)									Manager Status
	Market Value ($)	%	QTD	Fiscal YTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date	
Real Estate	**25,575,765**	**5.7**	**-3.6**	**-3.6**	**5.6**	**13.4**	**8.3**	**7.4**	**8.4**	**5.0**	**01/2008**	
NCREIF Fund Index - ODCE (net)			*0.3*	*0.3*	*12.4*	*21.0*	*11.4*	*9.3*	*9.9*	*5.7*		
Barings Core Property Fund LP	**25,575,765**	**5.7**	**-3.6**	**-3.6**	**5.6**	**13.4**	**8.3**	**7.4**	**8.4**	**5.0**	**01/2008**	**Maintain**
NCREIF Fund Index - ODCE (net)			*0.3*	*0.3*	*12.4*	*21.0*	*11.4*	*9.3*	*9.9*	*5.7*		

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Funds may include returns of an equivalent share class with a longer return history if period includes dates prior to the fund's inception. Returns are net of fees unless otherwise stated. The fund's inception date represents the first month the client made the investment. Composite performance includes all funds held in the composite since inception. Inception dates for asset class composites reflect the start date at which these returns could be calculated using historical and existing system capabilities and may vary from the inception dates of underlying component strategies.

Manager Performance

West Hartford Total Pension — As of September 30, 2022

	Performance(%)									
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
West Hartford Total Pension	**13.2**	**16.6**	**20.9**	**-5.4**	**15.8**	**7.7**	**0.1**	**7.1**	**21.8**	**14.1**
Pension Blended Benchmark	*13.0*	*14.3*	*20.8*	*-4.8*	*15.3*	*8.3*	*1.2*	*8.6*	*19.8*	*12.6*
Short Term Liquidity	**0.0**	**0.3**	**2.1**	**1.7**	**0.6**	**0.2**	**0.1**	**0.0**	**0.0**	**0.0**
90 Day U.S. Treasury Bill	*0.0*	*0.7*	*2.3*	*1.9*	*0.9*	*0.3*	*0.0*	*0.0*	*0.0*	*0.1*
AllSpring Govt Money Market Fund	**0.0**	**0.3**	**2.1**	**1.7**	**0.6**	**0.2**	**0.1**	**0.0**	**0.0**	**0.0**
90 Day U.S. Treasury Bill	*0.0*	*0.7*	*2.3*	*1.9*	*0.9*	*0.3*	*0.0*	*0.0*	*0.0*	*0.1*
Fixed Income	**-1.4**	**8.3**	**8.9**	**0.1**	**3.5**	**2.5**	**0.5**	**5.1**	**-2.0**	**9.0**
Blmbg. U.S. Aggregate	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*	*2.6*	*0.5*	*6.0*	*-2.0*	*4.2*
Vanguard Total Bond Market Index Instl	**-1.7**	**7.7**	**8.7**	**0.0**	**3.6**	**2.6**	**0.4**	**5.9**	**-2.1**	**4.2**
Blmbg. U.S. Aggregate	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*	*2.6*	*0.5*	*6.0*	*-2.0*	*4.2*
IM U.S. Broad Market Core Fixed Income (MF) Median	-1.3	8.2	8.8	-0.6	3.6	2.9	0.0	5.5	-2.0	6.0
Vanguard Total Bond Market Index Instl Rank	64	64	52	19	53	64	29	31	59	81
Metropolitan West Total Return Bond Pl	**-1.1**	**9.2**	**9.2**	**0.3**	**3.5**	**2.6**	**0.2**	**6.2**	**0.4**	**11.6**
Blmbg. U.S. Aggregate	*-1.5*	*7.5*	*8.7*	*0.0*	*3.5*	*2.6*	*0.5*	*6.0*	*-2.0*	*4.2*
IM U.S. Broad Market Core+ Fixed Income (MF) Median	-0.9	8.6	9.3	-1.0	4.5	4.0	-0.3	5.1	-1.1	8.2
Metropolitan West Total Return Bond Pl Rank	59	37	54	11	79	86	25	24	16	7
Domestic Equity	**24.5**	**21.2**	**29.9**	**-6.4**	**21.8**	**12.1**	**-1.0**	**10.9**	**36.5**	**16.1**
Russell 3000 Index	*25.7*	*20.9*	*31.0*	*-5.2*	*21.1*	*12.7*	*0.5*	*12.6*	*33.6*	*16.4*
Vanguard Total Stock Market Index Instl	**25.7**	**21.0**	**30.8**	**-5.2**	**21.2**	**12.7**	**0.4**	**12.6**	**33.5**	**16.4**
CRSP US Total Market Spliced Index	*25.7*	*21.0*	*30.8*	*-5.2*	*21.2*	*12.7*	*0.4*	*12.6*	*33.5*	*16.4*
IM U.S. Multi-Cap Core Equity (MF) Median	25.4	16.9	28.8	-6.8	21.0	9.4	-0.5	10.8	33.5	15.7
Vanguard Total Stock Market Index Instl Rank	44	25	31	27	45	21	37	28	50	36
T. Rowe Price Instl Large Cap Value	**25.8**	**3.0**	**26.7**	**-9.3**	**16.8**	**16.2**	**-3.3**	**13.1**	**34.0**	**17.9**
Russell 1000 Value Index	*25.2*	*2.8*	*26.5*	*-8.3*	*13.7*	*17.3*	*-3.8*	*13.5*	*32.5*	*17.5*
IM U.S. Large Cap Value Equity (MF) Median	26.0	3.8	26.5	-8.6	17.0	13.8	-3.0	10.8	32.1	15.8
T. Rowe Price Instl Large Cap Value Rank	54	58	49	65	53	25	58	11	27	25

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Manager Performance

West Hartford Total Pension | As of September 30, 2022

	Performance(%)									
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Silvercrest Small Cap Value	**24.8**	**6.8**	**24.9**	**-15.8**	**11.2**	**-**	**-**	**-**	**-**	**-**
Russell 2000 Value Index	*28.3*	*4.6*	*22.4*	*-12.9*	*7.8*	*31.7*	*-7.5*	*4.2*	*34.5*	*18.1*
IM U.S. Small Cap Value Equity (MF) Median	32.0	3.6	21.1	-16.1	8.5	26.7	-7.0	3.4	36.5	16.2
Silvercrest Small Cap Value Rank	92	19	11	47	27	-	-	-	-	-
Pier Capital Small Cap Growth	**8.4**	**57.5**	**27.7**	**-6.0**	**30.3**	**6.6**	**-0.6**	**4.7**	**52.0**	**11.1**
Russell 2000 Growth Index	*2.8*	*34.6*	*28.5*	*-9.3*	*22.2*	*11.3*	*-1.4*	*5.6*	*43.3*	*14.6*
IM U.S. Small Cap Growth Equity (MF) Median	10.5	36.5	27.7	-5.6	20.7	10.1	-2.4	2.8	42.5	13.6
Pier Capital Small Cap Growth Rank	60	14	50	54	10	78	25	29	7	73
Equity Holdings	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-**	**-**	**-**	**-**	**-**
International Equity	**10.5**	**21.3**	**23.9**	**-14.4**	**28.3**	**-0.6**	**-1.5**	**-4.4**	**21.5**	**24.3**
International Equity Benchmark	*7.8*	*10.7*	*21.5*	*-14.5*	*25.0*	*1.0*	*-0.8*	*-4.9*	*22.8*	*17.3*
Acadian Non-US All Cap Equity Fund,USD Hedged	**23.4**	**9.7**	**20.8**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
MSCI EAFE US Dollar Hedged Index (Net)	*19.4*	*2.5*	*24.6*	*-9.0*	*16.8*	*6.1*	*5.0*	*5.7*	*26.7*	*17.5*
IM International Multi-Cap Core Equity (MF) Median	10.5	8.0	21.2	-15.1	25.2	1.3	-0.9	-5.0	20.1	17.7
Acadian Non-US All Cap Equity Fund,USD Hedged Rank	1	31	57	-	-	-	-	-	-	-
Harbor Diversified International All Cap Ret	**10.3**	**8.4**	**23.9**	**-13.7**	**24.6**	**0.0**	**-**	**-**	**-**	**-**
MSCI AC World ex USA (Net)	*7.8*	*10.7*	*21.5*	*-14.2*	*27.2*	*4.5*	*-5.7*	*-3.9*	*15.3*	*16.8*
IM International Large Cap Core Equity (MF) Median	10.7	9.1	22.1	-15.0	25.0	0.0	-1.9	-6.0	20.4	18.0
Harbor Diversified International All Cap Ret Rank	59	60	28	23	57	50	-	-	-	-
Causeway International Value Instl	**9.1**	**5.4**	**20.1**	**-18.6**	**27.2**	**0.4**	**-3.0**	**-6.2**	**24.2**	**24.5**
MSCI EAFE Value Index (Net)	*10.9*	*-2.6*	*16.1*	*-14.8*	*21.4*	*5.0*	*-5.7*	*-5.4*	*23.0*	*17.7*
IM International Large Cap Value Equity (MF) Median	13.2	4.1	19.0	-16.7	22.9	1.3	-1.8	-7.0	21.8	18.5
Causeway International Value Instl Rank	88	29	27	95	9	63	75	42	22	2
Vanguard International Growth Adm	**-0.7**	**59.7**	**31.5**	**-12.6**	**43.2**	**1.8**	**-0.5**	**-5.5**	**23.1**	**20.2**
MSCI AC World ex USA Growth (Net)	*5.1*	*22.2*	*27.3*	*-14.4*	*32.0*	*0.1*	*-1.3*	*-2.6*	*15.5*	*16.7*
IM International Large Cap Growth Equity (MF) Median	8.9	20.0	27.5	-14.7	28.6	-1.9	0.2	-4.5	20.0	19.0
Vanguard International Growth Adm Rank	97	1	14	28	3	13	60	64	17	26

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Manager Performance

West Hartford Total Pension | As of September 30, 2022

	Performance(%)									
	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Real Estate	**18.9**	**-0.3**	**6.0**	**6.3**	**6.5**	**8.6**	**13.0**	**8.6**	**9.8**	**10.2**
NCREIF Fund Index - ODCE (net)	*21.0*	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*	*14.0*	*11.5*	*12.9*	*9.8*
Barings Core Property Fund LP	**18.9**	**-0.3**	**6.0**	**6.3**	**6.5**	**8.6**	**13.0**	**8.6**	**9.8**	**10.2**
NCREIF Fund Index - ODCE (net)	*21.0*	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*	*14.0*	*11.5*	*12.9*	*9.8*

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Investment Gain/Loss Summary

West Hartford Total Pension | **1 Quarter Ending September 30, 2022**

	Market Value as of 07/01/2022	Net Contributions	Gain/Loss	Market Value As of 09/30/2022
West Hartford Total Pension	**469,366,511**	**57,536**	**-24,441,225**	**444,982,822**
Short Term Liquidity	**245,222**	**-**	**1,858**	**247,080**
AllSpring Govt Money Market Fund	245,222	-	1,858	247,080
Fixed Income	**140,011,638**	**-**	**-6,851,965**	**133,159,673**
Vanguard Total Bond Market Index Instl	79,683,862	-	-3,703,097	75,980,765
Metropolitan West Total Return Bond Pl	60,327,776	-	-3,148,868	57,178,907
Domestic Equity	**205,681,191**	**57,536**	**-8,359,889**	**197,378,839**
Vanguard Total Stock Market Index Instl	148,040,854	-	-6,596,485	141,444,369
T. Rowe Price Instl Large Cap Value	19,081,658	-	-1,090,598	17,991,059
Silvercrest Small Cap Value	18,972,779	37,946	-668,954	18,341,771
Pier Capital Small Cap Growth	19,580,181	19,590	-3,851	19,595,920
Equity Holdings	5,720	-	-	5,720
International Equity	**96,908,013**	**-**	**-8,286,548**	**88,621,466**
Acadian Non-US All Cap Equity Fund,USD Hedged	22,823,189	-	-400,566	22,422,623
Harbor Diversified International All Cap Ret	24,676,470	-	-2,517,522	22,158,948
Causeway International Value Instl	24,561,480	-	-2,844,134	21,717,346
Vanguard International Growth Adm	24,846,875	-	-2,524,326	22,322,549
Real Estate	**26,520,447**	**-**	**-944,682**	**25,575,765**
Barings Core Property Fund LP	26,520,447	-	-944,682	25,575,765

Portfolio Statistics

West Hartford Total Pension | As of September 30, 2022

	QTD	YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Return	-5.2	-20.3	-17.2	3.7	4.6	7.1	5.6	01/2001
Standard Deviation	0.0	2.6	10.7	17.0	14.7	11.1	12.2	
Upside Risk	0.0	0.0	1.9	13.0	11.3	9.3	9.8	
Downside Risk	5.2	7.7	13.3	11.4	9.8	7.2	7.9	
vs. Pension Blended Benchmark								
Alpha	-	-1.0	-2.4	0.7	0.1	-0.3	-0.4	
Beta	-	0.9	0.9	1.1	1.1	1.1	1.1	
Information Ratio	-	0.0	-0.7	0.5	0.2	0.1	0.0	
Tracking Error	0.0	0.5	1.2	1.9	1.8	1.4	1.6	
vs. 90 Day U.S. Treasury Bill								
Sharpe Ratio	-	-2.9	-1.7	0.3	0.3	0.6	0.4	

Calculation based on quarterly periodicity.

Estimated Fee Analysis

West Hartford Total Pension | As of September 30, 2022

	Market Value ($)	Estimated Annual Fee ($)	Estimated Annual Fee (%)	Fee Schedule Details (Ex. Mutual Fund Investments)
West Hartford Total Pension	**444,982,822**	**1,436,390**	**0.32**	
Short Term Liquidity	**247,080**	**-**	**-**	
AllSpring Govt Money Market Fund	247,080	-	-	
Fixed Income	**133,159,673**	**232,437**	**0.17**	
Vanguard Total Bond Market Index Instl	75,980,765	26,593	0.04	
Metropolitan West Total Return Bond Pl	57,178,907	205,844	0.36	
Domestic Equity	**197,378,839**	**366,502**	**0.19**	
Vanguard Total Stock Market Index Instl	141,444,369	42,433	0.03	
T. Rowe Price Instl Large Cap Value	17,991,059	98,951	0.55	
Silvercrest Small Cap Value	18,341,771	146,734	0.80	0.80 % of First $20 M 0.72 % of Next $30 M 0.64 % of Next $50 M 0.56 % Thereafter
Pier Capital Small Cap Growth	19,595,920	78,384	0.40	Performance Based 0.40 and 20.00
Equity Holdings	5,720	-	-	
International Equity	**88,621,466**	**588,087**	**0.66**	
Acadian Non-US All Cap Equity Fund,USD Hedged	22,422,623	168,170	0.75	0.75 % of Assets
Harbor Diversified International All Cap Ret	22,158,948	159,544	0.72	
Causeway International Value Instl	21,717,346	188,941	0.87	
Vanguard International Growth Adm	22,322,549	71,432	0.32	
Real Estate	**25,575,765**	**249,364**	**0.98**	
Barings Core Property Fund LP	25,575,765	249,364	0.98	0.98 % of Assets

The figures on this page have been obtained from sources we deem to be reliable. Fiducient Advisors has not independently verified this information.

Fee calculations for mutual funds represent fees at the net expense level. Fee calculations for commingled funds and/or alternative investments reflect base management fees and exclude underlying fund expenses captured at the NAV level, any applicable performance-based fees, or incentive fees. Fees for fund of funds are shown at the fund of fund level and do not include fees charged by underlying investment managers/funds.

Liquidity Schedule

As of September 30, 2022

Investments	Inception	Subscriptions	Redemptions	Liquidity Terms	Market Value ($)	Liquid ($)	Semi Liquid ($)	Illiquid ($)
AllSpring Govt Money Market Fund	06/2010	Daily	Liquid		247,080	247,080	-	-
Vanguard Total Bond Market Index Instl	10/2010	Daily	Liquid		75,980,765	75,980,765	-	-
Metropolitan West Total Return Bond Pl	04/2015	Daily	Liquid		57,178,907	57,178,907	-	-
Vanguard Total Stock Market Index Instl	05/2009	Daily	Liquid		141,444,369	141,444,369	-	-
T. Rowe Price Instl Large Cap Value	06/2005	Daily	Liquid		17,991,059	17,991,059	-	-
Silvercrest Small Cap Value	11/2016	Daily	Liquid		18,341,771	18,341,771	-	-
Pier Capital Small Cap Growth	12/2000	Daily	Liquid		19,595,920	19,595,920	-	-
Equity Holdings	11/2016				5,720	-	-	-
Acadian Non-US All Cap Equity Fund,USD Hedged	04/2018	Daily	Liquid	Contributions and redemptions daily with 2 business days notice	22,422,623	22,422,623	-	-
Harbor Diversified International All Cap Ret	02/2018	Daily	Liquid		22,158,948	22,158,948	-	-
Causeway International Value Instl	04/2004	Daily	Liquid		21,717,346	21,717,346	-	-
Vanguard International Growth Adm	02/2018	Daily	Liquid		22,322,549	22,322,549	-	-
Barings Core Property Fund LP	01/2008	Quarterly	Semi Liquid	Contributions and redemptions quarterly with 30 days notice Redemptions subject to fund level queue	25,575,765	-	25,575,765	-
Total ($)					**444,982,822**	**419,401,337**	**25,575,765**	**-**

Liquid – daily to monthly | Semi-Liquid – greater than monthly and up to one year | Illiquid – greater than one year
The figures on this page have been obtained from sources we deem to be reliable. Fiducient Advisors has not independently verified this information.

Liquidity Schedule

As of September 30, 2022

Redemptions	Market Value ($)	% of Total Plan
Semi Liquid	25,575,765	5.8
Liquid	419,401,337	94.3
Total	**444,982,822**	**100.0**

Liquid – daily to monthly | Semi-Liquid – greater than monthly and up to one year | Illiquid – greater than one year
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Definitions & Disclosures

Please note: Due to rounding methodologies of various data providers, certain returns in this report might differ slightly when compared to other sources

REGULATORY DISCLOSURES

Offer of ADV Part 2A: Rule 204-3 under the Investment Advisers Act of 1940 requires that we make an annual offer to clients to send them, without charge, a written disclosure statement meeting the requirements of such rule. We will be glad to send a copy of our ADV Part 2A to you upon your written request to compliance@fiducient.com.

INDEX DEFINITIONS

- **Citigroup 3 Month T-Bill** measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indexes consist of the last three three-month Treasury bill issues.
- **Ryan 3 Yr. GIC** is an arithmetic mean of market rates of $1 million Guaranteed Interest Contracts held for three years.
- **Bloomberg Treasury U.S. T-Bills-1-3 Month Index** includes aged U.S. Treasury bills, notes and bonds with a remaining maturity from 1 up to (but not including) 3 months. It excludes zero coupon strips.
- **Bloomberg Capital US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg Muni 1 Year Index** is the 1-year (1-2) component of the Municipal Bond index.
- **Bloomberg Muni 3 Year Index** is the 3-year (2-4) component of the Municipal Bond index.
- **Bloomberg Muni 5 Year Index** is the 5-year (4-6) component of the Municipal Bond index.
- **Bloomberg Muni 7 Year Index** is the 7-year (6-8) component of the Municipal Bond index.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **JP Morgan Government Bond Index-Emerging Market (GBI-EM) Index** is a comprehensive, global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.
- **The S&P 500** is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **The Dow Jones Industrial Index** is a price-weighted average of 30 blue-chip stocks that are generally the leaders in their industry.
- **The NASDAQ** is a broad-based capitalization-weighted index of stocks in all three NASDAQ tiers: Global Select, Global Market and Capital Market.
- **Russell 3000** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2500** consists of the 2,500 smallest U.S. companies in the Russell 3000 index.
- **Russell 2500 Growth** measures the performance of the Russell 2500 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2500 Value** measures the performance of those Russell 2500 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI World** captures large and mid-cap representation across 23 Developed Markets countries. With 1,645 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across 22 of 23 Developed Markets countries (excluding the United States) and 23 Emerging Markets countries. With 1,859 constituents, the index covers approximately 85% of the global equity opportunity set outside the US.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across 22 of 23 Developed Markets countries (excluding the US) and 23 Emerging Markets countries. With 4,368 constituents, the index covers approximately 14% of the global equity opportunity set outside the US.
- **MSCI EAFE** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the US and Canada. With 930 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

- **MSCI EAFE Value** captures large and mid-cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 507 constituents, the index targets 50% coverage of the free float- adjusted market capitalization of the MSCI EAFE Index.
- **MSCI EAFE Growth** captures large and mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend. With 542 constituents, the index targets 50% coverage of the free float-adjusted market capitalization of the MSCI EAFE Index.
- **MSCI Emerging Markets** captures large and mid-cap representation across 23 Emerging Markets countries. With 836 constituents, the index covers approximately 85% of the free-float adjusted market capitalization in each country.
- **Consumer Price Index** is a measure of prices paid by consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate.
- **FTSE NAREIT Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **S&P Developed World Property** defines and measures the investable universe of publicly traded property companies domiciled in developed markets. The companies in the index are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **S&P Developed World Property x U.S.** defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.
- **Fund Specific Broad Real Asset Benchmarks:**
    - **DWS Real Assets:** 30%: Dow Jones Brookfield Infrastructure Index, 30%: FTSE EPRA/NAREIT Developed Index,15%: Bloomberg Commodity Index, 15%: S&P Global Natural Resources Index, 10%: U.S. Treasury Inflation Notes Total Return Index
    - **PIMCO Inflation Response Multi Asset Fund:** 45% Bloomberg U.S. TIPS, 20% Bloomberg Commodity Index, 15% JP Morgan Emerging Local Markets Plus, 10% Dow Jones Select REIT, 10% Bloomberg Gold Subindex Total Return
    - **Principal Diversified Real Assets:** 35% BBgBarc U.S. Treasury TIPS Index, 20% S&P Global Infrastructure Index NTR, 20% S&P Global Natural Resources Index NTR, 15% Bloomberg Commodity Index, and 10% FTSE EPRA/NAREIT Developed Index NTR
    - **Wellington Diversified Inflation H:** 50% MSCI ACWI Commodity Producers Index, 25% Bloomberg Commodity Index, and 25% Bloomberg Bloomberg US TIPS 1 – 10 Year Index
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRI Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of $50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **The Alerian MLP Index** is the leading gauge of energy Master Limited Partnerships (MLPs). The float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.
- **The Adjusted Alerian MLP Index** is commensurate with 65% of the monthly returns of the Alerian MLP Index to incorporate the effect of deferred tax liabilities incurred by MLP entities.
- **Cambridge Associates U.S. Private Equity Index** is based on data compiled from more than 1,200 institutional-quality buyout, growth equity, private equity energy, and mezzanine funds formed between 1986 and 2015.
- **Cambridge Associates U.S. Venture Capital Index** is based on data compiled from over 1,600 institutional-quality venture capital funds formed between 1986 and 2015.
- **Vanguard Spliced Bloomberg US1-5Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 1–5 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 1–5 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US5-10Yr Gov/Cr Flt Adj Index:** Bloomberg U.S. 5–10 Year Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. 5–10 Year Government/Credit Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Agg Flt Adj Index:** Bloomberg U.S. Aggregate Bond Index through December 31, 2009; Bloomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Bloomberg US Long Gov/Cr Flt Adj Index:** Bloomberg U.S. Long Government/Credit Bond Index through December 31, 2009; Bloomberg U.S. Long Government/Credit Float Adjusted Index thereafter.
- **Vanguard Balanced Composite Index:** Made up of two unmanaged benchmarks, weighted 60% Dow Jones U.S. Total Stock Market Index (formerly the Dow Jones Wilshire 5000 Index) and 40% Bloomberg U.S. Aggregate Bond Index through May 31, 2005; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Bond Index through December 31, 2009; 60% MSCI US Broad Market Index and 40% Bloomberg U.S. Aggregate Float Adjusted Index through January 14, 2013; and 60% CRSP US Total Market Index and 40% Blomberg U.S. Aggregate Float Adjusted Index thereafter.
- **Vanguard Spliced Intermediate-Term Tax-Exempt Index:** Bloomberg 1–15 Year Municipal Bond Index.
- **Vanguard Spliced Extended Market Index:** Dow Jones Wilshire 4500 Index through June 17, 2005; S&P Transitional Completion Index through September 16, 2005; S&P Completion Index thereafter.
- **Vanguard Spliced Value Index:** S&P 500 Value Index (formerly the S&P 500/Barra Value Index) through May 16, 2003; MSCI US Prime Market Value Index through April 16, 2013; CRSP US Large Cap Value Index thereafter.
- **Vanguard Spliced Large Cap Index:** Consists of MSCI US Prime Market 750 Index through January 30, 2013, and the CRSP US Large Cap Index thereafter.
- **Vanguard Spliced Growth Index:** S&P 500 Growth Index (formerly the S&P 500/Barra Growth Index) through May 16, 2003; MSCI US Prime Market Growth Index through April 16, 2013; CRSP US Large Cap Growth Index thereafter.
- **Vanguard Spliced Mid Cap Value Index:** MSCI US Mid Cap Value Index through April 16, 2013; CRSP US Mid Cap Value Index thereafter.
- **Vanguard Spliced Mid Cap Index:** S&P MidCap 400 Index through May 16, 2003; the MSCI US Mid Cap 450 Index through January 30, 2013; and the CRSP US Mid Cap Index thereafter.
- **Vanguard Spliced Mid Cap Growth Index:** MSCI US Mid Cap Growth Index through April 16, 2013; CRSP US Mid Cap Growth Index thereafter.
- **Vanguard Spliced Total Stock Market Index:** Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005; MSCI US Broad Market Index through June 2, 2013; and CRSP US Total Market Index thereafter.
- **Vanguard Spliced Small Cap Value Index:** SmallCap 600 Value Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Value Index through April 16, 2013; CRSP US Small Cap Value Index thereafter.

- **Vanguard Spliced Small Cap Index:** Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index through January 30, 2013; and the CRSP US Small Cap Index thereafter.
- **Vanguard Spliced Small Cap Growth Index:** S&P SmallCap 600 Growth Index (formerly the S&P SmallCap 600/Barra Value Index) through May 16, 2003; MSCI US Small Cap Growth Index through April 16, 2013; CRSP US Small Cap Growth Index thereafter.
- **Vanguard Spliced Total International Stock Index:** Consists of the Total International Composite Index through August 31, 2006; the MSCI EAFE + Emerging Markets Index through December 15, 2010; the MSCI AC USA IMI Index through June 2, 2013; and FTSE Global All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Developed Markets Index:** MSCI EAFE Index through May 28, 2013; FTSE Developed ex North America Index through December 20, 2015; FTSE Developed All Cap ex US Transition Index through May 31, 2016; FTSE Developed All Cap ex US Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard Spliced Emerging Markets Index:** Select Emerging Markets Index through August 23, 2006; MSCI Emerging Markets Index through January 9, 2013; FTSE Emerging Transition Index through June 27, 2013; FTSE Emerging Index through November 1, 2015; and FTSE Emerging Markets All Cap China A Transition Index thereafter. Benchmark returns are adjusted for withholding taxes.
- **Vanguard REIT Spliced Index:** MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018; MSCI US Investable Market Real Estate 25/50 Transition Index through July 24, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Additional:

- Equity sector returns are calculated by Russell and MSCI for domestic and international markets, respectively. MSCI sector definitions correspond to the MSCI GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country returns are calculated by MSCI and are free float-adjusted market capitalization indices that are designed to measure equity market performance in each specific country.
- Currency returns are calculated using Bloomberg's historical spot rate indices and are calculated using the U.S. dollar as the base currency.
- The Index of Leading Economic Indicators, calculated by The Conference Board, is used as a barometer of economic activity over a range of three to six months. The index is used to determine the direction and stability of the economy. The composite index of leading indicators, which is derived from 10 leading indicators, helps to signal turning points in the economy and forecast economic cycles. The leading indicators are the following: average weekly hours, average weekly initial claims, manufacturers' new orders, both consumer and non-defense capital goods, vendor performance, building permits, stock prices, money supply (M2), the interest rate spread and the index of consumer expectations.
- S&P Target Date Indexes are constructed using a survey method of current target date investments with $100 million or more in assets under management. Allocations for each vintage are comprised of exchange-traded- funds that represent respective asset classes used in target date portfolios. The indexes are designed to represent a market consensus glide path.

DEFINITION OF KEY STATISTICS AND TERMS

- **Returns:** A percentage figure used when reporting historical average compounded rate of investment return. All returns are annualized if the period for which they are calculated exceeds one year.
- **Universe Comparison:** The universe compares the fund's returns to a group of other investment portfolios with similar investment strategies. The returns for the fund, the index and the universe percentiles are displayed. A percentile ranking of 1 is the best, while a percentile ranking of 100 is the worst. For example, a ranking of 50 indicates the fund outperformed half of the universe. A ranking of 25 indicates the fund was in the top 25% of the universe, outperforming75%.
- **Returns In Up/Down Markets:** This measures how the fund performed in both up and down markets. The methodology is to segregate the performance for each time period into the quarters in which the market, as defined by the index, was positive and negative. Quarters with negative index returns are treated as down markets, and quarters with positive index returns are treated as up markets. Thus, in a 3 year or 12 quarter period, there might be 4 down quarters and 8 up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the up quarters. A simple arithmetic average of returns is calculated for the fund and the index based on the down quarters. The up market capture ratio is the ratio of the fund's return in up markets to the index. The down market capture ratio is the ratio of the fund's return in down markets to the index. Ideally, the fund would have a greater up market capture ratio than down market capture ratio.
- **Standard Deviation:** Standard deviation is a statistical measure of the range of performance within which the total returns of a fund fall. When a fund has a high standard deviation, the range of performance is very wide, meaning there is a greater volatility. Approximately 68% of the time, the total return of any given fund will differ from the average total return by no more than plus or minus the standard deviation figure. Ninety-five percent of the time, a fund's total return will be within a range of plus or minus two times the standard deviation from the average total return. If the quarterly or monthly returns are all the same the standard deviation will be zero. The more they vary from one another, the higher the standard deviation. Standard deviation can be misleading as a risk indicator for funds with high total returns because large positive deviations will increase the standard deviation without a corresponding increase in the risk of the fund. While positive volatility is welcome, negative is not.
- **R-Squared**: This reflects the percentage of a fund's movements that are explained by movements in its benchmark index. An R-squared of 100 means that all movements of a fund are completely explained by movements in the index. Conversely, a low R-squared indicates very few of the fund's movements are explained by movements in the benchmark index. R-squared can also be used to ascertain the significance of a particular beta. Generally, a higher R-squared will indicate a more reliable beta figure. If the R-squared is lower, then the beta is less relevant to the fund's performance. A measure of diversification, R-squared indicates the extent to which fluctuations in portfolio returns are explained by market. An R-squared = 0.70 implies that 70% of the fluctuation in a portfolio's return is explained by the fluctuation in the market. In this instance, overweighting or underweighting of industry groups or individual securities is responsible for 30% of the fund's movement.
- **Beta**: This is a measure of a fund's market risk. The beta of the market is 1.00. Accordingly, a fund with a 1.10 beta is expected to perform 10% better than the market in up markets and 10% worse that the market in down markets. It is important to note, however, a low fund beta does not imply the fund has a low level of volatility; rather, a low beta means only that the fund's market-related risk is low. Because beta analyzes the market risk of a fund by showing how responsive the fund is to the market, its usefulness depends on the degree to which the markets determine the fund's total risk (indicated by R-squared).
- **Alpha:** The Alpha is the nonsystematic return, or the return that can't be attributed to the market. It can be thought of as how the manager performed if the market's return was zero. A positive alpha implies the manager added value to the return of the portfolio over that of the market. A negative alpha implies the manager did not contribute any value over the performance of the market.
- **Sharpe Ratio:** The Sharpe ratio is the excess return per unit of total risk as measured by standard deviation. Higher numbers are better, indicating more return for the level of risk experienced. The ratio is a fund's return minus the risk-free rate of return (30-day T-Bill rate) divided by the fund's standard deviation. The higher the Sharpe ratio, the more reward you are receiving per unit of total risk. This measure can be used to rank the performance of mutual funds or other portfolios.
- **Treynor Ratio:** The Treynor ratio measures returns earned in excess of that which could have been earned on a riskless investment per each unit of market risk. The ratio relates excess return over the risk-free rate to the additional risk taken; however, systematic risk is used instead of total risk. The Treynor ratio is similar to the Sharpe ratio, except in the fact that it uses the beta to evaluate the returns rather than the standard deviation of portfolio returns. High values mean better return for risk taken.

- **Tracking Error:** Tracking error measures the volatility of the difference in annual returns between the manager and the index. This value is calculated by measuring the standard deviation of the difference between manager and index returns. For example, a tracking error of +/- 5 would mean there is about a 68% chance (1 standard deviation event) that the manager's returns will fall within +/- 5% of the benchmark's an return.
- **Information Ratio:** The information ratio is a measure of the consistency of excess return. This value is determined by taking the annualized excess return over a benchmark (style benchmark by default) and dividin the standard deviation of excess return.
- **Consistency:** Consistency shows the percent of the periods the fund has beaten the index and the percent of the periods the index has beat the fund. A high average for the fund (e.g., over 50) is desirable, indicating the fund has beaten the index frequently.
- **Downside Risk:** Downside risk is a measure similar to standard deviation but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. The higher the factor, the riskier the product.
- **M-Squared:** M-squared, or the Modigliani risk-adjusted performance measure is used to characterize how well a portfolio's return rewards an investor for the amount of risk taken, relative to that of some benchmark portfolio and to the risk-free rate.

DEFINITION OF KEY PRIVATE EQUITY TERMS

- **PIC (Paid in Capital):** The amount of committed capital that has been transferred from the limited partner to the general partner.
- **TVPI (Total Value to Paid in Capital):** Money returned to limited partners plus the fund's unrealized investments, divided by money paid-in to the partnership. The TVPI should equal RVPI plus DPI.
- **DPI (Distribution to Paid In Capital):** Money returned (distributions) to limited partners divided by money paid in to the partnership. Also called cash-on-cash multiple.
- **RVPI (Residual Value to Paid In Capital):** The value of a fund's unrealized investments divided by money paid-in to the partnership.
- **Internal rate of return (IRR):** This is the most appropriate performance benchmark for private equity investments. It is a time-weighted return expressed as a percentage. IRR uses the present sum of cash drawdowns (money invested), the present value of distributions (money returned from investments) and the current value of unrealized investments and applies a discount.
- **Commitment:** Every investor in a private equity fund commits to investing a specified sum of money in the fund partnership over a specified period of time. The fund records this as the limited partnership's capital commitment. The sum of capital commitments is equal to the size of the fund.
- **Capital Distribution:** These are the returns that an investor in a private equity fund receives. It is the income and capital realized from investments less expenses and liabilities. Once a limited partner has had their cost of investment returned, further distributions are actual profit. The partnership agreement determines the timing of distributions to the limited partner. It will also determine how profits are divided among the limited partners and general partner.
- **Carried Interest:** The share of profits that the fund manager is due once it has returned the cost of investment to investors. Carried interest is normally expressed as a percentage of the total profits of the fund.
- **Co-Investment**: Co-Investments are minority investments made alongside a private equity investor in an LBO, a recapitalization, or an expansion capital transaction. It is a passive, non-controlling investment, as the private equity firm involved will typically exercise control and perform monitoring functions.
- **General Partner (GP):** This can refer to the top-ranking partners at a private equity firm as well as the firm managing the private equity fund.
- **GP Commitments:** It is normal practice for the GP managing a private equity fund to also make a financial commitment to the fund on the same basis as the LPs in the fund, and this is seen as an important factor driving the alignment of GP and LP interests. The historic benchmark for GP commitments has been 1% of the total fund size, but this is by no means universal, and many GPs commit significantly larger amounts. Furthermore, there has been a marked trend towards GPs making larger commitments to their funds over recent years.
- **Leveraged Buy-Out (LBO):** The acquisition of a company using debt and equity finance.
- **Limited Partner (LP):** Institutions or high-net-worth individuals/sophisticated investors that contribute capital to a private equity fund.
- **Public Market Equivalent (PME):** Performance measure used to evaluate performance relative to the market. It is calculated as the ratio of the discounted value of the LP's inflows divided by the discounted value of outflows, with the discounting performed using realized market returns.
- **Primaries:** An original investment vehicle that invests directly into a company or asset.

VALUATION POLICY

Fiducient Advisors does not engage an independent third-party pricing service to value securities. Our reports are generated using the security prices provided by custodians used by our clients. Our custodial pricing hierarchy is available upon request. If a client holds a security not reported by the first custodian within the hierarchy, the valuation is generated from the next custodian within the hierarchy, and so forth. Each custodian uses pricing services from outside vendors, where the vendors may generate nominally different prices. Therefore, this report can reflect minor valuation differences from those contained in a custodian's report. In rare instances where FA overrides a custodial price, prices are taken from Bloomberg.

REPORTING POLICY

This report is intended for the exclusive use of the client listed within the report. Content is privileged and confidential. Any dissemination or distribution is strictly prohibited. Information has been obtained from a variety of sources believed to be reliable though not independently verified. Any forecast represents median expectations and actual returns, volatilities and correlations will differ from forecasts. Please note each client has customized investment objectives and constraints and the investment strategy for each portfolio is based on a client-specific asset allocation model. Past performance does not indicate future performance and there is a possibility of a loss. Performance calculated net of investment fees. Certain portfolios presented may be gross of Fiducient Advisors' fees and actual performance would be reduced by investment advisory fees. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice.

Custodian reports are the reports that govern the account. There will be different account values between Fiducient Advisors' reports and the custodian reports based on whether the report utilizes trade date or date to calculate value. Additionally, difference between values contained on reports may be caused by different accrued income values. Any forecasts represent future expectations and actual returns, volatilities and will differ from forecasts. This report does not represent a specific investment recommendation. Please consult with your advisor, attorney, and accountant, as appropriate, regarding specific advice. Past perfor not indicate future performance and there is a possibility of a loss.

Manager performance for mutual funds and ETFs is based on NAV and provided by Lipper. Performance for non-mutual fund or ETF investments is based on the returns provided by managers, calculations based on a manager statement, or calculations based on a statement or data from the client's custodian. Unless specified otherwise, all returns are net of individual manager fees, represent total returns and are annualized for periods greater than one year. The deduction of fees produces a compounding effect that reduces the total rate of return over time. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) $1,000,000 investment, (c) portfolio return of 8% a year, and (d) 0.50% annual investment advisory fee would be $5,228 in the first year, and cumulative effects of $30,342 over five years and $73,826 over ten years. Additional information on advisory fees charged by Fiducient Advisors are described in Part 2 of the Form ADV.

OTHER

By regulation, closed-end funds utilizing debt for leverage must report their interest expense, as well as their income tax expense, as part of their total expense ratio. To make for a useful comparison between closed-end funds and both open-end funds and exchange-traded funds, adjusted expense ratios excluding interest and income tax expenses are utilized for closed-end funds within this report. See disclosure on closed-end fund fact sheets for information regarding the total expense ratio of each closed-end fund.

Please advise us of any changes in your objectives or circumstances.

CUSTODIAN STATEMENTS

Please remember to review the periodic statements you receive from you custodian. If you do not receive periodic statements from your custodian or notice issues with the activity reported in those statements, please contact FA or your custodian immediately.