



**YOUNGSTOWN  
STATE  
UNIVERSITY**

**BOARD OF TRUSTEES  
INVESTMENT COMMITTEE  
Allen L. Ryan, Jr., Chair  
Charles T. George, Vice Chair  
All Trustees are Members**

**Wednesday, March 1, 2023  
10:30 a.m. or immediately following  
previous meeting**

**Board Room  
Tod Hall**

**AGENDA**

- A. Disposition of Minutes for Meeting**
- B. Old Business**
- C. Committee Items**

**1. Discussion Items**

- C.1.a. = Tab 1      a. Annual Disclosure of Trustee Relationships with University-Affiliated Financial Institutions**  
Neal McNally, Vice President for Finance and Business Operations, will report.
- C.1.b. = Tab 2      b. March 1, 2023 Quarterly Portfolio Asset Allocation and Investment Performance Review**  
John Colla, Clearstead, will report.

**2. Action Items**

- C.2.a. = Tab 3      a. Resolution to Approve an Outsourced Chief Investment Officer Investment Strategy**  
John Colla, Clearstead, will report.
- C.2.b. = Tab 4      b. Resolution to Approve the Addition of an Investment Manager for the Non-Endowed Long-Term Investment Pool**  
John Colla, Clearstead, will report.
- C.2.c. = Tab 5      c. Resolution to Approve Clearstead's Recommendation to Rebalance the Non-Endowment Long-Term Investment Pool**  
John Colla, Clearstead, will report.

**D. New Business**

**E. Adjournment**



**Disclosure of Relationships with University-Affiliated Financial Institutions**

(Updated January 31, 2023)

In accordance with Youngstown State University policy 3356-3-10, *Investment of the University's Non-Endowment and Endowment Funds*, members of the Board of Trustees are required to disclose relationships, beyond the ordinary customer relationships, with the financial institutions involved with the University's non-endowment and endowment funds. Please disclose the nature of any relationships with the institutions listed below.

The financial institutions involved with the Non-Endowment Funds are as follows:

- Clearstead \_\_\_\_\_
- Diamond Hill \_\_\_\_\_
- Dimensional Fund Advisors (DFA) \_\_\_\_\_
- Dodge & Cox \_\_\_\_\_
- Evanston Capital \_\_\_\_\_
- Federated \_\_\_\_\_
- H.I.G. Capital \_\_\_\_\_
- J.P. Morgan \_\_\_\_\_
- Loomis Sayles \_\_\_\_\_
- Lord Abbett \_\_\_\_\_
- PNC \_\_\_\_\_
- Prudential Global Investment Management (PGIM) \_\_\_\_\_
- State Treasury Asset Reserve of Ohio (STAR Ohio) \_\_\_\_\_
- Vanguard \_\_\_\_\_
- Victory \_\_\_\_\_
- Wells Fargo \_\_\_\_\_
- William Blair \_\_\_\_\_
- I have no business or familial relationship with the above institutions that require disclosure

The Financial Institutions involved with the Endowment Funds are as follows:

- Clearstead \_\_\_\_\_
- Huntington National Bank \_\_\_\_\_
- PNC \_\_\_\_\_
- Vanguard \_\_\_\_\_
- I have no business or familial relationship with the above institutions that require disclosure

SIGNED: \_\_\_\_\_ DATED: \_\_\_\_\_

*For audit and compliance purposes, please email completed form to [npmcnally@ysu.edu](mailto:npmcnally@ysu.edu), or send to YSU, Tod Hall 223, Office of the Vice President for Finance & Business Operations, by June 30, 2023.*



*March 1, 2023*

# **YOUNGSTOWN STATE UNIVERSITY**



*1100 Superior Avenue East Suite 700  
Cleveland, Ohio 44114  
216.621.1090 | [clearstead.com](http://clearstead.com)*

# CLEARSTEAD OVERVIEW

**\$26+ BILLION**  
ASSETS UNDER ADVISEMENT\*

**1989**  
YEAR ESTABLISHED

**130+**  
NUMBER OF EMPLOYEES

## PRIVATE WEALTH MANAGEMENT

**Comprehensive Services:**  
Financial & Estate Planning  
Tax Strategy & Compliance  
Investment Advisory  
Family Office Administration  
Clearstead Trust

*clearsight*

## INVESTMENT OFFICE

**Thought Leadership:**  
**Quarterly Market Updates**  
Research Corner  
ClearPoint  
Market Minute  
Clearstead Investment Forum Podcast

*clearaccess.*

## INSTITUTIONAL INVESTMENT CONSULTING

**Customized Services:**  
Investment Advisory  
Fiduciary Services  
Governance & Oversight  
Retirement Plan Consulting  
**eVestech Client Portal**

**PRISM**

## SUSTAINABLE CLEARSTEAD

EMPOWERHER  
clearstead





\*Approximate as of 12/31/2022.



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# INSIGHTS & NEWS

PUBLICATIONS	PODCAST & VIDEOS	PR, AWARDS & INITIATIVES
<p><b>CLEARPOINT</b></p> <p><a href="#">Implementing an Investment Plan: Is Timing a Critical Component?</a></p> <p><a href="#">Behavioral Finance Can Create Calm Out of Difficult Markets</a></p> <p><a href="#">Where's the Income?</a></p> <p><b>RESEARCH CORNER</b></p> <p><a href="#">Weekly Updates from our Investment Office</a></p> <p><b>MARKET UPDATES</b></p> <p><a href="#">Update: FTX</a></p> <p><b>MARKET MINUTE</b></p> <p><a href="#">Review of September 2022</a></p> <p><a href="#">Review of October 2022</a></p> <p><a href="#">Review of November 2022</a></p> <p><a href="#">Review of December 2022</a></p>	 <p>Episode 9: <a href="#">Staying in the Game: Women In Venture Capital</a></p> <p><b>VIDEOS</b></p> <p><a href="#">4Q22 Quarterly Insights About Clearstead</a></p> <p><a href="#">Private Wealth Management</a></p> <p><a href="#">Institutional Investment Consulting</a></p> <p><a href="#">The Investment Office</a></p>	<p><b>PR</b></p> <p><a href="#">Investing in Clients: Clearstead Advisors, LLC to Launch Virtual Client Hub with eVestech</a></p> <p><b>AWARD</b></p> <p><a href="#">2021 NAPA Top DC Advisor Teams*</a></p>  <p><b>INITIATIVE</b></p> <p><a href="#">Sustainable Clearstead 2022 Impact Report</a></p>

\*Clearstead responded to a survey from the sponsoring organization and did not pay a fee to be considered for the award. Third-party rankings and recognitions are no guarantee of future investment success and do not ensure that a client or prospective client will experience a higher level of performance results. These rankings are from an independent third-party organization and should not be construed as an endorsement of the advisor by any organization.

# CONTENTS

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1. Fiduciary Oversight Model: Discretion (OCIO) vs. Non-Discretion **(ACTION)**
2. Initiatives
3. Capital Markets Update
4. Non-Endowment Assets: Performance & Asset Allocation Review
  - Real Assets: Infrastructure Manager Recommendation **(ACTION)**
  - Portfolio Recommendations **(ACTION)**

## APPENDIX

Endowment Assets: Performance & Asset Allocation Review

Supporting Information



**FIDUCIARY OVERSIGHT MODEL:  
DISCRETION (OCIO) VS. NON-DISCRETION**



# EXECUTIVE SUMMARY

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The current investment structure that exists today between Clearstead and Youngstown State is considered non-discretion. This has worked well over the years and has led to successful investment results.

At the request of the Board, Clearstead brought education to the Investment Committee and Board about types of Fiduciary service models – discretion (outsourced chief investment officer, “OCIO”) and non-discretion – and the differences in roles and responsibilities between them.

A discretionary service model would allow Clearstead to act more nimbly, rebalancing the portfolio and entering into new investment strategies when their firm believes is optimal, rather than wait until the next Board meeting for approval. Clearstead would continue to operate within the policy and asset allocation guidelines set by the Board.

Another difference between the service models is fees, as a discretionary (OCIO) assignment often comes with higher fees compared to a non-discretionary assignment. Clearstead values its partnership with YSU and **would not** pursue a change to the current fee structure.

The University evolving its partnership with Clearstead to a discretionary service model would delegate portfolio implementation to Clearstead as well as not change fees, an attractive solution for the Board’s consideration.

# EXECUTIVE SUMMARY (CONTINUED)

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Tasks completed and next steps for the Board:

- Clearstead present education on different Fiduciary service models **(COMPLETED)**
- Clearstead to gather Committee feedback / questions and follow up with responses **(COMPLETED)**
- Board decision on evolving the investment structure with Clearstead to a discretionary assignment **(ACTION)**
- If Approved:
  - Clearstead would work with University stakeholders to update the investment advisory agreement to reflect a level of discretionary authority
  - Clearstead would review and recommend changes to the Investment Policy and guidelines to update roles and responsibilities
  - Clearstead would work with University stakeholders to be granted trading authority at PNC Bank (University's primary custodian) and any other custodians/managers (no authority for external cash movements will be given to Clearstead)

 **clearstead**    **INITIATIVES**

# 2023 CALENDAR YEAR INITIATIVES

		1Q	2Q	3Q	4Q	COMMENTS:
STRATEGIC / ADMINISTRATIVE	Investment Policy Review		<input type="checkbox"/>			Potential Updates with Discretion Decision
	Strategic Asset Allocation Review			<input type="checkbox"/>		
	Peer Review		<input type="checkbox"/>			
	2024 Oversight Dashboard				<input type="checkbox"/>	
	STAR Ohio/Plus Annual Review			<input type="checkbox"/>		
PORTFOLIO	Fixed Income Review		<input type="checkbox"/>			
	Alternative Investments Review					March '23: Real Assets
	Global Equity Review				<input type="checkbox"/>	
	Invnt Manager Recommendation	✓				Infrastructure Manager Recommendation
PERFORMANCE	Capital Markets Review	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Quarterly Performance Review	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Endowed Account Review / Oversight	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OTHER	Fee Review			<input type="checkbox"/>		
	ORC Compliance Review			<input type="checkbox"/>		
	Clearstead Firm Update	✓				
	Investment Structure Review	✓				

**LAST REVIEWED**

Investment Policy: 03/02/2022

Strategic Asset Allocation: 03/02/2022

Fee Review: 09/20/2022

**MEETING SCHEDULE**

1Q: March 1, 2023

2Q: June 21, 2023

3Q: September 19, 2023

4Q: December 6, 2023



## **CAPITAL MARKETS UPDATE**

# QUARTERLY THEMES

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## WHAT HAPPENED LAST QUARTER?

- Both equity and fixed income markets were volatile throughout the quarter influenced by interest rate movements, inflation trending lower, and a potential recession, though ended the year recouping some losses
- International markets which lagged U.S. throughout most of the year, outperformed during the quarter
  - Quarter: S&P 500 +7.6%; MSCI EAFE +17.3%; MSCI Emerging Markets +9.7%
  - YTD: S&P 500 -18.1%; MSCI EAFE -14.5%; MSCI Emerging Markets -20.1%
- The Bloomberg Aggregate returned +1.9% for the quarter; 2022 was one of the most challenging periods for fixed income
- The global economy showed signs of modest strengthening during the quarter compared to first three quarters

## LOOKING FORWARD:

- A recession is likely to be a process, not an event
- Markets continue to evaluate the earnings impact of the slowdown. Our base case scenario is any recession will be mild/shallow and corporate earnings will be moderately impacted
- Volatility is likely to remain elevated
- The Federal Reserve will enter a hawkish deceleration phase as it monitors inflation and economic data, and may be approaching their destination
- Yield environment is creating improved prospects for future fixed income returns
- Understanding liquidity needs is important in what is expected to be a volatile year

Source: Clearstead, Federal Reserve, Bloomberg LP. As of 12/31/2022. Past performance is not an indicator of future results.

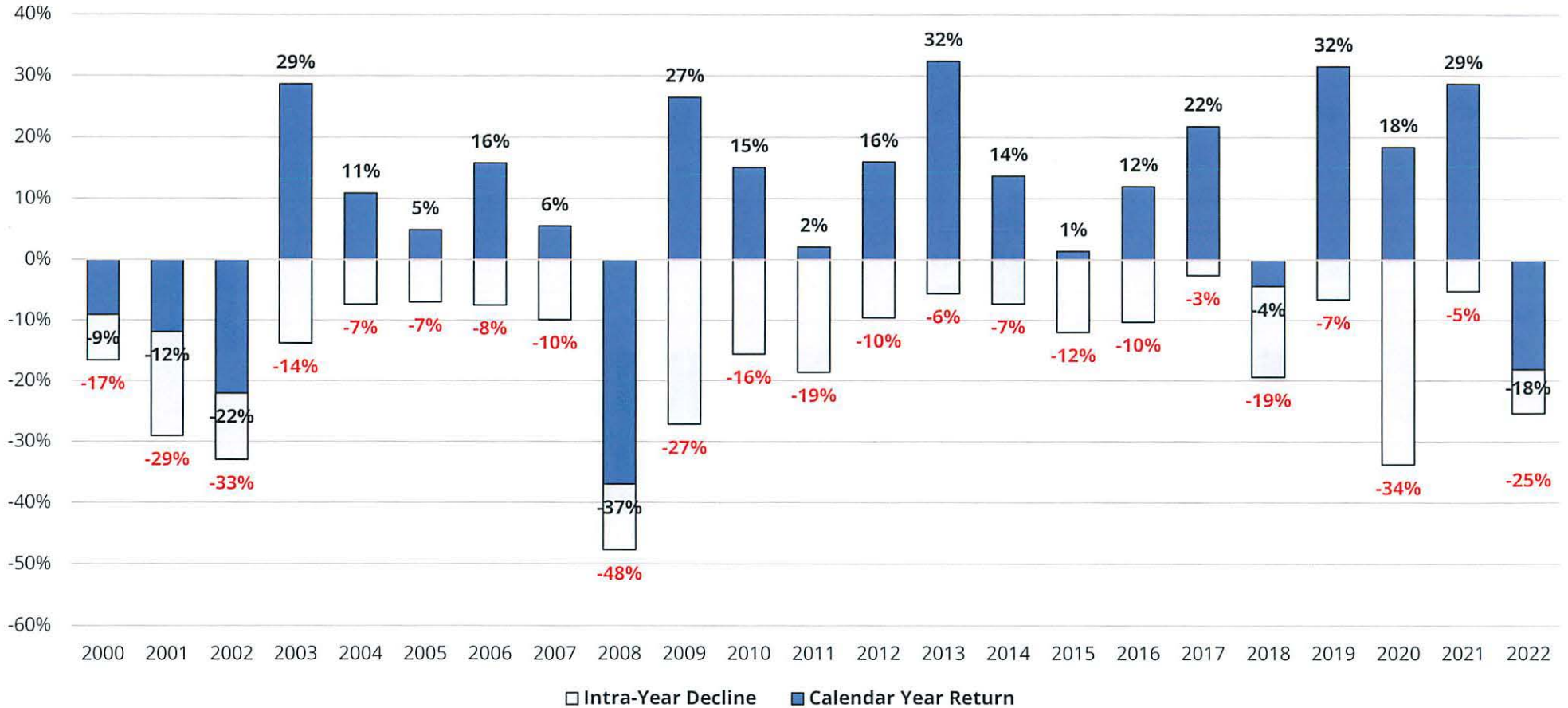
# HISTORICAL ASSET CLASS RETURNS

2013	2014	2015	2016	2017	2018	2019	2020	2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	2022
Sm/Mid 36.8%	Large Cap 13.7%	Large Cap 1.4%	Sm/Mid 17.6%	Em Mkt 37.3%	Cash 1.9%	Large Cap 31.5%	Sm/Mid 20.0%	Large Cap 28.7%	Cash 0.0%	Cash 0.1%	Hdg Fnds 0.7%	Dev Intl 17.3%	Cash 1.5%
Large Cap 32.4%	Sm/Mid 7.1%	US Bonds 0.6%	Hi Yld 17.5%	Dev Intl 25.0%	US Bonds 0.0%	Sm/Mid 27.8%	Large Cap 18.4%	Sm/Mid 18.2%	Hdg Fnds -2.7%	Hdg Fnds -3.6%	Cash 0.5%	Em Mkt 9.7%	Hdg Fnds -4.7%
Dev Intl 22.8%	US Bonds 6.0%	Cash 0.1%	Large Cap 12.0%	Large Cap 21.8%	Glb Bond -0.9%	Dev Intl 22.0%	Em Mkt 18.3%	Dev Intl 11.3%	Hi Yld -4.5%	US Bonds -4.7%	Hi Yld -0.7%	Large Cap 7.6%	Hi Yld -11.2%
Hdg Fnds 9.0%	Hdg Fnds 3.4%	Hdg Fnds -0.3%	Em Mkt 11.2%	Sm/Mid 16.8%	Hi Yld -2.3%	Em Mkt 18.4%	Hdg Fnds 10.9%	Hdg Fnds 6.5%	Large Cap -4.6%	Hi Yld -10.0%	Sm/Mid -2.8%	Sm/Mid 7.4%	US Bonds -13.0%
Hi Yld 7.4%	Hi Yld 2.5%	Dev Intl -0.8%	US Bonds 2.7%	Glb Bond 9.3%	Hdg Fnds -4.0%	Hi Yld 14.4%	Glb Bond 9.5%	Hi Yld 5.4%	Sm/Mid -5.8%	Glb Bond -11.4%	US Bonds -4.8%	Glb Bond 6.9%	Dev Intl -14.5%
Cash 0.1%	Cash 0.0%	Sm/Mid -2.9%	Glb Bond 1.9%	Hdg Fnds 7.8%	Large Cap -4.4%	US Bonds 8.8%	Dev Intl 7.8%	Cash 0.1%	Dev Intl -5.9%	Em Mkt -11.5%	Large Cap -4.9%	Hi Yld 4.0%	Large Cap -18.1%
US Bonds -2.0%	Em Mkt -2.2%	Hi Yld -4.6%	Dev Intl 1.0%	Hi Yld 7.5%	Sm/Mid -10.0%	Hdg Fnds 8.4%	US Bonds 7.5%	US Bonds -1.5%	US Bonds -5.9%	Dev Intl -14.5%	Glb Bond -9.1%	Hdg Fnds 2.4%	Sm/Mid -18.4%
Em Mkt -2.6%	Glb Bond -2.8%	Glb Bond -4.8%	Hdg Fnds 0.5%	US Bonds 3.5%	Dev Intl -13.8%	Glb Bond 5.0%	Hi Yld 6.2%	Em Mkt -2.5%	Glb Bond -6.5%	Large Cap -16.1%	Dev Intl -9.4%	US Bonds 1.9%	Glb Bond -19.6%
Glb Bond -4.9%	Dev Intl -4.5%	Em Mkt -14.9%	Cash 0.3%	Cash 0.9%	Em Mkt -14.6%	Cash 2.3%	Cash 0.5%	Glb Bond -8.2%	Em Mkt -7.0%	Sm/Mid -17.0%	Em Mkt -11.6%	Cash 0.9%	Em Mkt -20.1%

Past performance is not an indicator of future results. Asset classes represented by: Large Cap – S&P 500 Index; Sm/Mid – Russell 2500 Index; Dev Intl – MSCI EAFE Index; Em Mkt – MSCI Emerging Markets Index; Hi Yld – Bank of America Merrill Lynch U.S. High Yield Master II; US Bonds – Barclays Capital U.S. Aggregate; Glb Bond – Barclays Capital Global Treasury ex US; Hdg Fnds – HFRI FOF: Diversified Index; Cash – Merrill Lynch 91-day Tbill. Data as of 12/31/2022. Source: Morningstar Direct.

# DRAWDOWNS ARE NORMAL

## S&P 500 CALENDAR YEAR RETURNS AND INTRA-YEAR DRAWDOWNS



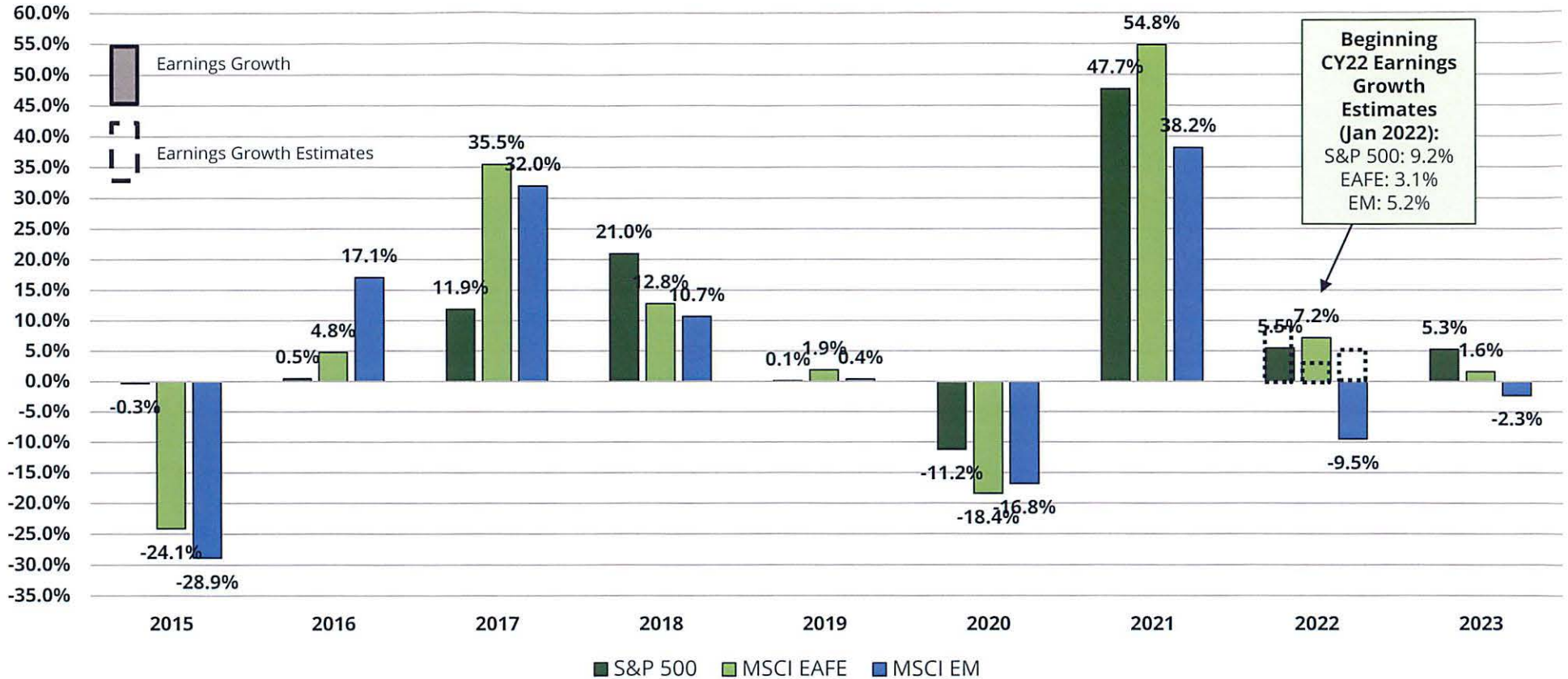
**Since 2000: Average Calendar Year Return: +7.9%, Average Intra-Year Drawdown: -16.1%**

Source: Clearstead, Bloomberg LP, as of 12/31/2022. Red figures are peak-to-trough largest intra-year decline, Black figures are calendar year total returns. Performance data shown represents past performance. Past performance is not an indicator of future results. Current performance data may be lower or higher than the performance data presented. Performance data is represented by indices, which cannot be invested in directly.



# GLOBAL EARNINGS OUTLOOK

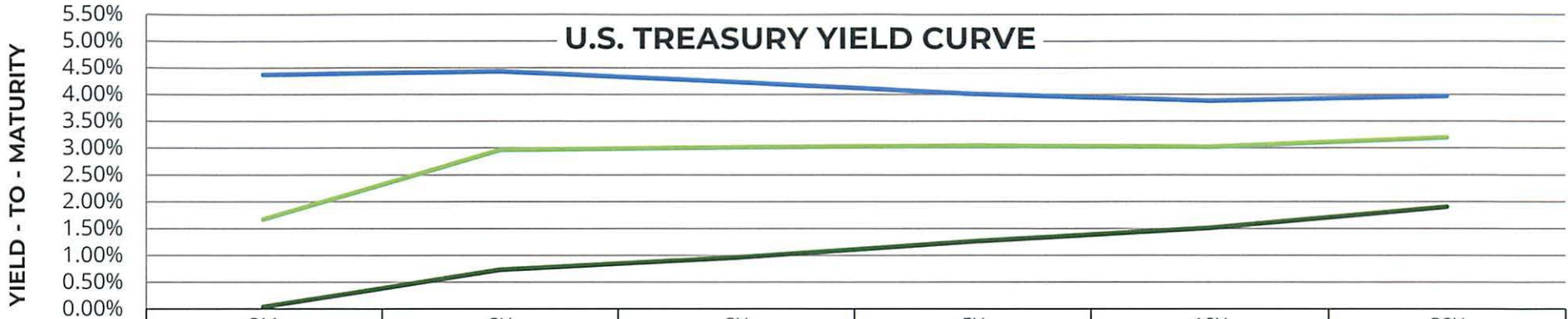
## EARNINGS OUTLOOK BY YEAR



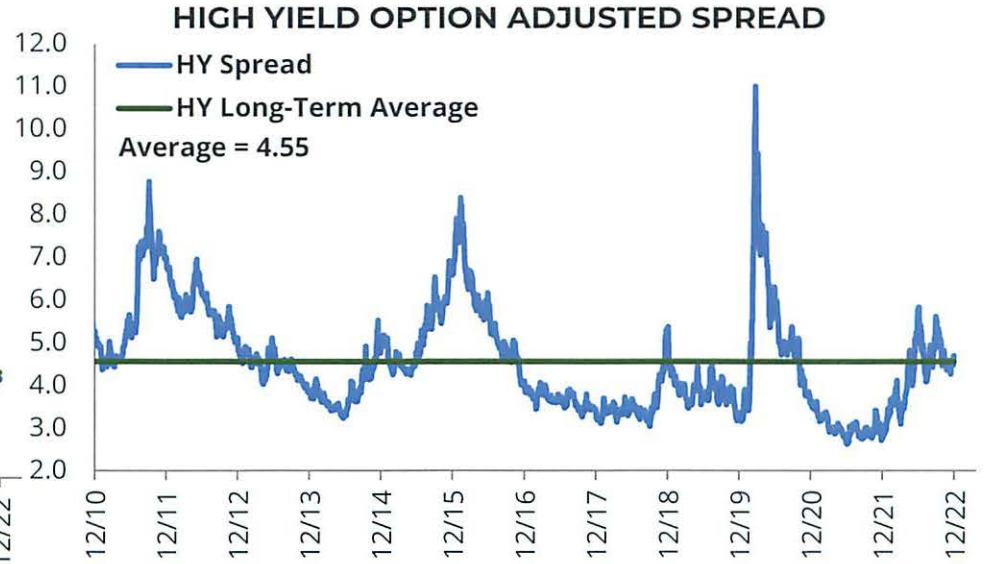
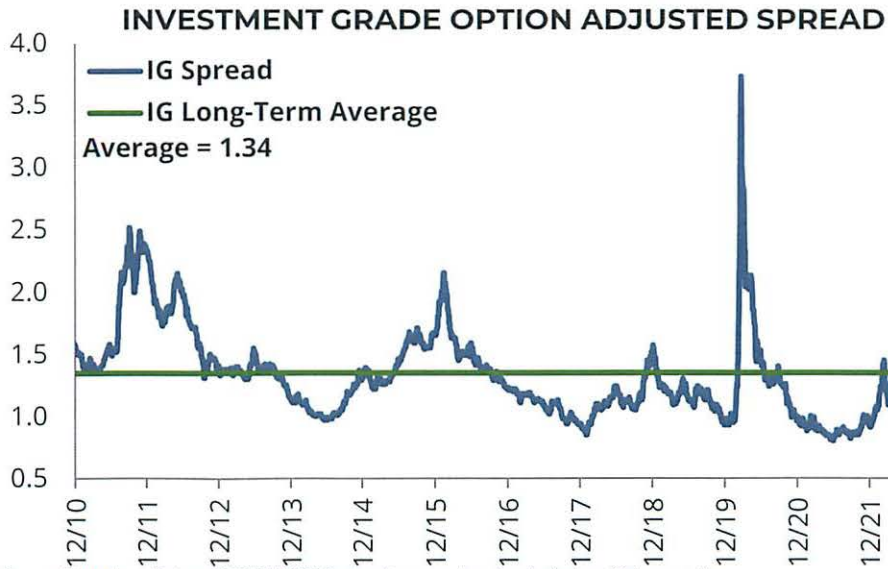
- Earnings expectations are beginning to soften for CY2023 as analysts downgrade their expectations; CY2023 U.S. EPS growth estimates have been reduced the least
- Expectations for EM markets have eroded the most in the face of heightened energy costs, global monetary tightening, and the slowdown in the Chinese economy (CY2022 EM earnings ex Russia would be approximately -3%)

Source: Bloomberg, FactSet, Goldman Sachs.  
Data as of 12/31/2022.

# FIXED INCOME: YIELD CURVE AND CREDIT SPREADS



	3M	2Y	3Y	5Y	10Y	30Y
12/31/2021	0.04%	0.73%	0.96%	1.26%	1.51%	1.90%
6/30/2022	1.67%	2.96%	3.01%	3.04%	3.02%	3.19%
12/31/2022	4.37%	4.43%	4.23%	4.01%	3.88%	3.97%
YTD Change	4.33%	3.70%	3.27%	2.75%	2.37%	2.07%



Source: Bloomberg. Data as of 12/31/2022. Past performance is not an indicator of future results.

# MARKETS PERFORMANCE: JANUARY UPDATE

- January was a broadly positive month for risk assets; China and non-U.S. equities surge
- In equity markets, developed international fared best; U.S. small caps led large cap as growth-oriented indices outperformed value indices
- In fixed income, high-yield outperformed
- U.S. rates fell during the month and the yield curve inverted further; U.S. 10-year yield fell from 3.9% to approximately 3.5%—moving about 40bps lower
  - Risk-on rally spurred by narrative of Fed slowing hikes, China re-opening post-COVID-19, and a soft-landing narrative gaining momentum

MARKET	Q1	Q2	Q3	Q4	Jan	Trend
S&P 500	-4.6%	-16.1%	-4.9%	7.6%	6.3%	
Russell 2000	-7.5%	-17.2%	-2.2%	6.2%	9.7%	
MSCI EAFE	-5.9%	-14.5%	-9.4%	17.3%	8.1%	
MSCI EM	-7.0%	-11.5%	-11.6%	9.7%	7.9%	
MSCI China	-14.2%	3.4%	-22.5%	13.5%	11.8%	
MSCI ACWI	-5.3%	-15.5%	-6.7%	9.9%	7.2%	
Bloomberg US Agg Bond	-5.9%	-4.7%	-4.8%	1.9%	3.1%	
Bloomberg High Yield Bond	-4.8%	-9.8%	-0.7%	4.2%	3.8%	
Bloomberg Muni Bond	-6.2%	-2.9%	-3.5%	4.1%	2.9%	

Source: Bloomberg 1/31/2023  
Past performance is not an indicator of future results.



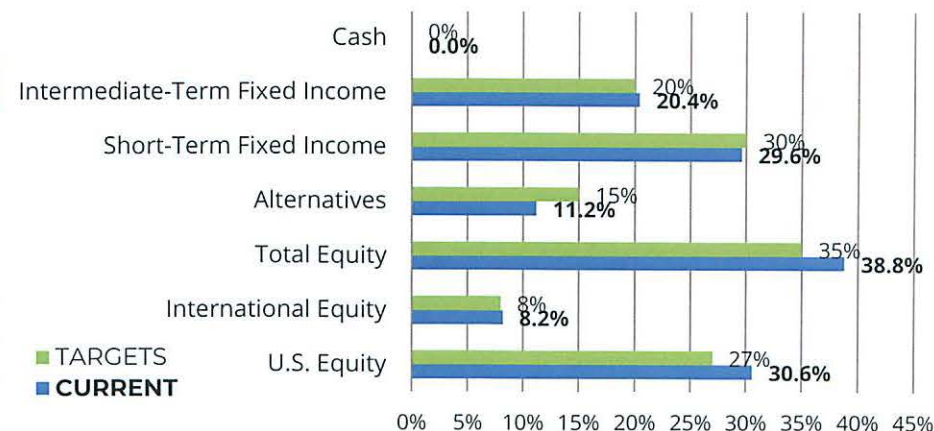
**NON-ENDOWMENT ASSETS:  
PERFORMANCE & ASSET ALLOCATION  
REVIEW**

# NON-ENDOWMENT PERFORMANCE REVIEW (AS OF 12/31/2022)

NON-ENDOWMENT ASSETS	MARKET VALUE (\$MM)	TRAILING PERIODS								CALENDAR YEARS			SINCE INCEPTION <sup>4</sup>
		QTD	CYTD	1 YR	2 YR	3 YR	5 YR	7 YR	10 YR	2021	2020	2019	
<b>Total Non-Endowment Assets</b>	\$73.026	<b>3.0%</b>	-7.9%	-7.9%	-0.3%	<b>2.8%</b>	<b>3.6%</b>	<b>4.3%</b>	<b>3.8%</b>	<b>7.8%</b>	<b>9.5%</b>	<b>11.5%</b>	<b>3.8%</b>
<i>Benchmark<sup>1</sup></i>		2.7%	-4.7%	-4.7%	-0.3%	1.7%	2.6%	3.0%	2.7%	4.3%	5.9%	8.7%	2.9%
<b>Operating &amp; Short-Term Pool</b>	\$13.561	<b>1.0%</b>	<b>1.6%</b>	<b>1.6%</b>	<b>0.8%</b>	<b>0.9%</b>	<b>1.4%</b>	<b>1.1%</b>	<b>0.8%</b>	<b>0.0%</b>	<b>1.1%</b>	<b>2.4%</b>	<b>0.7%</b>
<i>Benchmark<sup>2</sup></i>		0.8%	1.2%	1.2%	0.6%	0.7%	1.2%	1.0%	0.7%	0.0%	0.8%	2.3%	0.6%
<b>Long-Term Pool</b>	\$59.465	<b>4.4%</b>	-11.3%	-11.3%	-1.5%	<b>1.8%</b>	<b>3.3%</b>	<b>4.5%</b>	<b>4.4%</b>	<b>9.5%</b>	<b>8.8%</b>	<b>15.3%</b>	<b>4.5%</b>
<i>Benchmark<sup>3</sup></i>		4.2%	-9.7%	-9.7%	-1.3%	2.3%	3.6%	4.6%	4.3%	8.0%	10.0%	14.2%	4.2%

## LONG-TERM POOL ASSET ALLOCATION

	CURRENT	TARGETS	RANGE	+ / -
<b>U.S. Equity</b>	30.6%	27%	20-35%	3.6%
<b>International Equity</b>	8.2%	8%	0-15%	0.2%
<b>Total Equity</b>	38.8%	35%	25-45%	3.8%
<b>Alternatives</b>	11.2%	15%	0-20%	-3.8%
<b>Short-Term Fixed Income</b>	29.6%	30%	25-45%	-0.4%
<b>Intermediate-Term Fixed Income</b>	20.4%	20%	10-30%	0.4%
<b>Cash</b>	0.0%	0%	0-5%	0.0%



1) 45% BofA Merrill Lynch 91-Day T-Bill / 17% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 11% BBgBarc US Govt/Credit Int TR / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE.

2) 95% BofA Merrill Lynch 91-Day T-Bill / 5% Barclays 1-3 Yr. Govt.

3) 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% BofA Merrill Lynch US Corp & Gov 1-3 Yrs / 20% BBgBarc US Govt/Credit Int TR.

4) Inception date for Long-Term and Short-Term Pools: June 2010, Inception Date for Total Non-Endowment Assets: March 2004.

# OPERATING & SHORT-TERM POOL INVESTMENTS

	Ticker	Account Type	Begin Market Value \$	Market Value 12/31/2022	% of Portfolio
<b>Total Operating &amp; Short Term</b>			<b>\$32,360,317</b>	<b>\$13,560,592</b>	<b>100.0</b>
Federated Hermes Government Obligations Fund	GOIXX	Cash	\$32,186,155	\$13,467,679	99.3
JPMorgan 100% U.S. Tr Sec MM Inst	JTSXX	Cash	\$82,258	\$165	0.0
STAR Ohio		Cash	\$91,903	\$92,748	0.7

The market value of the University's Operating & Short-Term Reserve Pool fluctuates quarter-over-quarter with operational cash flow, as depicted above.

Current yields for investments are:

- Federated Hermes Government Obligations Fund: **4.37%**
- JPMorgan 100% U.S. Treasury Securities Money Market: **4.27% (residual balance moved into Federated)**
- STAR Ohio: **4.89%**

# LONG-TERM POOL PERFORMANCE REVIEW: JANUARY UPDATE

	Market Value 01/01/2023	Market Value 01/31/2023	% of Pool	1 Mo (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	Inception (%)	Inception Date
<b>Total University Assets</b>	<b>\$73,034,196</b>	<b>\$95,368,656</b>	<b>100.0</b>	<b>3.2</b>	<b>-2.6</b>	<b>4.0</b>	<b>3.9</b>	<b>4.0</b>	<b>Apr-04</b>
<i>Total Policy Benchmark<sup>1</sup></i>				2.0	-1.2	2.3	2.8	3.0	
<b>Total Operating &amp; Short Term</b>	<b>\$13,560,592</b>	<b>\$33,560,620</b>	<b>100.0</b>	<b>0.0</b>	<b>1.6</b>	<b>0.8</b>	<b>1.4</b>	<b>0.7</b>	<b>Jul-10</b>
<i>Total Operating &amp; Short Term Benchmark<sup>2</sup></i>				0.3	1.6	0.7	1.3	0.6	
JPMorgan 100% U.S. Tr Sec MM Inst	\$165	-	0.0	0.3	1.7	0.7	1.1	0.6	Oct-11
<i>90 Day U.S. Treasury Bill</i>				0.3	1.8	0.8	1.3	0.7	
Federated Hermes Government Obligations Fund	\$13,467,679	\$33,467,513	100.0	0.3	1.7	0.6	1.0	1.4	Oct-21
<i>90 Day U.S. Treasury Bill</i>				0.3	1.8	0.8	1.3	1.4	
STAR Ohio	\$92,748	\$93,107	0.0	0.4	2.1	0.9	-	1.4	Jul-18
<i>90 Day U.S. Treasury Bill</i>				0.3	1.8	0.8	1.3	1.3	
<b>Total Long Term/ Reserves Pool</b>	<b>\$59,473,604</b>	<b>\$61,808,035</b>	<b>100.0</b>	<b>3.9</b>	<b>-4.8</b>	<b>3.2</b>	<b>3.7</b>	<b>4.8</b>	<b>Jul-10</b>
<i>Total Long Term/ Reserves Fund Benchmark<sup>3</sup></i>				3.5	-3.8	3.4	4.0	4.6	
<b>Total Equity</b>	<b>\$23,056,524</b>	<b>\$24,720,671</b>	<b>40.0</b>	<b>7.2</b>	<b>-6.3</b>	<b>9.0</b>	<b>7.6</b>	<b>11.8</b>	<b>Jul-10</b>
<b>Total Domestic Equity</b>	<b>\$18,169,862</b>	<b>\$19,431,624</b>	<b>31.5</b>	<b>6.9</b>	<b>-6.2</b>	<b>10.0</b>	<b>9.1</b>	<b>13.4</b>	<b>Jul-10</b>
<i>Russell 3000 Index</i>				6.9	-8.2	9.5	9.1	13.5	
Vanguard Institutional Index	\$11,773,488	\$12,512,923	20.2	6.3	-8.2	9.9	9.5	13.7	Jul-10
<i>S&amp;P 500 Index</i>				6.3	-8.2	9.9	9.5	13.7	
Vanguard Mid Cap Index Adm	\$3,027,372	\$3,268,152	5.3	8.0	-4.8	9.0	8.0	11.9	Oct-10
<i>Vanguard Mid Cap Index Benchmark</i>				8.0	-4.7	9.0	8.1	11.9	
Loomis Sayles Sm Growth N	\$1,663,983	\$1,794,505	2.9	7.8	-4.1	6.8	8.3	8.0	Sep-19
<i>Russell 2000 Growth Index</i>				9.9	-6.5	4.3	4.7	6.4	
Victory Integrity Small Value Y	\$1,705,019	\$1,856,044	2.9	8.9	4.3	12.9	6.1	10.7	Oct-10
<i>Russell 2000 Value Index</i>				9.5	-0.5	9.9	5.8	9.8	
<b>Total International Equity</b>	<b>\$4,886,661</b>	<b>\$5,289,048</b>	<b>8.5</b>	<b>8.2</b>	<b>-6.9</b>	<b>5.6</b>	<b>2.3</b>	<b>5.1</b>	<b>Oct-10</b>
<i>MSCI EAFE (Net)</i>				8.1	-2.8	4.3	2.1	5.2	
William Blair International Growth I	\$2,142,607	\$2,310,753	3.7	7.8	-12.7	3.9	2.4	6.8	Jul-12
<i>MSCI AC World ex USA (Net)</i>				8.1	-5.7	3.6	1.4	5.6	
Dodge & Cox Internat'l Stock	\$2,744,054	\$2,978,295	4.8	8.5	-1.8	6.5	1.7	5.4	Oct-10
<i>MSCI EAFE (Net)</i>				8.1	-2.8	4.3	2.1	5.2	

# LONG-TERM POOL PERFORMANCE REVIEW: JANUARY UPDATE

	Market Value 01/01/2023	Market Value 01/31/2023	% of Pool	1 Mo (%)	1 Yr (%)	3 Yr (%)	5 Yr (%)	Inception (%)	Inception Date
<b>Total Alternatives</b>	<b>\$6,673,244</b>	<b>\$6,797,431</b>	<b>11.0</b>	<b>1.9</b>	<b>-3.5</b>	<b>-0.9</b>	<b>0.1</b>	<b>1.1</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark<sup>4</sup></i>				2.5	-0.4	2.6	2.7	2.7	
Weatherlow Offshore Fund I Ltd CI IIA	\$4,471,886	\$4,597,098	7.4	2.8	-2.6	6.9	5.7	-5.1	Jul-21
<i>HFRI Fund of Funds Composite Index</i>				2.5	-0.4	4.4	3.0	-1.2	
H.I.G. Whitehorse Principal Lending Offshore Feeder Fd, L.P.	\$2,201,358	\$2,200,333	3.6	0.0	-	-	-	1.8	Jul-22
<i>Credit Suisse Leveraged Loan Index</i>				2.6	1.1	3.0	3.5	6.2	
<b>Total Fixed Income</b>	<b>\$29,734,356</b>	<b>\$30,279,394</b>	<b>49.0</b>	<b>1.8</b>	<b>-3.9</b>	<b>-0.3</b>	<b>1.6</b>	<b>1.8</b>	<b>Jul-10</b>
<i>Total Fixed Income Benchmark<sup>5</sup></i>				1.2	-3.4	-0.6	1.2	1.4	
JPMorgan Core Bond	\$4,958,462	\$5,129,364	8.3	3.4	-7.8	-1.8	1.2	0.9	Sep-17
<i>Blmbg. U.S. Aggregate Index</i>				3.1	-8.4	-2.3	0.9	0.6	
YSU Intermediate Term Bond	\$4,220,753	\$4,308,636	7.0	2.1	-4.7	-0.6	1.7	3.1	Apr-04
<i>Blmbg. Intermed. U.S. Government/Credit</i>				1.9	-5.1	-1.1	1.3	2.8	
PGIM High Yield R6	\$2,947,261	\$3,050,095	4.9	3.5	-6.1	1.1	3.2	4.1	Jan-17
<i>Blmbg. U.S. Corp: High Yield Index</i>				3.8	-5.2	1.3	3.0	3.7	
YSU Short Term Bond	\$12,479,880	\$12,590,504	20.4	0.9	-1.7	0.0	1.4	2.1	Apr-04
<i>ICE BofA 1-3 Yr. Gov/Corp</i>				0.8	-2.4	-0.3	1.1	2.0	
Lord Abbett Short Duration Income I	\$5,128,000	\$5,200,795	8.5	1.4	-2.7	0.1	1.6	1.7	Apr-18
<i>ICE BofA 1-3 Yr. Gov/Corp</i>				0.8	-2.4	-0.3	1.1	1.2	
<b>Total Cash &amp; Cash Equivalents</b>	<b>\$9,481</b>	<b>\$10,539</b>	<b>0.0</b>	<b>0.3</b>	<b>2.0</b>	<b>0.7</b>	<b>-</b>	<b>0.9</b>	<b>Apr-18</b>
<i>90 Day U.S. Treasury Bill</i>				0.3	1.8	0.8	1.3	1.3	
PNC Govt MMkt	\$9,481	\$10,539	0.0	0.4	1.9	0.7	-	-	Apr-18
<i>90 Day U.S. Treasury Bill</i>				0.3	1.8	0.8	1.3	1.3	

<sup>1</sup>90 Day U.S. Treasury Bill: 45.00%, Russell 3000 Index: 15.00%, Blmbg. Intermed. U.S. Government/Credit: 11.00%, MSCI EAFE (Net): 4.00%, ICE BofA 1-3 Yr. Gov/Corp: 17.00%, Total Alternatives Benchmark: 8.00%,

<sup>2</sup>90 Day U.S. Treasury Bill: 95.00%, Blmbg. 1-3 Govt: 5.00%,

<sup>3</sup>Russell 3000 Index: 27.00%, Blmbg. Intermed. U.S. Government/Credit: 20.00%, MSCI EAFE (Net): 8.00%, ICE BofA 1-3 Yr. Gov/Corp: 30.00%, Total Alternatives Benchmark: 15.00%,

<sup>4</sup>HFRI Fund of Funds Composite Index: 100.00%,

<sup>5</sup>Blmbg. Intermed. U.S. Government/Credit: 36.00%, ICE BofA 1-3 Yr. Gov/Corp: 64.00%,





**REAL ASSETS: INFRASTRUCTURE  
MANAGER RECOMMENDATION**

# EXECUTIVE SUMMARY

**RECOMMENDATION:** Clearstead recommends a \$2.75 million commitment to the Apollo Infrastructure Opportunities Fund III in the Long-Term Pool.

## WHY INVEST IN APOLLO INFRASTRUCTURE OPPORTUNITIES?

- **Established Market Leader**
- **Deep Team & Resources**
- **Disciplined Process and Robust Platform**
- **Track Record of Results**

# EXECUTIVE SUMMARY

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## EXECUTIVE SUMMARY

Apollo Global Management has launched its third infrastructure fund that will continue its value-oriented strategy investing in companies that provide essential services with high barriers to entry in the US and Europe, targeting 15-18% gross IRR (11-14% net) and 4-6% cash yield. The fund expects to capitalize on several key investment themes, such as global energy transition, digital infrastructure, global supply chain and sustainable living, targeting 10-15 equity investments between \$100 million and \$1 billion. The Infrastructure team of 23 dedicated professionals led by Dylan Foo has delivered 26% gross IRR (20% net) across Funds I and II with a 0% loss ratio, committing ~\$3 billion to 26 deals. All prior transactions were sourced via bilateral or proprietary negotiations.

## REASONS WE LIKE APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III:

- Flexible strategy with downside protection – the fund will apply its full arsenal to value creation: 1) buyout strategy seeking infrastructure companies providing essential services, with high barriers to entry and stable or contracted cash flows; 2) below-the-radar or misunderstood corporate carve-outs; or 3) structured solutions (mezzanine, preferred equity) in complex transactions taking advantage of market dislocation or regulatory change.
- Focus on downside protection – the base case projections of 1.6x multiple is based on contractual payments and operational improvements and does not rely on multiple expansion.
- Highly specialized team with deep resources of Apollo's platform – Dylan Foo, a 22-year industry veteran is supported by a team of 8 partners and 13 investment professionals. The IC includes heads of PE and Credit.
- Focus on mid-market transactions – in this current environment smaller deals are less competitive and are easier to finance.
- Attractive market opportunity – secular trends such as population growth and improvement of living standards, as well as aging of existing infrastructure, and replacing of legacy infrastructure and build out of networks, data centers, towers and similar assets creates an estimated annual need for infrastructure investment of \$4.4 trillion (until 2040) based on the McKinsey Global Institute 2022 report.

# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: MARKET LEADING INFRASTRUCTURE PLATFORM

## AIOF I (2018)

Total Commitments: \$897.3mm

MOIC: 1.6x Gross / 1.5x Net

IRR: 25% Gross / 19% Net

Substantially Realized; 127% of Invested Capital

### Highlights

Top-quartile performance<sup>5</sup>

Strong realizations to date;  
focused on returning capital to LPs

Downside-oriented underwriting, active value  
creation and opportunistic capital management

## AIOF II (2020<sup>1</sup>)

Total Commitments: \$2.5bn

MOIC: 1.3x Gross / 1.2x Net

IRR: 28% Gross / 23% Net

~85% Invested or Committed<sup>2</sup>

### Highlights

Diversified across core sectors  
(Renewables, Communications, Transportation)

Signed or closed 12 proprietary investments  
~2 years into the AIOF II fund life

Actively executing on co-invest, ~\$2.5 billion  
originated to date with significant pipeline ahead

## AIOF III (2023)

Target Portfolio: 10-15 investments

Target Equity Investment: \$100 million - \$1 billion

Target IRR: 15-18% gross; 11-14% implied net<sup>3</sup>

Target Cash Yield: 4-6%<sup>4</sup>

### Highlights

SFDR Article 8

Strong economic alignment

Mid-Market | Value-Oriented | OECD Focus

Source: Apollo. As of September 30, 2022, unless otherwise noted. Represents the views and opinions of Apollo Analysts. Subject to change at any time without notice. Past performance is not indicative nor a guarantee of future results. These returns are not indicative of actual returns received by any fund investor. (1) AIOF II's first investments were made in 2020, and its effective date was in 2021. (2) Transactions that closed after quarter-end, are expected to be added to AIOF II's Schedule of Investments when and as deployment occurs. (3) Based on a hypothetical model of AIOF III which assumes a 1.5% management fee, 20% carried interest, deployment over 4 years and realizations in 9 years. Please refer to the Legal Disclaimer for additional information regarding target returns. (4) Target represents ITD average over the life of AIOF II, as so determined, by dividing numerator (x) investment proceeds received by the fund on a trailing twelve-month basis, excluding dispositions, by denominator (y) weighted average capital of the investments made by the fund, inclusive of any outstanding balance on the fund's credit facility. (5) Source: Cambridge Associates Benchmark Calculator via Refinitiv, utilizing Preliminary Q2 2022 data (latest available). Top-quartile performance claim measured on the basis of AIOF I net performance vs. Refinitiv data. AIOF I is a top-quartile fund when compared to the relevant benchmark, which includes 8 global core/core-plus, value added and opportunistic infrastructure funds with a 2018 vintage; upper-quartile threshold net IRR is 16.52% vs. AIOF I's net IRR of 19.19% as of September 30, 2022. Please refer to the end of this presentation for AIOF I and AIOF II Schedule of Investments.

# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: DISTINCT VALUE ORIENTATION WITHIN INFRASTRUCTURE

	THEMATIC INVESTING “TOP-DOWN, TREND DRIVEN”	APOLLO INFRASTRUCTURE “BOTTOM-UP, VALUE DRIVEN”
<b>Asset Type</b>	<ul style="list-style-type: none"> <li>Highly-regulated assets with no value-add</li> <li>Greenfield development projects with unmitigated development risk</li> <li>Operating companies with little / no hard assets</li> </ul>	<ul style="list-style-type: none"> <li>Essential services with high barriers to entry</li> <li>Development projects and platforms with structured features mitigating downside</li> <li>Brownfield assets and platforms with expansion opportunity</li> </ul>
<b>Contracts</b>	<ul style="list-style-type: none"> <li>Direct consumer exposure / merchant cash flows</li> <li>Commodity exposure / weak inflation correlation</li> <li>Highly regulated / counterparty risk</li> </ul>	<ul style="list-style-type: none"> <li>Full or partial, long-term contracts</li> <li>Inflation-linked cash flows</li> <li>Off-takers with high credit quality</li> </ul>
<b>Investment Type</b>	<ul style="list-style-type: none"> <li>Concessions with limited ability to add operational value creation</li> <li>Simple coupon-based debt instruments without governance</li> <li>Common equity investments with highly leveraged capital structures and unlimited downside</li> </ul>	<ul style="list-style-type: none"> <li>Equity buyouts via platform plays and corporate carve-outs</li> <li>Preferred equity and loans with upside participation</li> <li>Bespoke structured investments with downside protection</li> </ul>

Source: Apollo. As of December 2022. Reflects the views and opinions of Apollo Analysts, which are subject to change at any time without notice. There is no guarantee that investment opportunities of the investment type and with the underlying asset characteristics described above will be available in the future or achieve return targets.

# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: DOWNSIDE-PROTECTED INVESTMENT STRATEGY

## EQUITY BUYOUTS

Applying Apollo's value creation experience to infrastructure assets seeking to generate upside through operational enhancement

- Majority or leading stakes in traditional infrastructure assets
- Proactive approach to value creation; ability to leverage our operating expertise to drive value and enhance performance
- Platforms and consolidation opportunities
- High-quality assets / essential service businesses with stable and/or contracted cash flows

### SELECT EXAMPLE TRANSACTIONS



## CORPORATE CARVE OUTS

Leverage Apollo's historical track record and proprietary skillset to execute complex carve-outs

- Bilateral negotiations with a larger corporate parent to extract a business or create a standalone enterprise
- Seek to uncover below-the-radar or misunderstood opportunities that are undervalued by the market
- Potential to achieve higher returns than typical brownfield assets

### SELECT EXAMPLE TRANSACTIONS



## STRUCTURED SOLUTIONS

Leveraging Apollo's structuring experience to pursue attractive investments across the capital structure in dislocated markets

- Mezzanine and hold co loan structures; preferred and structured equity
- Ability to add further downside protection
- Pursue opportunities resulting from market dislocation or regulatory change
- Positions Apollo as a solutions provider to

### SELECT EXAMPLE TRANSACTIONS

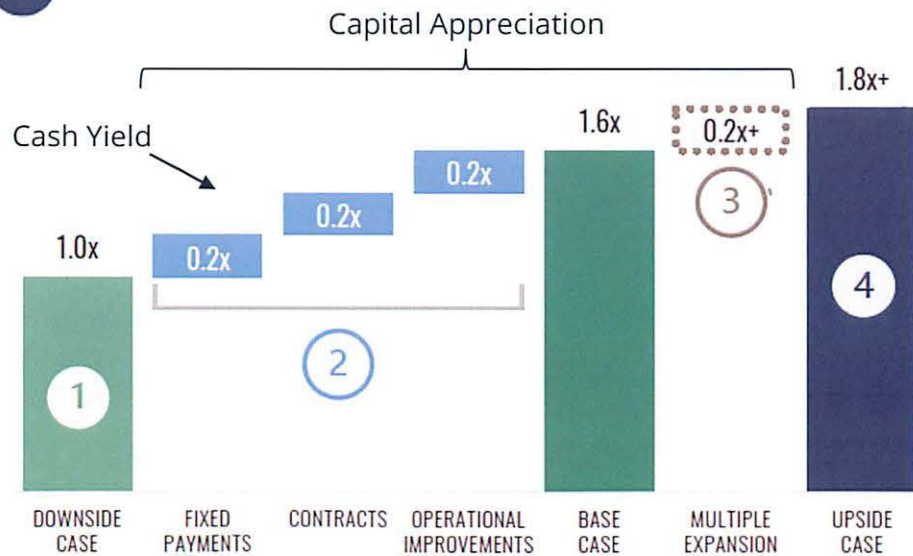


Source: Apollo. As of December 2022. Based on the views and opinions of Apollo Analysts. Subject to change at any time without notice. Investment examples have been provided for discussion purposes only to illustrate the types of investments that AIOF II would target. There is no guarantee that similar investment opportunities will become available in the future or, if available, achieve target returns. Please refer to AIOFII's Schedule of Investments for a full list of Fund investments

# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: CONSERVATIVE UNDERWRITING WITH TWO SOURCES OF RETURN

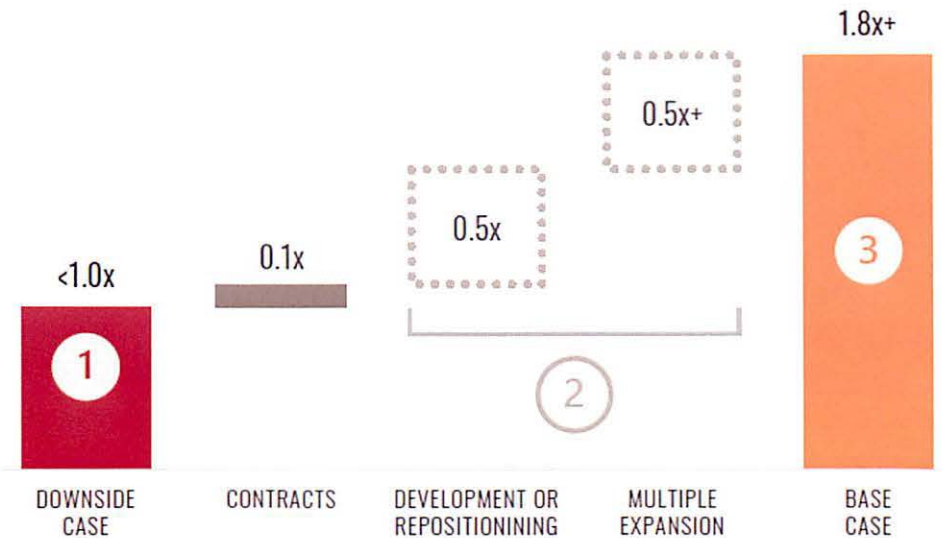
## APOLLO'S ILLUSTRATIVE APPROACH TO INFRASTRUCTURE UNDERWRITING

- 1 Investments return cost even in downside and stress cases
- 2 Balanced returns contribution from structural features (e.g., fixed payments), contracts, and moderate operational enhancements
- 3 Minimal upside attributed to multiple expansion
- 4 Structurally trade some upside for narrower band of outcomes



## COMPARISON ILLUSTRATIVE APPROACH TO INFRASTRUCTURE UNDERWRITING

- 1 Return below invested cost in downside and stress cases
- 2 Underwritten returns driven by development or repositioning and appreciation or multiple expansion
- 3 "Opportunistic" returns underwritten in the base case



For illustrative purposes only. Based on the views and opinions of Apollo Analysts. "Apollo's Illustrative Approach to Infrastructure Underwriting" is premised upon our infrastructure investment principles, including without limitation the prioritization of capital preservation through structural protections and fixed payments, contracted cash flows and operational improvements (e.g., capital structure optimization and EBITDA growth) as key sources of value creation. "Peers' Illustrative Approach to Infrastructure Underwriting" refers generally to a selection of large-cap infrastructure firms of generally similar size and scale that Apollo deems peers. There is no guarantee market conditions, the market environment, or the themes described herein will continue in the future. Such estimates and assumptions are subject to factors beyond Apollo's control and are subject to change at any time. Please refer to the Legal Disclaimer page for important information on the calculation of creation multiples. Illustrative, hypothetical, and/or target returns presented herein are gross and do not reflect the deduction of taxes, fees and expenses. Actual returns will be lower. Future results may vary substantially.

# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: PERFORMANCE TRACK RECORD

## APOLLO INFRASTRUCTURE OPPORTUNITIES

Fund (Vintage)	Fund Size (\$ mm)	Invested (\$ mm)	Realized (\$ mm)	NAV (\$ mm)	DPI	Gross MOIC	Net MOIC	Peer Quartile	Gross IRR	Net IRR	Peer Quartile
Fund I (2018)	\$897	\$802.4	\$1,022.2	\$248.6	1.27x	1.6x	1.5x	1 <sup>st</sup>	25.0%	19.0%	1 <sup>st</sup>
Fund II (2020)	\$2,500	\$920.7	\$29.8	\$1,134.6	0.03x	1.3x	1.2x	1 <sup>st</sup>	28.0%	23.0%	1 <sup>st</sup>

Source: Apollo, Bloomberg, PitchBook as of 9/30/2022; S&P Global Infrastructure TR; \*See disclosures  
Past performance is not a guarantee of future results.



# APOLLO INFRASTRUCTURE OPPORTUNITIES FUND III: KEY TERMS

## REPRESENTATIVE TERMS FOR THE FUND

<b>Fund</b>	Apollo Infrastructure Opportunities Fund III
<b>Minimum Investment</b>	\$10 million, though Clearstead negotiated to have this waived for clients
<b>Fund Size</b>	\$4-5 billion
<b>Target Return</b>	15-18% gross IRR (11-14% net IRR) with 4-6% cash yield
<b>Management Fee</b>	1.5% of commitments during the Commitment Period, stepping down to 1.25% of adjusted cost after
<b>Preferred Return</b>	8% per annum
<b>Carried Interest</b>	20% in the Fund
<b>Investment Period</b>	5 years from the later of the effective date and final closing of the Fund
<b>Fund Term</b>	10 years from final close + 2 one-year extensions with LPAC consent
<b>Catch Up</b>	80%
<b>Fee &amp; Expense Offset</b>	100%
<b>Organization Expenses</b>	\$6 million
<b>GP Commitment</b>	2.5% or at least \$100 million
<b>Waterfall</b>	American



## **PORTFOLIO RECOMMENDATIONS**

# PORTFOLIO RECOMMENDATIONS (ACTION)

YOUNGSTOWN STATE UNIVERSITY

AS OF FEBRUARY 17, 2023

	TICKER	INVESTMENT STRATEGY	MARKET VALUE (CURRENT)	% OF PORTFOLIO	CHANGES	MARKET VALUE (POST CHANGES)	% OF PORTFOLIO	POLICY TARGET	POLICY RANGE	TACTICAL +/-
<b>Total Operating &amp; Short Term</b>			<b>\$33,606,554</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$33,606,554</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>			<b>\$33,606,554</b>	<b>100.0%</b>		<b>\$33,606,554</b>	<b>100.0%</b>		60-100%	
Federated Hermes Govt Obligations	FOGXX	Money Market	\$33,515,148	99.7%		\$33,515,148	99.7%			
Star Plus*	-	Cash Equivalent	\$0	0.0%		\$0	0.0%			
Star Ohio*	-	Cash Equivalent	\$91,406	0.3%		\$91,406	0.3%			
<b>Short-Term Assets</b>			<b>\$0</b>	<b>0.0%</b>		<b>\$0</b>	<b>0.0%</b>		0-40%	
Vanguard Short-Term Federal Adm	VSGDX	Short-Term Fixed	\$0	0.0%		\$0	0.0%			
<b>Total Long Term Reserves Pool</b>			<b>\$61,473,407</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$61,473,407</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>			<b>\$19,520,552</b>	<b>31.8%</b>		<b>\$18,720,552</b>	<b>30.5%</b>	<b>27.0%</b>	20-35%	3.5%
<b>Large Cap</b>			<b>\$12,537,449</b>	<b>20.4%</b>		<b>\$12,267,449</b>	<b>20.0%</b>			
Vanguard Instl Index	VINIX	Large Cap Core	\$12,537,449	20.4%	-\$270,000	\$12,267,449	20.0%			
<b>Small/Mid Cap</b>			<b>\$6,983,103</b>	<b>11.4%</b>		<b>\$6,453,103</b>	<b>10.5%</b>			
Vanguard Mid Cap Index Adm	VIMAX	Mid-Cap Core	\$3,276,186	5.3%	-\$180,000	\$3,096,186	5.0%			
Loomis Sayles Small Growth N2	LSSNX	Small Cap Growth	\$1,819,105	3.0%	-\$140,000	\$1,679,105	2.7%			
Victory Integrity Small Cap Value Y	VSVIX	Small Cap Value	\$1,887,811	3.1%	-\$210,000	\$1,677,811	2.7%			
<b>International Equity</b>			<b>\$5,256,046</b>	<b>8.6%</b>		<b>\$5,056,046</b>	<b>8.2%</b>	<b>8.0%</b>	0-15%	0.2%
William Blair International Growth I	BIGIX	Foreign Growth	\$2,305,758	3.8%		\$2,305,758	3.8%			
Dodge & Cox International Stock	DODFX	Foreign Value	\$2,950,288	4.8%	-\$200,000	\$2,750,288	4.5%			
<b>Total Equity</b>			<b>\$24,776,598</b>	<b>40.3%</b>		<b>\$23,776,598</b>	<b>38.7%</b>	<b>35.0%</b>	25-45%	3.7%
<b>Alternatives</b>			<b>\$6,797,431</b>	<b>11.1%</b>		<b>\$6,797,431</b>	<b>11.1%</b>	<b>15.0%</b>	0-20%	-3.9%
H.I.G. Principal Lending Fund*	-	Private Credit	\$2,200,333	3.6%		\$2,200,333	3.6%			
Apollo Infrastructure Opps Fund III	-	Real Assets	\$0	0.0%		\$0	0.0%			
Weatherlow Fund*	-	Hedge FoF	\$4,597,098	7.5%		\$4,597,098	7.5%			
<b>Fixed Income</b>			<b>\$29,899,133</b>	<b>48.6%</b>		<b>\$30,899,133</b>	<b>50.3%</b>	<b>50.0%</b>	35-75%	0.3%
<b>Short Term Fixed Income</b>			<b>\$17,644,413</b>	<b>28.7%</b>		<b>\$18,644,413</b>	<b>30.3%</b>	<b>30.0%</b>	25-45%	0.3%
YSU Short Term Bond	-	Short-Term Fixed	\$12,470,282	20.3%		\$12,470,282	20.3%			
Lord Abnett Short Duration	LLDYX	Short-Term Fixed	\$5,174,131	8.4%	\$1,000,000	\$6,174,131	10.0%			
<b>Intermediate Fixed Income</b>			<b>\$12,254,721</b>	<b>19.9%</b>		<b>\$12,254,721</b>	<b>19.9%</b>	<b>20.0%</b>	10-30%	-0.1%
JPMorgan Core Bond Fund R6**	JCBUX	Core Plus Fixed	\$5,040,843	8.2%		\$5,040,843	8.2%			
YSU Intermediate Term Fixed	-	Interm-Term Fixed	\$4,229,094	6.9%		\$4,229,094	6.9%			
Prudential High Yield Bond R6	PHYQX	High Yield	\$2,984,783	4.9%		\$2,984,783	4.9%			
<b>Cash &amp; Cash Equivalents</b>			<b>\$245</b>	<b>0.0%</b>		<b>\$245</b>	<b>0.0%</b>	<b>0.0%</b>	0-5%	0.0%
Equity Account Cash	-	Money Market	\$245	0.0%		\$245	0.0%			
<b>Total University Assets</b>			<b>\$95,079,961</b>			<b>\$95,079,961</b>				

\*As of 01/31/2023.

\*\*Held at JPMorgan.

Why Lord Abnett? Lord Abnett has a significant yield advantage over the other short-term fixed income investment – the (PNC) short-term bond portfolio – which is primarily held by the University to satisfy ORC requirements. Lord Abnett's yield of ~6.2% (as of 12/31) is an attractive rate for short-term bond exposure.



## **APPENDIX**



**ENDOWMENT ASSETS:  
PERFORMANCE & ASSET ALLOCATION  
REVIEW**

# ENDOWMENT ASSETS: PERFORMANCE & ASSET ALLOCATION (AS OF 12/31/2022)

ENDOWMENT ASSETS	MARKET VALUE (\$MM)	ASSET ALLOCATION	COMPOSITION	TRAILING PERIODS							CALENDAR YEARS			SINCE INCEPTION <sup>3</sup>
				QTD	CYTD	1 YR	2 YR	3 YR	5 YR	7 YR	2021	2020	2019	
YSU Endowment Fund	\$13.356	67% Equity / 3% Alts / 30% Fixed Income & Cash	Stocks, Bonds, Mutual Funds	5.5%	-15.7%	-15.7%	1.0%	5.8%	6.9%	8.2%	20.9%	16.3%	23.8%	7.9%
			Benchmark <sup>1</sup>	6.2%	-16.6%	-16.6%	0.3%	5.3%	7.3%	9.0%	20.6%	16.2%	25.6%	9.3%
			Benchmark <sup>2</sup>	5.4%	-15.8%	-15.8%	-1.2%	3.8%	6.0%	7.4%	15.9%	14.7%	22.2%	7.7%

## COMPLIANCE

- Asset Allocation Guidelines: 70% Equities (60-80%) / 30% Cash & Fixed Income (20-40%) **(IN COMPLIANCE)**

## HOLDINGS

- Equity Mutual Funds – 12% (4 Mutual Funds & ETFs)
- Stocks – 55% (30-60 U.S. Large/Mid-Cap Stocks)
- Alternatives – 3% (Real Estate Mutual Fund)
- Fixed Income Mutual Funds – 2% (Federated Total High Yield)
- Individual Bonds – 19% (8-12 Individual Bonds: U.S. Corporate / Gov't / Asset Backed Debt)
- Cash – 9%

1) Benchmark: 75% S&P 500 / 25% BBg US Aggregate.

2) Benchmark: 60% S&P 500 / 40% BBg US Aggregate.

3) Inception date: 06/2013.



**SUPPORTING INFORMATION**

# U.S. ECONOMIC PROJECTIONS

## FEDERAL RESERVE BOARD MEMBERS & BANK PRESIDENTS

		2022	2023	2024	2025	LONGER RUN*
<b>GDP</b>	December 2022	0.5%	0.5%	1.6%	1.8%	1.8%
	September 2022	0.2%	1.2%	1.7%	1.8%	1.8%
	June 2022	1.7%	1.7%	1.9%		1.8%
	March 2022	2.8%	2.2%	2.0%		1.8%
<b>Unemployment Rate</b>	December 2022	3.7%	4.6%	4.6%	4.5%	4.0%
	September 2022	3.8%	4.4%	4.4%	4.3%	4.0%
	June 2022	3.7%	3.9%	4.1%		4.0%
	March 2022	3.5%	3.5%	3.6%		4.0%
<b>Core PCE Inflation</b>	December 2022	4.8%	3.5%	2.5%	2.1%	
	September 2022	4.5%	3.1%	2.3%	2.1%	
	June 2022	4.3%	2.7%	2.3%		
	March 2022	4.1%	2.6%	2.3%		
<b>Federal Funds Rate</b>	December 2022	4.4%	5.1%	4.1%	3.1%	2.5%
	September 2022	4.4%	4.6%	3.9%	2.9%	2.5%
	June 2022	3.4%	3.8%	3.4%		2.5%
	March 2022	1.9%	2.8%	2.8%		2.4%
<b># of implied 25 bps rate changes year</b>	December 2022	17	3	-4	-4	
	September 2022	17	1	-3	-4	
	June 2022	13	2	-2		
	March 2022	7	3	0		

\*Longer-run projections: The rates to which a policymaker expects the economy to converge over time – maybe in five or six years – in the absence of further shocks and under appropriate monetary policy.

Source: Clearstead, U.S. Federal Reserve.  
Data as of 12/14/2022. Past performance is not an indicator of future results.



# MARKETS PRICING IN POTENTIAL FED ACTIONS

## IMPLIED FED FUNDS TERMINAL RATE



FED MEETING	IMPLIED RATE HIKES	PREDICTED FED FUNDS RATE
Jun-2022	+75 bps (actual)	1.50% - 1.75%
Jul-2022	+75 bps (actual)	2.25% - 2.50%
Sep-2022	+75 bps (actual)	3.00% - 3.25%
Nov-2022	+75 bps (actual)	3.75% - 4.00%
Dec-2022	+50 bps (actual)	4.25% - 4.50%
Feb-2023	+25 bps (implied)	4.50% - 4.75% (estimate)

**Markets are anticipating two additional 25 basis point hikes in the first half of 2023**

**Markets are also pricing in an interest rate cut in the second half of 2023**

Source: Bloomberg LP, Clearstead, daily data as of 12/31/2022.

# INFLATION TRENDS LOWER

## GLOBAL HEADLINE CPI - YEAR-OVER-YEAR % CHANGE

	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
<b>Dev. Markets</b>																								
US	1.4	1.7	2.6	4.2	5.0	5.4	5.4	5.3	5.4	6.2	6.8	7.0	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5
EU	0.9	0.9	1.3	1.6	2.0	1.9	2.2	3.0	3.4	4.1	4.9	5.0	5.1	5.9	7.5	7.5	8.1	8.6	8.9	9.1	10.0	10.7	10.0	9.2
Japan	-0.7	-0.5	-0.4	-1.1	-0.8	-0.5	-0.3	-0.4	0.2	0.1	0.6	0.8	0.5	0.9	1.2	2.5	2.5	2.4	2.6	3.0	3.0	3.7	3.8	3.8
UK	0.7	0.4	0.7	1.5	2.1	2.5	2.0	3.2	3.1	4.2	5.1	5.4	5.5	6.2	7.0	9.0	9.1	9.4	10.1	9.9	10.1	11.1	10.7	10.7
Canada	1.0	1.1	2.2	3.4	3.6	3.1	3.7	4.1	4.4	4.7	4.7	4.8	5.1	5.7	6.7	6.8	7.7	8.1	7.6	7.0	6.9	6.9	6.8	6.8
Australia	0.9	0.9	1.1	1.1	1.1	3.8	3.8	3.8	3.0	3.0	3.0	3.5	3.5	3.5	5.1	5.1	5.1	6.1	6.1	6.1	7.3	7.3	7.3	7.3
Switzerland	-0.5	-0.5	-0.2	0.3	0.6	0.6	0.7	0.9	0.9	1.2	1.5	1.5	1.6	2.2	2.4	2.5	2.9	3.4	3.4	7.3	7.2	7.2	7.2	7.2
Norway	2.5	3.3	3.1	3.0	2.7	2.9	3.0	3.4	4.1	3.5	5.1	5.3	3.2	3.7	4.5	5.4	5.7	6.3	6.8	3.5	3.3	3.0	3.0	2.8
Sweden	1.6	1.4	1.7	2.2	1.8	1.3	1.4	2.1	2.5	2.8	3.3	3.9	3.7	4.3	6.0	6.4	7.3	8.7	8.5	8.9	10.0	10.1	8.9	8.7
<b>Asia</b>																								
China	-0.3	-0.2	0.4	0.9	1.3	1.1	1.0	0.8	0.7	1.5	2.3	1.5	0.9	0.9	1.5	2.1	2.1	2.5	2.7	2.5	2.8	2.1	1.6	1.8
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.5	4.8	5.6	5.8	5.0	5.4	6.3	7.0	6.2	5.8	5.9	6.5	6.1	6.1	5.4
Indonesia	1.6	1.4	1.4	1.4	1.7	1.3	1.5	1.6	1.6	1.7	1.7	1.9	2.2	2.1	2.6	3.5	3.6	4.4	4.9	4.7	6.0	5.7	5.4	5.5
Malaysia	-0.2	0.1	1.7	4.7	4.4	3.4	2.2	2.0	2.2	2.9	3.3	3.2	2.3	2.2	2.2	2.3	2.8	3.4	4.4	4.7	4.5	4.0	4.0	4.0
S Korea	0.9	1.4	1.9	2.5	2.6	2.4	2.6	2.6	2.4	3.2	3.8	3.7	3.6	3.7	4.1	4.8	5.4	6.0	6.3	5.7	5.6	5.7	5.0	5.0
Taiwan	-0.2	1.4	1.2	2.1	2.5	1.8	1.9	2.3	2.6	2.6	2.9	2.6	2.8	2.3	3.3	3.4	3.4	3.6	3.4	2.7	2.8	2.7	2.4	2.7
<b>Latin America</b>																								
Brazil	4.6	5.2	6.1	6.8	8.1	8.4	9.0	9.7	10.3	10.7	10.7	10.1	10.4	10.5	11.3	12.1	11.7	11.9	10.1	8.7	7.2	6.5	5.9	5.8
Chile	3.1	2.8	2.9	3.3	3.6	3.8	4.5	4.8	5.3	6.0	6.7	7.2	7.7	7.8	9.4	10.5	11.5	12.5	13.1	14.1	13.7	12.8	13.3	12.8
Colombia	1.6	1.6	1.5	2.0	3.3	3.6	4.0	4.4	4.5	4.6	5.3	5.6	6.9	8.0	8.5	9.2	9.1	9.7	10.2	10.8	11.4	12.2	12.5	13.1
Mexico	3.5	3.8	4.7	6.1	5.9	5.9	5.8	5.6	6.0	6.2	7.4	7.4	7.1	7.3	7.5	7.7	7.7	8.0	8.2	8.7	8.7	8.4	7.8	7.8

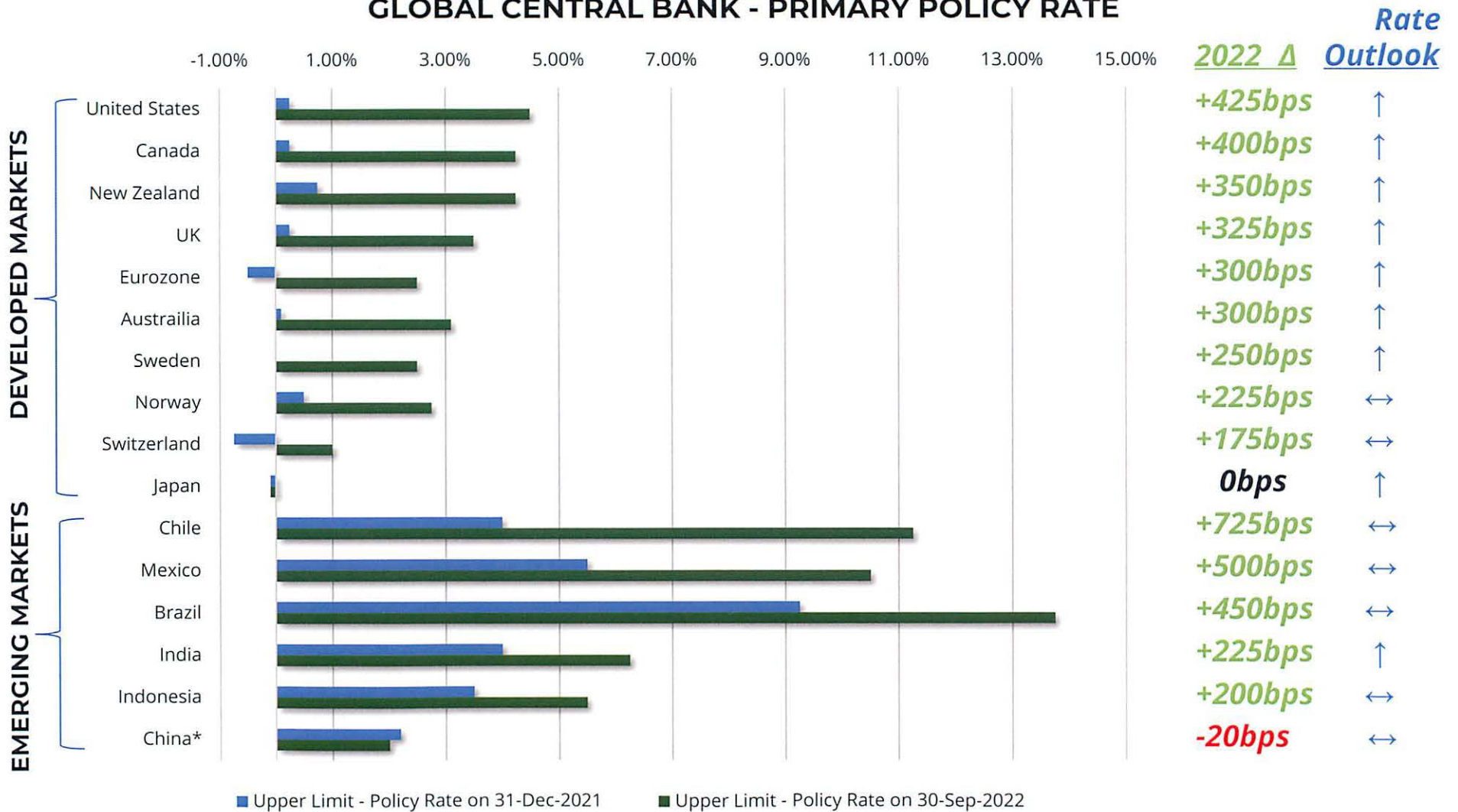
Energy and food prices, supply chain disruptions, and widespread labor market tightness has pushed inflation up globally

- Only China, and to a lesser extent Taiwan, have seen negligible rises in inflation
- Brazil has started to see a meaningful decline in inflation

Bloomberg Inflation Monitor as of 12/31/2022.

# GLOBAL MONETARY CONDITIONS TIGHTEN

## GLOBAL CENTRAL BANK - PRIMARY POLICY RATE



Source: Bloomberg LP, Clearstead, daily data as of 12/31/2022.  
 \*7-Day Repo Rate.

# GLOBAL ECONOMY: SLOWING GROWTH

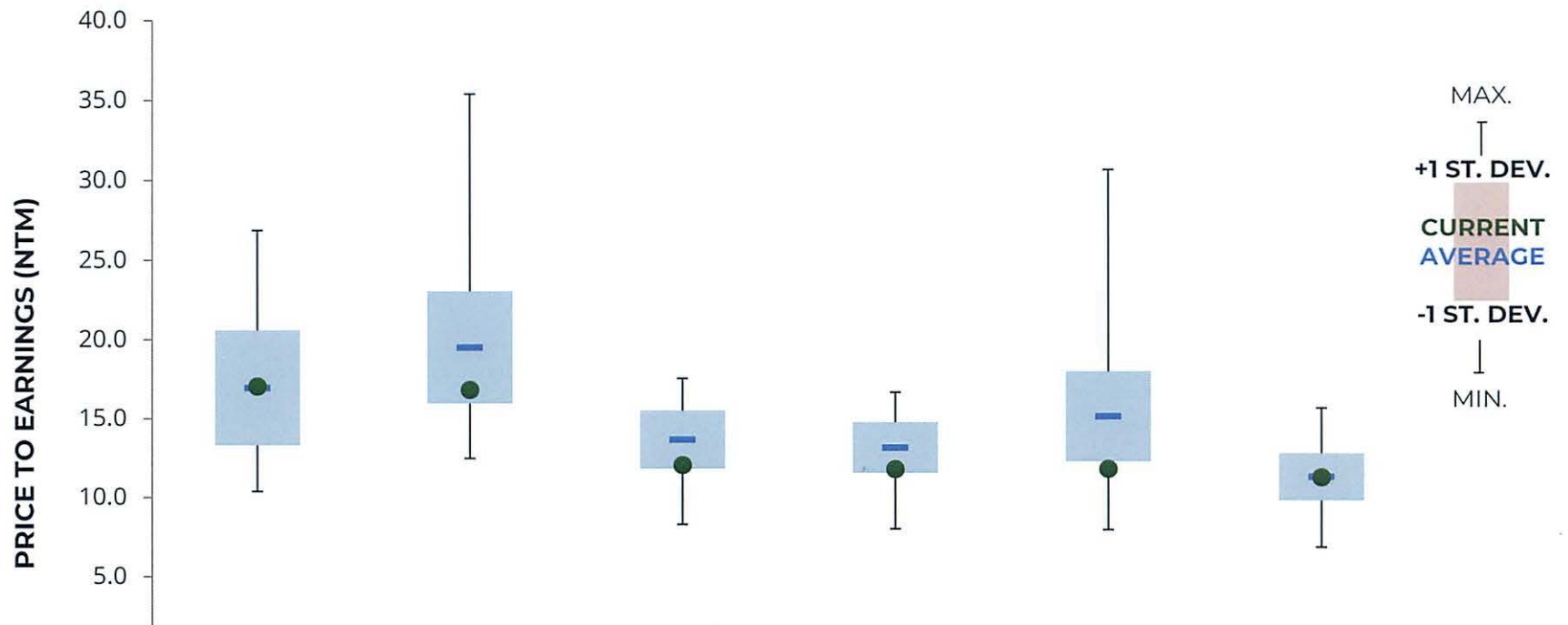
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12M Trend
Global	Mfg	53.2	53.7	52.9	52.3	52.3	52.2	51.1	50.3	49.8	49.4	48.8	48.6	
	Serv	51.0	54.0	53.4	52.1	51.9	53.9	51.1	49.2	50.0	49.2	48.1	48.1	
US	Mfg	55.5	57.3	58.8	59.2	57.0	52.7	52.2	51.5	52.0	50.4	47.7	46.2	
	Serv	51.2	56.5	58.0	55.6	53.4	52.7	47.3	43.7	49.3	47.8	46.2	44.4	
Eurozone	Mfg	58.7	58.2	56.5	55.5	54.6	52.1	49.8	49.6	48.4	46.4	47.1	47.8	
	Serv	51.1	55.5	55.6	57.7	56.1	53.0	51.2	49.8	48.8	48.6	48.5	49.1	
UK	Mfg	57.3	58.0	55.2	55.8	54.6	52.8	52.1	47.3	48.4	46.2	46.5	45.3	
	Serv	54.1	60.5	62.6	58.9	53.4	54.3	52.6	50.9	50.0	48.8	48.8	50.0	
Japan	Mfg	55.4	52.7	54.1	53.5	53.3	52.7	52.1	51.5	50.8	50.7	49.0	48.8	
	Serv	47.6	44.2	49.4	50.7	52.6	54.0	50.3	49.5	52.2	53.2	50.3	51.7	
China	Mfg	49.1	50.4	48.1	46.0	48.1	51.7	50.4	49.5	48.1	49.2	49.4	49.0	
	Serv	51.4	50.2	42.0	36.2	41.4	54.5	55.5	55.0	49.3	48.4	46.7	48.0	
India	Mfg	54.0	54.9	54.0	54.7	54.6	53.9	56.4	56.2	55.1	55.3	55.7	57.8	
	Serv	51.5	51.8	53.6	57.9	58.9	59.2	55.5	57.2	54.3	55.1	56.4	56.4	
S. Korea	Mfg	52.8	53.8	51.2	52.1	51.8	51.3	49.8	47.6	47.3	48.2	49.0	48.2	

Global manufacturing and service PMIs have moved lower in Q4 in every major economy; and in most cases are now consistent with slightly negative real GDP growth in the first half 2023.

- U.S. PMIs have weakened in Q4 and are consistent with little-to-no real GDP growth
- European PMIs are consistent with a mild recessionary environment; Asian manufacturing PMIs are signaling a stark slowdown in global trade and only India's PMI readings suggest healthy GDP growth
- China's PMI faltered as COVID-19 cases surged in Nov/Dec 2022, but may rebound in the first quarter as cases subside

Source: Bloomberg, Markit/HIS.  
Data as of 12/31/2022.

# GLOBAL EQUITY VALUATIONS



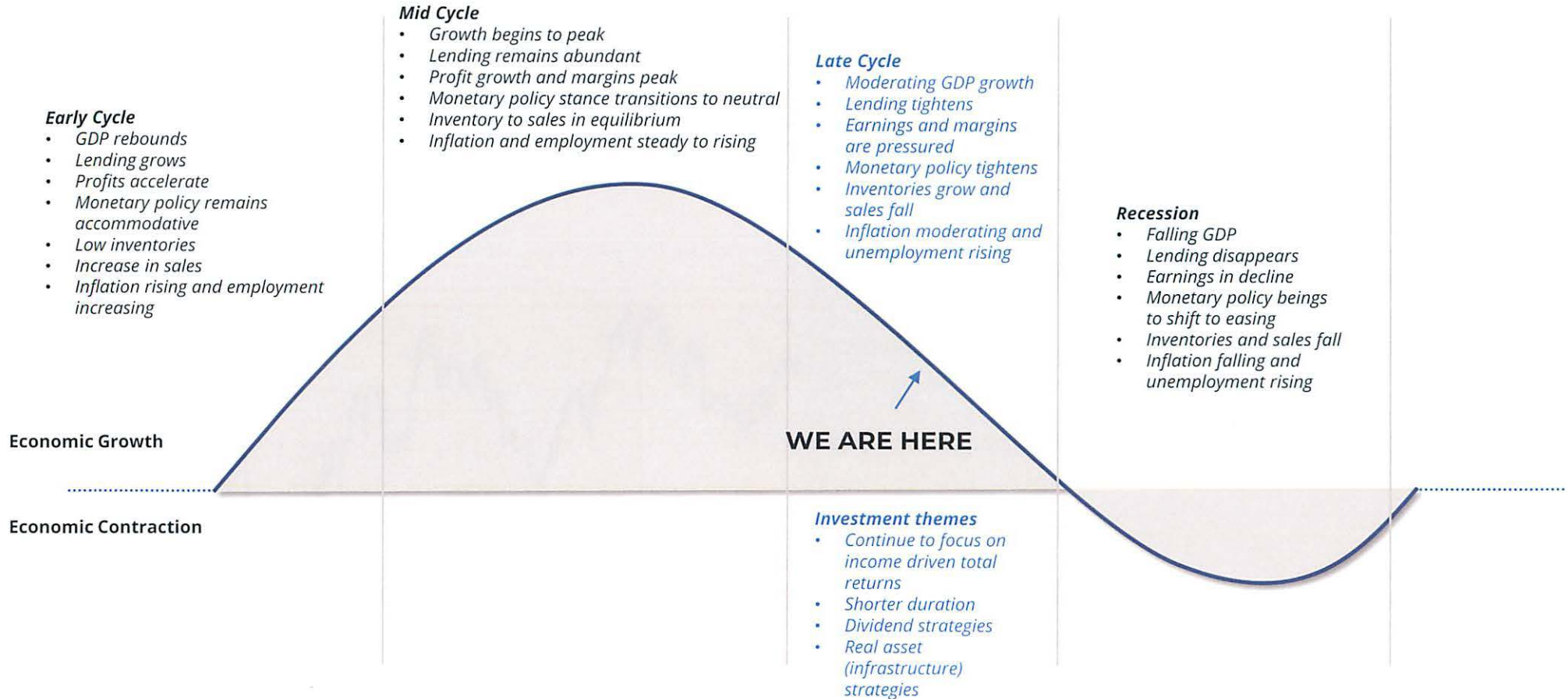
	MSCI USA	MSCI USA SMALL	MSCI EAFE	MSCI ACWI EX USA	MSCI ACWI EX USA SMALL	MSCI EM
<b>Current P/E (NTM)</b>	<b>17.1</b>	<b>16.8</b>	<b>12.1</b>	<b>11.8</b>	<b>11.8</b>	<b>11.3</b>
<b>Average P/E (NTM)</b>	<b>17.0</b>	<b>19.5</b>	<b>13.7</b>	<b>13.2</b>	<b>15.1</b>	<b>11.3</b>

Source: Bloomberg as of 12/31/2022.

Average taken over full index history. MSCI USA- 1994 - Current; MSCI USA Small- 1994 - Current; MSCI EAFE- 2003 - Current; MSCI ACWI ex USA- 2003 - Current; MSCI ACWI ex USA Small- 1994 - Current; MSCI EM- 2003 - Current.

# THE BUSINESS CYCLE: U.S. CURRENT ECONOMIC STATE

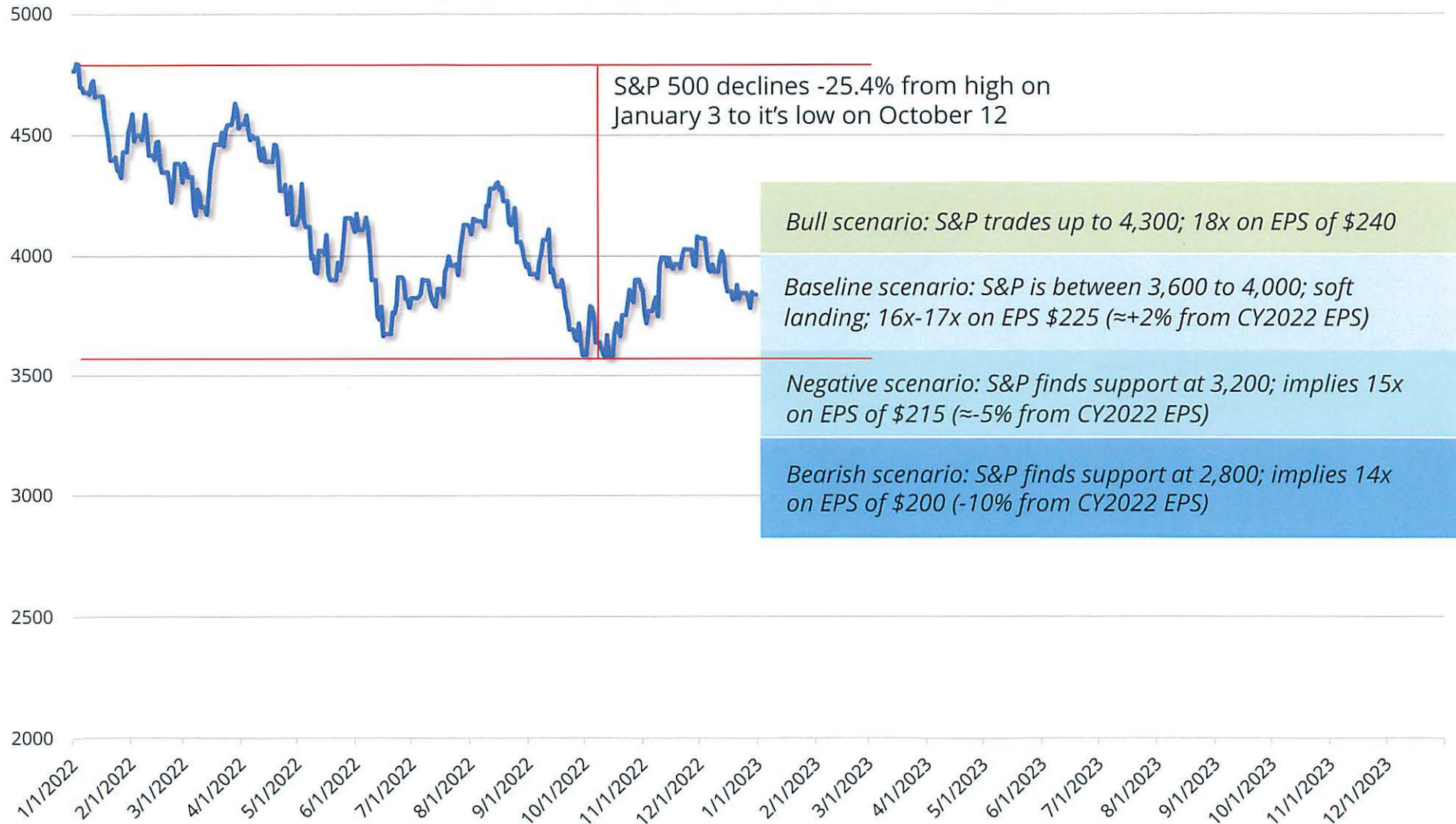
## PHASES OF THE BUSINESS CYCLE



Source: Clearstead.  
As of 12/31/2022.

# S&P 500 INDEX: 2023 OUTLOOK

## S&P 500 OUTLOOK: CALENDAR YEAR 2023



Source: Bloomberg LP, Clearstead, daily data as of 12/31/2022; Past performance is not an indicator of future results.

# EXECUTIVE SUMMARY

	Market Value 10/01/2022	Market Value 12/31/2022	% of Portfolio	4th Quarter 2022 (%)	YTD (%)
<b>Total University Assets</b>	<b>\$89,300,805</b>	<b>\$73,025,390</b>	<b>100.0</b>	<b>3.0</b>	<b>-7.9</b>
<i>Total Policy Benchmark<sup>1</sup></i>				2.7	-4.7
<b>Total Operating &amp; Short Term</b>	<b>\$32,360,317</b>	<b>\$13,560,592</b>	<b>18.6</b>	<b>1.0</b>	<b>1.6</b>
<i>Total Operating &amp; Short Term Benchmark<sup>2</sup></i>				0.8	1.2
<b>Total Long Term/ Reserves Pool</b>	<b>\$56,940,489</b>	<b>\$59,464,798</b>	<b>81.4</b>	<b>4.4</b>	<b>-11.3</b>
<i>Total Long Term/ Reserves Fund Benchmark<sup>3</sup></i>				4.2	-9.7
<b>Total Domestic Equity</b>	<b>\$16,768,025</b>	<b>\$18,169,862</b>	<b>24.9</b>	<b>8.4</b>	<b>-17.7</b>
<i>Russell 3000 Index</i>				7.2	-19.2
<b>Total International Equity</b>	<b>\$4,268,936</b>	<b>\$4,886,661</b>	<b>6.7</b>	<b>14.5</b>	<b>-17.6</b>
<i>MSCI EAFE (Net)</i>				17.3	-14.5
<b>Total Alternatives</b>	<b>\$6,384,402</b>	<b>\$6,673,675</b>	<b>9.1</b>	<b>1.4</b>	<b>-7.4</b>
<i>Total Alternatives Benchmark</i>				1.8	-5.2
<b>Total Fixed Income</b>	<b>\$29,518,874</b>	<b>\$29,734,356</b>	<b>40.7</b>	<b>1.4</b>	<b>-6.7</b>
<i>Total Fixed Income Benchmark<sup>4</sup></i>				1.1	-5.4
<b>Total Cash &amp; Cash Equivalents</b>	<b>\$252</b>	<b>\$244</b>	<b>0.0</b>	<b>16.7</b>	<b>17.3</b>
<i>90 Day U.S. Treasury Bill</i>				0.8	1.5

1) Total Policy Benchmark: 45% ICE BofA 91 Days T-Bills / 17% ICE BofA 1-3 Yr US Corp & Govt / 11% BBgBarc US Govt/Credit Int / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE.

2) Total Operating & Short-Term Benchmark: 95% ICE BofA 91 Days T-Bills / 5% BBgBarc US Govt 1-3 Yr.

3) Total Long-Term / Reserves Fund Benchmark: 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% ICE BofA 1-3 Yr US Corp & Govt / 20% BBgBarc US Govt/Credit Int.

4) Total Alternatives Benchmark: 100% HFRI Fund of Funds Composite.

5) Total Fixed Income Benchmark: 64% ICE BofA 1-3 Yr US Corp & Govt / 36% BBgBarc US Govt/Credit Int.



# ASSET ALLOCATION GUIDELINES COMPLIANCE

Total Plan Asset Allocation Policy	Range	Current
Operating & Short-Term Pool	0% - 50%	19%
Long Term/ Reserves Pool	50% - 100%	81%

Operating & Short-Term Pool		Range	Current
Operating Assets		60% - 100%	100%
Short-Term Assets		0% - 40%	0%

Long Term/ Reserves Pool	Target	Range	Current
Domestic Equity	27%	20% - 35%	31%
International Equity	8%	0% - 15%	8%
Total Equity	35%	25% - 45%	39%
Alternatives	15%	0%-20%	11%
Short-Term Fixed Income	30%	25% - 45%	30%
Intermediate Fixed Income	20%	10% - 30%	20%
Cash & Cash Equivalents	0%	0% - 5%	0%

In Line    Within Tolerance    Review

# SCHEDULE OF ASSETS

	Ticker	Account Type	Begin Market Value \$	Market Value 12/31/2022	% of Portfolio
<b>Total University Assets</b>			<b>\$89,300,805</b>	<b>\$73,025,390</b>	<b>100.0</b>
<b>Total Operating &amp; Short Term</b>			<b>\$32,360,317</b>	<b>\$13,560,592</b>	<b>18.6</b>
Federated Hermes Government Obligations Fund		Cash	\$32,186,155	\$13,467,679	18.4
JPMorgan 100% U.S. Tr Sec MM Inst	JTSXX	Cash	\$82,258	\$165	0.0
STAR Ohio		Cash	\$91,903	\$92,748	0.1
<b>Total Long Term/ Reserves Pool</b>			<b>\$56,940,489</b>	<b>\$59,464,798</b>	<b>81.4</b>
<b>Total Domestic Equity</b>			<b>\$16,768,025</b>	<b>\$18,169,862</b>	<b>24.9</b>
Vanguard Institutional Index	VINIX	US Stock Large Cap Core	\$10,947,037	\$11,773,488	16.1
Vanguard Mid Cap Index Adm	VIMAX	US Stock Mid Cap Core	\$2,777,020	\$3,027,372	4.1
Loomis Sayles Sm Growth N	LSSNX	US Stock Small Cap Growth	\$1,541,389	\$1,663,983	2.3
Victory Integrity Small Value Y	VSVIX	US Stock Small Cap Value	\$1,502,578	\$1,705,019	2.3
<b>Total International Equity</b>			<b>\$4,268,936</b>	<b>\$4,886,661</b>	<b>6.7</b>
William Blair International Growth I	BIGIX	International	\$1,903,513	\$2,142,607	2.9
Dodge & Cox Internat'l Stock	DODFX	International	\$2,365,423	\$2,744,054	3.8
<b>Total Alternatives</b>			<b>\$6,384,402</b>	<b>\$6,673,675</b>	<b>9.1</b>
Weatherlow Offshore Fund I Ltd CI IIA		Hedge Fund	\$4,403,315	\$4,472,317	6.1
H.I.G. Whitehorse Principal Lending Offshore Feeder Fd, L.P.		Private Equity	\$1,656,325	\$2,201,358	3.0
<b>Total Fixed Income</b>			<b>\$29,518,874</b>	<b>\$29,734,356</b>	<b>40.7</b>
JPMorgan Core Bond	WOBDX	US Fixed Income Core	\$4,899,376	\$4,958,462	6.8
YSU Intermediate Term Bond		US Fixed Income Core	\$4,149,134	\$4,220,753	5.8
PGIM High Yield R6	PHYQX	US Fixed Income High Yield	\$2,842,827	\$2,947,261	4.0
YSU Short Term Bond		US Fixed Income Short Term	\$12,348,377	\$12,479,880	17.1
Lord Abbett Short Duration Income I	LLDYX	US Fixed Income Short Term	\$5,279,159	\$5,128,000	7.0
<b>Total Cash &amp; Cash Equivalents</b>			<b>\$252</b>	<b>\$244</b>	<b>0.0</b>
PNC Govt MMkt	PKIXX	Cash	\$252	\$244	0.0

# ATTRIBUTION OF MARKET VALUE

## TOTAL UNIVERSITY ASSETS

	Q1-2022	Q2-2022	Q3-2022	Q4-2022	One Year
Total University Assets					
Beginning Market Value	\$87,254,985	\$102,269,338	\$77,012,438	\$89,300,805	\$87,254,985
Contributions	\$24,000,000	-	\$14,000,897	\$2,048	\$38,002,945
Distributions	-\$6,000,000	-\$20,000,000	-\$12,826	-\$19,009,237	-\$45,022,063
Net Cash Flows	\$18,000,000	-\$20,000,000	\$13,988,071	-\$19,007,189	-\$7,019,118
Net Investment Change	-\$2,985,648	-\$5,256,899	-\$1,699,704	\$2,731,774	-\$7,210,477
Ending Market Value	\$102,269,338	\$77,012,438	\$89,300,805	\$73,025,390	\$73,025,390
Change \$	\$15,014,352	-\$25,256,899	\$12,288,367	-\$16,275,415	-\$14,229,595

## LONG-TERM POOL

	Q1-2022	Q2-2022	Q3-2022	Q4-2022	One Year
Total Long Term/ Reserves Pool					
Beginning Market Value	\$67,042,588	\$64,052,942	\$58,753,018	\$56,940,489	\$67,042,588
Contributions	-	-	\$897	\$2,048	\$2,945
Distributions	-	-	-\$11,929	-\$9,237	-\$21,166
Net Cash Flows	-	-	-\$11,032	-\$7,189	-\$18,221
Net Investment Change	-\$2,989,645	-\$5,299,925	-\$1,801,498	\$2,531,499	-\$7,559,569
Ending Market Value	\$64,052,942	\$58,753,018	\$56,940,489	\$59,464,798	\$59,464,798
Change \$	-\$2,989,645	-\$5,299,925	-\$1,812,529	\$2,524,310	-\$7,577,789

# PERFORMANCE SUMMARY

	QTD (%)	1 Yr (%)	2 Yr (%)	3 Yr (%)	5 Yr (%)	7 Yr (%)	10 Yr (%)	2021 (%)	2020 (%)	2019 (%)	Inception (%)	Inception Date
<b>Total University Assets</b>	<b>3.0</b>	<b>-7.9</b>	<b>-0.3</b>	<b>2.8</b>	<b>3.6</b>	<b>4.3</b>	<b>3.8</b>	<b>7.8</b>	<b>9.5</b>	<b>11.5</b>	<b>3.8</b>	<b>Apr-04</b>
<i>Total Policy Benchmark<sup>1</sup></i>	2.7	-4.7	-0.3	1.7	2.6	3.0	2.7	4.3	5.9	8.7	2.9	
<b>Total Operating &amp; Short Term</b>	<b>1.0</b>	<b>1.6</b>	<b>0.8</b>	<b>0.9</b>	<b>1.4</b>	<b>1.1</b>	<b>0.8</b>	<b>0.0</b>	<b>1.1</b>	<b>2.4</b>	<b>0.7</b>	<b>Jul-10</b>
<i>Total Operating &amp; Short Term Benchmark<sup>2</sup></i>	0.8	1.2	0.6	0.7	1.2	1.0	0.7	0.0	0.8	2.3	0.6	
<b>Total Long Term/ Reserves Pool</b>	<b>4.4</b>	<b>-11.3</b>	<b>-1.5</b>	<b>1.8</b>	<b>3.3</b>	<b>4.5</b>	<b>4.4</b>	<b>9.5</b>	<b>8.8</b>	<b>15.3</b>	<b>4.5</b>	<b>Jul-10</b>
<i>Total Long Term/ Reserves Fund Benchmark<sup>3</sup></i>	4.2	-9.7	-1.3	2.3	3.6	4.6	4.3	8.0	10.0	14.2	4.3	
<b>Total Domestic Equity</b>	<b>8.4</b>	<b>-17.7</b>	<b>2.2</b>	<b>7.4</b>	<b>8.8</b>	<b>11.0</b>	<b>12.1</b>	<b>26.9</b>	<b>18.5</b>	<b>30.4</b>	<b>12.9</b>	<b>Jul-10</b>
<i>Russell 3000 Index</i>	7.2	-19.2	0.8	7.1	8.8	11.0	12.1	25.7	20.9	31.0	13.0	
<b>Total International Equity</b>	<b>14.5</b>	<b>-17.6</b>	<b>-4.8</b>	<b>1.9</b>	<b>1.9</b>	<b>5.3</b>	<b>5.1</b>	<b>10.0</b>	<b>16.7</b>	<b>26.7</b>	<b>4.5</b>	<b>Oct-10</b>
<i>MSCI EAFE (Net)</i>	17.3	-14.5	-2.4	0.9	1.5	4.5	4.7	11.3	7.8	22.0	4.6	
<b>Total Alternatives</b>	<b>1.4</b>	<b>-7.4</b>	<b>-1.3</b>	<b>-2.1</b>	<b>0.2</b>	<b>1.7</b>	<b>-</b>	<b>5.3</b>	<b>-3.7</b>	<b>14.3</b>	<b>0.8</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark<sup>4</sup></i>	1.8	-5.2	0.3	2.0	2.5	3.2	-	6.2	5.4	11.7	2.4	
<b>Total Fixed Income</b>	<b>1.4</b>	<b>-6.7</b>	<b>-3.4</b>	<b>-0.6</b>	<b>1.1</b>	<b>1.4</b>	<b>1.2</b>	<b>0.1</b>	<b>5.2</b>	<b>6.6</b>	<b>1.7</b>	<b>Jul-10</b>
<i>Total Fixed Income Benchmark<sup>5</sup></i>	1.1	-5.4	-3.1	-0.7	0.9	1.0	1.0	-0.8	4.5	5.0	1.3	
<b>Total Cash &amp; Cash Equivalents</b>	<b>16.7</b>	<b>17.3</b>	<b>8.3</b>	<b>5.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.0</b>	<b>0.4</b>	<b>1.5</b>	<b>4.0</b>	<b>Apr-18</b>
<i>90 Day U.S. Treasury Bill</i>	0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	1.3	

1) Total Policy Benchmark: 45% ICE BofA 91 Days T-Bills / 17% ICE BofA 1-3 Yr US Corp & Govt / 11% BBgBarc US Govt/Credit Int / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE.

2) Total Operating & Short-Term Benchmark: 95% ICE BofA 91 Days T-Bills / 5% BBgBarc US Govt 1-3 Yr.

3) Total Long-Term / Reserves Fund Benchmark: 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% ICE BofA 1-3 Yr US Corp & Govt / 20% BBgBarc US Govt/Credit Int.

4) Total Alternatives Benchmark: 100% HFRI Fund of Funds Composite.

5) Total Fixed Income Benchmark: 64% ICE BofA 1-3 Yr US Corp & Govt / 36% BBgBarc US Govt/Credit Int.

# PERFORMANCE REPORT CARD

	% of Portfolio	QTD (%)	1 Yr (%)	2 Yr (%)	3 Yr (%)	5 Yr (%)	7 Yr (%)	10 Yr (%)	2021 (%)	2020 (%)	2019 (%)	Inception (%)	Inception Date
<b>Total University Assets</b>	<b>100.0</b>	<b>3.0</b>	<b>-7.9</b>	<b>-0.3</b>	<b>2.8</b>	<b>3.6</b>	<b>4.3</b>	<b>3.8</b>	<b>7.8</b>	<b>9.5</b>	<b>11.5</b>	<b>3.8</b>	<b>Apr-04</b>
<i>Total Policy Benchmark</i>		2.7	-4.7	-0.3	1.7	2.6	3.0	2.7	4.3	5.9	8.7	2.9	
<b>Total Operating &amp; Short Term</b>	<b>18.6</b>	<b>1.0</b>	<b>1.6</b>	<b>0.8</b>	<b>0.9</b>	<b>1.4</b>	<b>1.1</b>	<b>0.8</b>	<b>0.0</b>	<b>1.1</b>	<b>2.4</b>	<b>0.7</b>	<b>Jul-10</b>
<i>Total Operating &amp; Short Term Benchmark</i>		0.8	1.2	0.6	0.7	1.2	1.0	0.7	0.0	0.8	2.3	0.6	
Federated Hermes Government Obligations Fund	18.4	0.8	1.4	0.7	0.5	1.0	0.8	0.6	0.0	0.3	1.8	1.2	Nov-21
<i>90 Day U.S. Treasury Bill</i>		0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	1.3	
JPMorgan 100% U.S. Tr Sec MM Inst	0.0	0.8	1.4	0.7	0.6	1.1	0.9	0.6	0.0	0.3	2.0	0.6	Oct-11
<i>90 Day U.S. Treasury Bill</i>		0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	0.7	
STAR Ohio	0.1	0.9	1.7	0.9	0.8	-	-	-	0.1	0.7	2.3	1.3	Jul-18
<i>90 Day U.S. Treasury Bill</i>		0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	1.2	
<b>Total Long Term/ Reserves Pool</b>	<b>81.4</b>	<b>4.4</b>	<b>-11.3</b>	<b>-1.5</b>	<b>1.8</b>	<b>3.3</b>	<b>4.5</b>	<b>4.4</b>	<b>9.5</b>	<b>8.8</b>	<b>15.3</b>	<b>4.5</b>	<b>Jul-10</b>
<i>Total Long Term/ Reserves Fund Benchmark</i>		4.2	-9.7	-1.3	2.3	3.6	4.6	4.3	8.0	10.0	14.2	4.3	
<b>Total Domestic Equity</b>	<b>24.9</b>	<b>8.4</b>	<b>-17.7</b>	<b>2.2</b>	<b>7.4</b>	<b>8.8</b>	<b>11.0</b>	<b>12.1</b>	<b>26.9</b>	<b>18.5</b>	<b>30.4</b>	<b>12.9</b>	<b>Jul-10</b>
<i>Russell 3000 Index</i>		7.2	-19.2	0.8	7.1	8.8	11.0	12.1	25.7	20.9	31.0	13.0	
Vanguard Institutional Index	16.1	7.5	-18.1	2.6	7.6	9.4	11.5	12.5	28.7	18.4	31.5	13.3	Jul-10
<i>S&amp;P 500 Index</i>		7.6	-18.1	2.7	7.7	9.4	11.5	12.6	28.7	18.4	31.5	13.3	
Vanguard Mid Cap Index Adm	4.1	9.0	-18.7	0.6	6.2	7.3	9.5	11.1	24.5	18.2	31.0	11.3	Oct-10
<i>Vanguard Mid Cap Index Benchmark</i>		9.0	-18.7	0.6	6.2	7.3	9.5	11.1	24.5	18.2	31.1	11.3	
Loomis Sayles Sm Growth N	2.3	8.0	-22.8	-7.8	4.5	7.8	10.1	11.5	10.2	34.3	26.7	5.8	Sep-19
<i>Russell 2000 Growth Index</i>		4.1	-26.4	-13.0	0.6	3.5	7.1	9.2	2.8	34.6	28.5	3.6	
Victory Integrity Small Value Y	2.3	13.5	-7.7	11.1	7.7	4.6	8.3	9.5	33.6	1.2	23.1	10.0	Oct-10
<i>Russell 2000 Value Index</i>		8.4	-14.5	4.7	4.7	4.1	8.2	8.5	28.3	4.6	22.4	9.1	
<b>Total International Equity</b>	<b>6.7</b>	<b>14.5</b>	<b>-17.6</b>	<b>-4.8</b>	<b>1.9</b>	<b>1.9</b>	<b>5.3</b>	<b>5.1</b>	<b>10.0</b>	<b>16.7</b>	<b>26.7</b>	<b>4.5</b>	<b>Oct-10</b>
<i>MSCI EAFE (Net)</i>		17.3	-14.5	-2.4	0.9	1.5	4.5	4.7	11.3	7.8	22.0	4.6	
<i>MSCI AC World ex USA (Net)</i>		14.3	-16.0	-4.8	0.1	0.9	4.8	3.8	7.8	10.7	21.5	3.7	
William Blair International Growth I	2.9	12.6	-28.3	-11.6	1.0	2.1	4.9	4.9	9.0	32.0	30.7	6.1	Jul-12
<i>MSCI AC World ex USA (Net)</i>		14.3	-16.0	-4.8	0.1	0.9	4.8	3.8	7.8	10.7	21.5	4.9	
Dodge & Cox Internat'l Stock	3.8	16.0	-6.8	1.7	1.9	1.2	5.2	4.8	11.0	2.1	22.8	4.7	Oct-10
<i>MSCI EAFE (Net)</i>		17.3	-14.5	-2.4	0.9	1.5	4.5	4.7	11.3	7.8	22.0	4.6	

# PERFORMANCE REPORT CARD

	% of Portfolio	QTD (%)	1 Yr (%)	2 Yr (%)	3 Yr (%)	5 Yr (%)	7 Yr (%)	10 Yr (%)	2021 (%)	2020 (%)	2019 (%)	Inception (%)	Inception Date
<b>Total Alternatives</b>	<b>9.1</b>	<b>1.4</b>	<b>-7.4</b>	<b>-1.3</b>	<b>-2.1</b>	<b>0.2</b>	<b>1.7</b>	<b>-</b>	<b>5.3</b>	<b>-3.7</b>	<b>14.3</b>	<b>0.8</b>	<b>Mar-15</b>
<i>Total Alternatives Benchmark</i>		1.8	-5.2	0.3	2.0	2.5	3.2	-	6.2	5.4	11.7	2.4	
Weatherlow Offshore Fund I Ltd CI IIA	6.1	1.6	-8.9	-1.9	6.3	5.7	5.0	5.5	5.6	24.7	13.6	-7.1	Jul-21
<i>HFRI Fund of Funds Composite Index</i>		1.8	-5.2	0.3	3.7	3.0	3.3	3.5	6.2	10.9	8.4	-2.8	
H.I.G. Whitehorse Principal Lending Offshore Feeder Fd, L.P.	3.0	0.0	-	-	-	-	-	-	-	-	-	1.8	Jul-22
<i>Credit Suisse Leveraged Loan Index</i>		2.3	-1.1	2.1	2.3	3.2	4.3	3.8	5.4	2.8	8.2	3.5	
<b>Total Fixed Income</b>	<b>40.7</b>	<b>1.4</b>	<b>-6.7</b>	<b>-3.4</b>	<b>-0.6</b>	<b>1.1</b>	<b>1.4</b>	<b>1.2</b>	<b>0.1</b>	<b>5.2</b>	<b>6.6</b>	<b>1.7</b>	<b>Jul-10</b>
<i>Total Fixed Income Benchmark</i>		1.1	-5.4	-3.1	-0.7	0.9	1.0	1.0	-0.8	4.5	5.0	1.3	
JPMorgan Core Bond	6.8	1.2	-12.3	-6.9	-2.1	0.3	1.1	1.2	-1.1	8.1	8.3	0.3	Sep-17
<i>Blmbg. U.S. Aggregate Index</i>		1.9	-13.0	-7.5	-2.7	0.0	0.9	1.1	-1.5	7.5	8.7	0.0	
YSU Intermediate Term Bond	5.8	1.7	-8.0	-4.7	-0.8	1.1	1.4	1.3	-1.3	7.5	7.2	3.0	Apr-04
<i>Blmbg. Intermed. U.S. Government/Credit</i>		1.5	-8.2	-4.9	-1.3	0.7	1.1	1.1	-1.4	6.4	6.8	2.7	
PGIM High Yield R6	4.0	3.7	-11.5	-3.0	-0.1	2.7	5.2	4.3	6.5	5.7	16.3	3.5	Jan-17
<i>Blmbg. U.S. Corp: High Yield Index</i>		4.2	-11.2	-3.3	0.0	2.3	5.0	4.0	5.3	7.1	14.3	3.2	
YSU Short Term Bond	17.1	1.1	-3.3	-1.9	0.0	1.1	1.1	1.0	-0.4	3.7	4.3	2.1	Apr-04
<i>ICE BofA 1-3 Yr. Gov/Corp</i>		0.9	-3.8	-2.1	-0.3	0.9	1.0	0.9	-0.4	3.3	4.1	1.9	
Lord Abbett Short Duration Income I	7.0	1.1	-4.6	-1.8	-0.2	1.3	1.9	1.7	1.1	3.2	5.6	1.4	Apr-18
<i>ICE BofA 1-3 Yr. Gov/Corp</i>		0.9	-3.8	-2.1	-0.3	0.9	1.0	0.9	-0.4	3.3	4.1	1.0	
<b>Total Cash &amp; Cash Equivalents</b>	<b>0.0</b>	<b>16.7</b>	<b>17.3</b>	<b>8.3</b>	<b>5.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.0</b>	<b>0.4</b>	<b>1.5</b>	<b>4.0</b>	<b>Apr-18</b>
<i>90 Day U.S. Treasury Bill</i>		0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	1.3	
PNC Govt MMkt	0.0	0.9	1.6	0.8	0.7	-	-	-	0.0	0.4	2.0	-	Apr-18
<i>90 Day U.S. Treasury Bill</i>		0.8	1.5	0.7	0.7	1.3	1.1	0.8	0.0	0.7	2.3	1.3	

- 1) Total Policy Benchmark: 45% ICE BofA 91 Days T-Bills / 17% ICE BofA 1-3 Yr US Corp & Govt / 11% BBgBarc US Govt/Credit Int / 8% Total Alternatives Benchmark / 15% Russell 3000 / 4% MSCI EAFE.
- 2) Total Operating & Short-Term Benchmark: 95% ICE BofA 91 Days T-Bills / 5% BBgBarc US Govt 1-3 Yr.
- 3) Total Long-Term / Reserves Fund Benchmark: 27% Russell 3000 / 8% MSCI EAFE / 15% Total Alternatives Benchmark / 30% ICE BofA 1-3 Yr US Corp & Govt / 20% BBgBarc US Govt/Credit Int.
- 4) Total Alternatives Benchmark: 100% HFRI Fund of Funds Composite.
- 5) Total Fixed Income Benchmark: 64% ICE BofA 1-3 Yr US Corp & Govt / 36% BBgBarc US Govt/Credit Int.

# VARYING LEVELS OF DISCRETION

## ROLES & RESPONSIBILITIES



INVESTMENT INITIATIVE	NON-DISCRETION		OPERATIONAL DISCRETION		DISCRETION (OCIO)	
	INSTITUTION	CONSULTANT	INSTITUTION	CONSULTANT	INSTITUTION	CONSULTANT
Investment Policy	Collaborative		Collaborative		Collaborative	
Strategic Asset Allocation	Collaborative		Collaborative		Collaborative	
Illiquid Manager Changes (> Annual Liquidity)	Approves	Recommends	Approves	Recommends	<i>Varies</i>	<i>Varies</i>
Liquid Manager Changes (< Annual Liquidity)	Approves	Recommends	Approves	Recommends	<b>Monitors</b>	<b>Implements</b>
Tactical Adjustments	Approves	Recommends	Approves	Recommends	<b>Monitors</b>	<b>Implements</b>
Trading & Implementation	Monitors / Implements	Assists / Implements	<b>Monitors</b>	<b>Implements</b>	<b>Monitors</b>	<b>Implements</b>
External Cash Movements	Approves	Assists in Transfer	Approves	<b>Assists / Implements</b>	Approves	<b>Assists / Implements</b>



## **DEFINITIONS & DISCLOSURES**



# DEFINITIONS & DISCLOSURES

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**Index Definitions:**  
The **S&P 500 Index** is a broad-based market index, comprised of 500 large-cap companies, generally considered representative of the stock market as a whole. The **S&P 400 Index** is an unmanaged index considered representative of mid-sized U.S. companies. The **S&P 600 Index** is a market-value weighted index that consists of 600 small-cap U.S. stocks chosen for market size, liquidity and industry group representation.  
The **Russell 1000 Value Index**, **Russell 1000 Index**, and **Russell 2000 Growth Index** are indices that measure the performance of large-capitalization value stocks, large-capitalization growth stocks, and large-capitalization growth stocks, respectively. The **Russell 2000 Value Index**, **Russell 2000 Index** and **Russell 2000 Growth Index** are indices that measure the performance of small capitalization value stocks, small-capitalization growth stocks, and small-capitalization growth stocks, respectively. The **Russell Midcap Value Index**, **Russell Midcap Index** and **Russell Midcap Growth Index** are indices that measure the performance of mid-capitalization value stocks, mid-capitalization growth stocks, and mid-capitalization growth stocks, respectively. The **Russell 2500 Value Index**, **Russell 2500 Index** and **Russell 2500 Growth Index** measure the performance of small to mid-cap value stocks, small to mid-cap growth stocks, and small to mid-cap growth stocks, respectively, commonly referred to as "SMID" cap. The **Russell 3000 Value Index**, **Russell 3000 Index** and **Russell 3000 Growth Index** measure the performance of the 3,000 largest U.S. value stocks, 3,000 largest U.S. stocks and 3,000 largest U.S. growth stocks, respectively, based on total market capitalization.  
The **Wilshire 5000 Index** represents the broadest index for the U.S. equity market, measuring the performance of all U.S. equity securities with readily available price data. The **Wilshire Micro Cap Index** is a market capitalization-weighted index comprised of all stocks in the Wilshire 5000 Index below the 2,501<sup>st</sup> rank.  
The **MSCI EAFE (Europe, Australasia, Far East) Index** is designed to measure developed market equity performance, excluding the U.S. and Canada. The **MSCI Emerging Markets (EM) Index** is designed to measure global developed market equity performance. The **MSCI World Index** is designed to measure global developed market equity performance. The **MSCI World Index Ex-U.S. Index** is designed to measure the equity market performance of developed markets and excludes the U.S. The **MSCI Europe Index** is an unmanaged index considered representative of developed European countries. The **MSCI Japan Index** is an unmanaged index considered representative of stocks of Japan. The **MSCI Pacific ex-Japan Index** is an unmanaged index considered representative of stocks of Asia Pacific countries excluding Japan.  
The **U.S. 10-Year Treasury Yield** is generally considered to be a barometer for long-term interest rates.  
The **Merrill Lynch 91-day T-bill index** includes U.S. Treasury bills with a remaining maturity from 1 up to 3 months.  
The **Barclays Capital (BC) U.S. Treasury Index** is designed to cover public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC Aggregate Bond Index** is an unmanaged, market value-weighted performance benchmark for investment-grade fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities with maturities of at least one year. The **BC U.S. Credit Bond Index** is designed to cover publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements; bonds must be SEC registered to qualify. The **BC U.S. Agency Index** is designed to cover publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government. The **BC MBS Index** is designed to mirror commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch respectively, with maturity of at least one year. The **BC MBS Index** covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARMs) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The **BC U.S. Municipal Bond Index** covers the U.S. dollar-denominated, long-term tax-exempt bond market with four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The **BC TIPS Index** is an unmanaged market index made up of U.S. Treasury Inflation Linked Index securities. The **BC U.S. Government Bond Index** is a market value-weighted index of U.S. Government fixed-rate debt issues with maturities of one year or more. The **BC ABS Index** is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public debt; the index covers the following collateral types: credit cards, autos, home equity loans, student credit utility (rate-reduction) bonds, and manufactured housing. The **BC Global Aggregate Index** is composed of three sub-indices: the U.S. Aggregate Index, the U.S. Aggregate Index, and the Asian-Pacific Aggregate Index. In aggregate the index is created to be a broad-based measure of the performance of investment-grade fixed rate debt on a global scale. The **BC U.S. Corporate Long Aa Index** is an unmanaged index representing public obligations of U.S. corporate and specified foreign debentures and secured notes with a remaining maturity of 10 years or more. The **BC U.S. Corporate High-Yield Index** measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. The **BC Intermediate Corporate Index** includes dollar-denominated debt from U.S. and non-U.S. industrial, utility, and financial institutions issuers with a duration of 1-10 years. The **BC U.S. Treasury Long Index** is an unmanaged index representing public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC U.S. Government 10 Year Treasury Index** measures the performance of U.S. Treasury securities that have a remaining maturity of less than 10 years. The **BC BA Corporate Index** measures the performance of the taxable Baa rated fixed-rate U.S. dollar-denominated corporate bond market. The **BC Global Treasury ex US Index** includes government bonds issued by investment-grade countries outside the United States, in local currencies, that have a remaining maturity of one year or more and are rated investment grade or higher. The **BC Emerging Market Bond Index** is an unmanaged index that total returns for external-currency-denominated debt instruments of the emerging markets. The **BC U.S. Securitized Bond Index** is a composite of asset-backed securities, collateralized mortgage-backed securities (RMBS-eligible) and fixed rate mortgage-backed securities. The **BC Quality Distribution AAA, B, and CCO-Indices** measure the respective credit qualities of U.S. corporate and specified foreign debentures and secured notes. The **BC Universal Index** represents the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, and the non-ERISA portion of the CMBIS Index. The **BC 1-3 Year Government Credit Index** is an unmanaged index considered representative of performance of short-term U.S. corporate bonds and U.S. government bonds with maturities from one to three years. The **BC Long-term Government Index** is an unmanaged index reflecting performance of the long-term government bond market. The **BC Intermediate Aggregate Index** measures the performance of intermediate-term investment grade bonds. The **BC Intermediate 1-3 Year Government/Credit Index** measures the performance of U.S. Dollar denominated U.S. Treasuries, government related and investment grade U.S. corporate securities that have a remaining maturity of greater than one year and less than ten years.  
The **Bank of America ML U.S. High Yield Index** tracks the performance of below investment grade US Dollar Denominated corporate bonds publicly issued in the US market. Qualifying bonds have at least one year remaining term to maturity, are fixed coupon schedule and minimum outstanding of \$100 million.  
The **HFR Funds of Funds Index (HFR FOF)** is an equal weighted index designed to measure the performance of hedge fund of fund managers. The more than 800 multi-strategy constituents are required to have at least \$50 million in assets under management and a trading track record spanning at least 12 months. The index includes both on and offshore funds and all returns are reported in USD.  
The **NCREIF Property Index (NPI)** represents quarterly time series composite total rate of return measure of a very large pool of individual commercial real estate properties acquired in the private market. The index represents apartments, hotels, industrial properties, office buildings and retail properties which are at least 60% occupied and owned or controlled, at least in part by tax-exempt institutional investors or its designated agent. In addition these properties that are included must be investment grade, non-agricultural and income producing and all development projects are excluded. Constituents included in the NPI be valued at least quarterly, either internally or externally, using standard commercial real estate appraisal methodology. Each property must be independently appraised a minimum of once every three years.  
The **FTSE NAREIT All REITs Index** is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified Real Estate Investment Trusts (REITs) that are listed on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ National Market List.  
The **Dow Jones U.S. Select Real Estate Securities Index** is a float-adjusted market capitalization-weighted index of publicly traded real estate securities such as real estate investment trusts (REITs) and real estate operating companies (REOCs).  
The **Cambridge PE Index** is a representation of returns for over 70% of the total dollars raised by U.S. leveraged buyout, subordinated debt and special situation managers from 1986 to December 2007. Returns are calculated based on the pooled time weighted return and are net of all fees. These pooled means represent the end to end rate of return calculated on the aggregate of all cash flows and market values reported by the general partners of the underlying constituents in the quarterly and annual reports.  
The **University of Michigan Consumer Sentiment Index** is a consumer confidence index published monthly by the University of Michigan and Thomson Reuters. The index is normalized to have a value of 100 in December 1964.  
**VIX** - The CBOE Volatility Index (VIX) is based on the prices of eight S&P 500 index put and call options.  
**Gold** - represented by the dollar spot price of one troy ounce.  
**WTI Crude** - West Texas Intermediate is a grade of crude oil used as a benchmark in oil pricing.  
The **Affordability Index** measures a population's ability to afford to purchase a particular item, such as a house, indexed to the population's income.  
The **Homeownership %** is computed by dividing the number of owner-occupied housing units by the number of occupied housing units or households.  
**HFR Emerging Markets: Asia ex-Japan, Global Index, Latin America Index, Russia/Eastern Europe Index.** The constituents of the HFR Emerging Markets Index are selected according to their Regional Investment Focus only. There is no Investment Strategy criteria for inclusion in these indices. Funds classified as Emerging Markets have a regional investment focus in one of the following geographic areas: Asia ex-Japan, Russia/Eastern Europe, Latin America, Africa or the Middle East. **HFRI EH: Energy/Basic Materials** strategies which employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintains a level of expertise which exceeds that of a market generalist. **HFRI EH: Equity Market Neutral** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Quantitative Directional** strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. **HFRI EH: Short-Biased** strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies with the goal of identifying overvalued companies. **HFRI EH: Technology/Healthcare** strategies employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintain a level of expertise which exceeds that of a market generalist in identifying opportunities in companies engaged in all development, production and application of technology, biotechnology and as related to production of pharmaceuticals and healthcare industry. **HFRI ED: Distressed Restructuring** strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings. **HFRI ED: Merge Arbitrage** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction. **HFRI ED: Private Issue/Regulation D** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are primarily private and illiquid in nature. **HFRI Macro: Systematic Diversified** strategies have investment processes typically as function of mathematical, algorithmic, and technical models, with little or no influence of individuals over the portfolio positioning. **HFRI RV: Fixed Income - Asset Backed** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument. **HFRI RV: Fixed Income - Corporate** includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument. **HFRI RV: Multi-Strategies** employ an investment thesis is predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments. **HFRI RV: Yield Alternatives Index** strategies employ an investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread contains a derivative, equity, real estate, MLP or combination of these or other instruments. Strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager.  
The **Consumer Price Index (CPI)** is an inflationary indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation. The CPI is published monthly. Unless otherwise noted, the CPI figure is as of the date this report is created.  
The **Credit Suisse Leveraged Loan Index** is a market value-weighted index designed to represent the investable universe of the U.S. dollar-denominated leveraged loan market.  
The **Dow Jones-UBS Commodity Index** measures the performance of the commodities market. It consists of exchange-traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity.  
The **S&P 500 Value Index**, **Index S&P 500 Index** and **S&P 500 Growth Index** are a broad-based market indices that measure the performance of large-capitalization value companies, large-capitalization companies and large-capitalization growth companies, respectively. The **S&P 400 MidCap Value Index**, **Index S&P 400 Index** and **S&P 400 MidCap Growth Index** are indices that measure the performance of mid-sized value companies, mid-sized companies and mid-sized growth companies, respectively. The **S&P 600 SmallCap Index** is a market value weighted index that consists of 600 small-cap U.S. stocks chosen for market size, liquidity and industry group representation. The **S&P 900 Index** combines the large-cap S&P 500 and the S&P MidCap 400. **S&P Completion Index TR** is a sub-index of the S&P Total Market Index (TMI) including all stocks eligible for the S&P TMI and excluding all current constituents of the S&P 500. **S&P Global Ex US Property Index** defines and measures the investable universe of publicly traded property companies domiciled in developed and emerging markets, excluding the U.S.  
The **Russell 1000 Value Index**, **Russell 1000 Index** and **Russell 1000 Growth Index** are indices that measure the performance of large-capitalization value stocks, large-capitalization growth stocks, and large-capitalization growth stocks, respectively. The **Russell 2000 Value Index**, **Russell 2000 Index** and **Russell 2000 Growth Index** are indices that measure the performance of small-capitalization value stocks, small-capitalization growth stocks and small-capitalization growth stocks, respectively. The **Russell Midcap Value Index**, **Russell Midcap Index** and **Russell Midcap Growth Index** are indices that measure the performance of mid-capitalization value stocks, mid-capitalization growth stocks, and mid-capitalization growth stocks, respectively. The **Russell 2500 Value Index**, **Russell 2500 Index** and **Russell 2500 Growth Index** measure the performance of small to mid-cap value stocks, small to mid-cap growth stocks, and small to mid-cap growth stocks, respectively, commonly referred to as "SMID" cap. The **Russell 3000 Value Index**, **Russell 3000 Index** and **Russell 3000 Growth Index** measure the performance of the 3,000 largest U.S. value stocks, 3,000 largest U.S. stocks and 3,000 largest U.S. growth stocks, respectively, based on total market capitalization. The **Russell Microcap Index** measures the performance of the microcap segment of the U.S. equity market. The **Russell Top 200 Value Index** measures the performance of the especially large cap segment of the U.S. equity universe represented by stocks in the largest 200 by market cap that exhibit value characteristics. The **Russell Developed ex-US Large Cap Index** measures the performance of the largest investable securities in developed countries globally, excluding companies assigned to the United States.



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The **Wilshire 5000 Index** represents the broadest index for the U.S. equity market, measuring the performance of all U.S. equity securities with readily available price data. The **Wilshire Micro Cap Index** is a market capitalization-weighted index comprised of all stocks in the Wilshire 5000 Index below the 2,501st rank. The **Wilshire 4500 Index** is comprised of all stocks in the Wilshire 5000 minus the stocks in the S&P 500. The **Wilshire Real Estate Securities Index (RESI)** is comprised of publicly traded real estate equity securities.

All MSCI indices are gross, defined as With Gross Dividends: Gross total return indices reinvest as much as possible of a company's dividend distributions. The reinvested amount is equal to the total dividend amount distributed to persons residing in the country of the dividend-paying company. Gross total return indices do not, however, include any tax credits. The **MSCI EAFE (Europe, Australasia, Far East) Gross Index** is designed to measure developed market equity performance, excluding the U.S. and Canada. The **MSCI Emerging Markets (EM) Gross Index** is designed to measure global emerging market equity performance. The **MSCI World Gross Index** is designed to measure global developed market equity performance. The **MSCI World Index Ex-US Gross Index** is designed to measure the equity market performance of developed markets and excludes the U.S. The **MSCI Europe Gross Index** is an unmanaged index considered representative of developed European countries. The **MSCI Japan Gross Index** is an unmanaged index considered representative of stocks of Japan. The **MSCI Pacific ex Japan Gross Index** is an unmanaged index considered representative of stocks of Asia Pacific countries excluding Japan. The **MSCI AC (All Country) Asia ex Japan Gross Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of Asia, excluding Japan. The **MSCI ACWI Gross Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The **MSCI ACWI ex US Small Cap Growth Gross Index** is a market capitalization weighted total return index measured in U.S. dollars based on share prices and reinvested net dividends that is designed to measure the equity market performance of the small cap growth segments of developed and emerging markets, excluding the U.S. The **MSCI Canada Gross Index** is designed to measure the performance of the large and midcap segments of the Canada market. The **MSCI EAFE Small Cap Gross Index** measures the performance of small cap stocks in European, Australasian, and Far Eastern markets. The **MSCI EAFE Value Gross Index** is a market capitalization-weighted index that monitors the performance of value stocks from Europe, Australasia, and the Far East. The **MSCI EM Latin America Gross Index** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of emerging markets in Latin America. The **MSCI Pacific Free ex Japan Gross Index** measures the performance of the Australian, Hong Kong, New Zealand, and Singapore equity markets. The **MSCI World Small Cap Gross Index** is designed to measure the equity market performance of the small cap segment of developed markets. The **MSCI US Small Cap 1750 Gross Index** represents the universe of small capitalization companies in the US equity market. The **MSCI US Mid Cap 450 Index** represents the universe of medium capitalization companies in the US equity market. The **MSCI US Mid Cap Value Index** represents the value companies of the MSCI US Mid Cap 450 Index. The **MSCI US Prime Market 750 Index** represents the universe of large and medium capitalization companies in the US equity market. The **MSCI US Prime Market Value Index** represents the value companies of the MSCI US Prime Market 750 Index. The **MSCI US Prime Market Growth Index** represents the growth companies of the MSCI US Prime Market 750 Index.

The **Barclays Capital® (BC) U.S. Treasury Index** is designed to cover public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC Aggregate Bond Index** is an unmanaged, market value-weighted performance benchmark for investment-grade fixed-rate debt issues, including government, corporate, asset-backed, and mortgage-backed securities with maturities of at least one year. The **BC U.S. Credit Bond Index** is designed to cover publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements; bonds must be SEC-registered to qualify. The **BC U.S. Agency Index** is designed to cover publicly issued debt of U.S. Government agencies, quasi-federal corporations, and state or foreign debt guaranteed by the U.S. Government. The **BC CMBS Index** is designed to cover commercial mortgage-backed securities of investment-grade quality (Baa3/BBB-/BBB- or above) using Moody's, S&P, and Fitch respectively, with maturity of at least one year. The **BC MBS Index** covers agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARMs) issued by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The **BC U.S. Municipal Bond Index** covers the U.S. dollar-denominated, long-term tax-exempt bond market with four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds. The **BC US TIPB Index** is an unmanaged market index made up of U.S. Treasury Inflation Linked Index securities. The **BC U.S. Government Bond Index** is a market value-weighted index of U.S. Government fixed-rate debt issues with maturities of one year or more. The **BC ABS Index** is a market value-weighted index that covers fixed-rate asset-backed securities with average lives greater than or equal to one year and that are part of a public deal; the index covers the following collateral types: credit cards, autos, home equity loans, stranded-cost utility (rate-reduction bonds), and manufactured housing. The **BC Global Aggregate Index** is composed of three sub-indices; the U.S. Aggregate Index, Pan-European Aggregate Index, and the Asian-Pacific Aggregate Index. In aggregate the index is created to be a broad-based measure of the performance of investment grade fixed rate debt on a global scale. The **BC U.S. Corporate Long AA Index** is an unmanaged index representing public obligations of U.S. corporate and specified foreign debentures and secured notes with a remaining maturity of 10 years or more. The **BC U.S. Corporate High-Yield Index** measures the market of USD-denominated, non-investment-grade, fixed-rate, taxable corporate bonds. The **BC Intermediate Corporate Index** includes dollar-denominated debt from U.S. and non-U.S. industrial, utility, and financial institutions issuers with a duration of 1-10 years. The **BC U.S. Treasury Long Index** is an unmanaged index representing public obligations of the U.S. Treasury with a remaining maturity of one year or more. The **BC U.S. Government 10 Year Treasury Index** measures the performance of U.S. Treasury securities that have a remaining maturity of less than 10 years. The **BC BAA Corporate Index** measures the performance of the taxable Baa rated fixed rate U.S. dollar-denominated corporate bond market. The **BC Global Treasury ex US Index** includes government bonds issued by investment-grade countries outside the United States, in local currencies, that have a remaining maturity of one year or more and are rated investment grade or higher. The **BC Emerging Market Bond Index** is an unmanaged index that total returns for external-currency-denominated debt instruments of the emerging markets. The **BC U.S. Securitized Bond Index** is a composite of asset-backed securities, collateralized mortgage-backed securities (ERISA-eligible) and fixed rate mortgage-backed securities. The **BC Quality Distribution AAA, B, and CC-D Indices** measure the respective credit qualities of U.S. corporate and specified foreign debentures and secured notes. The **BC Universal Index** represents the union of the U.S. Aggregate Index, the U.S. High Yield Corporate Index, the 144A Index, the Eurodollar Index, the Emerging Markets Index, and the non-ERISA portion of the CMBS Index. The **BC 1-3 Year Government Credit Index** is an unmanaged index considered representative of performance of short-term U.S. corporate bonds and U.S. government bonds with maturities from one to three years. The **BC 1-5 Year Government Credit Index** is an unmanaged index considered representative of performance of short-term U.S. corporate bonds and U.S. government bonds with maturities from one to five years. The **BC Long-term Government Index** is an unmanaged index reflecting performance of the long-term government bond market. The **BC Intermediate Aggregate Index** measures the performance of intermediate-term investment grade bonds. The **BC Intermediate 1-3 Year Government/Credit Index** measures the performance of U.S. dollar-denominated U.S. Treasury, government-related and investment grade U.S. corporate securities that have a remaining maturity of greater than one year and less than ten years. The **BC U.S. 1-3 Year Government Bond Index** is composed of treasury bond and agency bond and agency bond indices that have maturities of one to three years. The **BC U.S. 1-5 Year Government Bond Index** is composed of treasury bond and agency bond and agency bond indices that have maturities of one to five years. The **BC 1-3 Year US Treasury Index** measures the performance of U.S. Treasury securities that have a maturity between 1 to 3 years. The **BC Government Credit Index** measures the performance of U.S. Government and corporate bonds rated investment grade or better, with maturities of at least one year.

The **BC High Yield Index** covers the universe of fixed rate, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds, and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, and 144-As are also included. The **BC Intermediate Government Index** measures the performance of intermediate U.S. government securities. The **BC Intermediate Government/Credit Bond Index** measures the performance of intermediate term U.S. government and corporate bonds. The **BC U.S. Long Term Corporate Index** measures the performance of investment grade, fixed-rate, taxable securities issued by industrial, utility, and financial companies, with maturities greater than 10 years. The **BC Global Credit Hedged USD Index** consists of investment-grade and high yield credit securities from the Multiverse represented in U.S. Dollars on a hedged basis. The **BC Long A-U.S. Credit Index** measures the performance of investment grade corporate debt and agency bonds that are dollar-denominated and have a maturity of greater than 10 years. The **BC U.S. Gov/Credit: 5-10 Year Index** includes all medium and large issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities between 5 and 10 years and are publicly issued.

The **Cambridge U.S. Private Equity Index** is a representation of returns for over 70% of the total dollars raised by U.S. leveraged buyout, subordinated debt and special situation managers from 1986 to December 2007. Returns are calculated based on the pooled time weighted return and are net of all fees. These pooled means represent the end to end rate of return calculated on the aggregate of all cash flows and market values reported by the general partners of the underlying constituents in the quarterly and annual reports. Please Note: the performance of this index lags by 1 quarter.

The **Bank of America (BoFA) Merrill Lynch (ML) 91-day T-Bill Index** includes U.S. Treasury bills with a remaining maturity from 1 up to 3 months. The **BoFA ML U.S. High Yield Master Index & Bank of America ML U.S. High Yield Master II Indices** track the performance of below investment grade US Dollar Denominated corporate bonds publicly issued in the US market. Qualifying bonds have at least one year remaining term to maturity, are fixed coupon schedule and minimum outstanding of \$100 million. The **BoFA ML All US Convertibles Index** consists of convertible bonds traded in the U.S. dollar denominated investment grade and non investment grade convertible securities sold into the U.S. market and publicly traded in the United States. The **BoFA ML US Corp & Govt 1-3 Yrs Index** tracks the performance of U.S. dollar-denominated investment grade government and corporate public debt issued in the U.S. domestic market with at least 1 yr and less than 3 yrs remaining to maturity, including U.S. Treasury, U.S. agency, foreign government, supranational and corporate securities. The **BoFA ML U.S. High Yield BB-B Constrained Index** is a modified market capitalization-weighted index of U.S. dollar-denominated, below-investment-grade corporate debt publicly issued in the U.S. domestic market. The **BoFA Merrill Lynch US Treasury 1-3 Year Index** tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year and less than three years. The **BoFA ML Treasuries 1 Year Index** tracks the performance of the direct sovereign debt of the U.S. Government having a maturity of at least one year. The **BoFA ML Treasury Current 2 Year Index** tracks the most recently issued 2-year U.S. Treasury note. The **BoFA ML CMBS Fixed Rate AAA Index** is a subset of the BoFA ML U.S. Fixed Rate CMBS Index including all securities rated AAA. The **BoFA ML U.S. Fixed Rate CMBS Index** tracks the performance of U.S. dollar-denominated investment-grade fixed rate commercial mortgage-backed securities publicly issued in the U.S. domestic market. The **BoFA ML U.S. Dollar 3-Month LIBOR Index** represents the London interbank offered rate (LIBOR) with a constant 3-month average maturity.

The **Citi Select MLP Index** is a USD denominated, price return index, comprised of the common units of up to 30 of the most liquid market limited partnerships in the Energy Sector. The **Citigroup World Government Bond Index (WGBI) 1-5 Year Hedged USD Index** is a comprehensive measure of the total return performance of the government bond markets of approximately 22 countries with maturities ranging from one to five years. The **Citigroup WGBI Index** is a market capitalization weighted bond index consisting of the government bond markets of the multiple countries. The **Citigroup ex US Index** is a market capitalization weighted bond index consisting of the government bond markets of the multiple countries, excluding the U.S. The **Citigroup 3-Month US Treasury Bill Index** performance is an average of the last 3-Month Treasury Bill issues.

The **NCREIF Property Index (NPI)** represents quarterly time series composite total rate of return measure of a very large pool of individual commercial real estate properties acquired in the private market. The index represents apartments, hotels, industrial properties, office buildings and retail properties which are at least 60% occupied and owned or controlled, at least in part by tax-exempt institutional investors or its designated agent. In addition these properties that are included must be investment grade, non-agricultural and income producing and all development projects are excluded. Constituents included in the NPI be valued at least quarterly, either internally or externally, using standard commercial real estate appraisal methodology. Each property must be independently appraised a minimum of once every three years. Please Note: the performance of this index lags by 1 quarter. The **NCREIF Timberland Index** is a quarterly time series composite return measure of investment performance of a large pool of individual timber properties acquired in the private market for investment purposes only.

The **Ibbotson Intermediate Government Bond Index** is measured using a one-bond portfolio with a maturity near 5 years.

The **JP Morgan Emerging Markets Bond Index Plus (EMBI+)** index tracks total returns for traded external debt instruments (external meaning foreign currency denominated fixed income) in the emerging markets. The **JP Morgan GBI Global ex-US Index** represents the total return performance of major non-U.S. bond markets.

The **HFRF Funds of Funds Index (HFRF FOF)** is an equal weighted index designed to measure the performance of hedge fund of fund managers. The more than 800 multi-strategy constituents are required to have at least \$50 million in assets under management and a trading track record spanning, at least 12 months. The index includes both on and offshore funds and all returns are reported in USD. **HFR Relative Value Index** tracks investment managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction. **HFRF Fund of Funds Conservative Index** is an equal-weighted index representing funds or funds that invest with multiple managers focused on consistent performance and lower volatility via absolute strategies. **HFRF ED: Merger Arbitrage** strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

The **FTSE All-World ex US Index** comprises large and midcap stocks providing coverage of developed and emerging markets, excluding the U.S. The **FTSE NAREIT Developed Index** is a global market capitalization weighted index composed of listed real estate securities from developed market countries in North America, Europe, and Asia. The **FTSE All-World ex US Index** is a global market capitalization weighted index composed of listed real estate securities from developed market countries in North America, Europe, and Asia. The **FTSE NAREIT Developed ex US Index** is a global market capitalization weighted index composed of listed real estate securities from developed market countries in North America, Europe, and Asia. The **FTSE Global Equity Index Series (GEIS)**, the **FTSE NAREIT All REITS Index** is a market capitalization-weighted index that is designed to measure the performance of all tax-qualified Real Estate Investment Trusts (REITs) that are listed on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ National Market List. The **FTSE NAREIT Equity REIT Index** is an unmanaged index reflecting performance of the U.S. real estate investment trust market.

The **Consumer Price Index (CPI)** is an inflationary indicator that measures the change in the cost of a fixed basket of products and services, including housing, electricity, food, and transportation. The CPI is published monthly. Please Note: the performance of this index lags by 1 month.

The **Credit Suisse Leveraged Loan Index** is a market value-weighted index designed to represent the investable universe of the U.S. dollar-denominated leveraged loan market. The **Dow Jones (DJ) US Commodity Index** measures the performance of the commodities market. It consists of exchange-traded futures contracts on physical commodities that are weighted to account for the economic significance and market liquidity of each commodity. The **DJ U.S. Total Stock Market Index** is an all-inclusive measure composed of all U.S. equity securities with readily available prices. The **DJ U.S. Completion Total Stock Market Index** is a subset of the DJ U.S. Total Stock Market Index that excludes components of the S&P 500. The **Dow Jones U.S. Select Real Estate Securities Index** is a float-adjusted market capitalization-weighted index of publicly traded real estate securities such as real estate investment trusts (REITs) and real estate operating companies (REOCs).

The **Dow Jones Target Date (Today, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055)** indices were created to benchmark portfolios of stocks, bonds and cash. Each index is made up of composite indices representing these three asset classes. The asset class indices are weighted differently within each target date index depending on the time horizon. Each month, the allocations among the asset class indices are rebalanced to reflect an increasingly conservative asset mix.

The **Morningstar Lifetime Allocation Index** series consists of 13 indexes (Income, 2000, 2005, 2010, 2015, 2020, 2025, 2030, 2035, 2040, 2045, 2050, 2055) available in three risk profiles: aggressive, moderate, and conservative. The indexes are built on asset allocation methodologies developed by Ibbotson Associates, a leader in asset allocation research and a Morningstar company since 2006. The indexes provide pure asset-class exposure to global equities, global fixed-income, commodities, and Treasury Inflation-Protected Securities (TIPS) by using existing Morningstar indexes as allocation building blocks. The portfolio allocations are held in proportions appropriate to the U.S. investor's number of years until retirement. The Conservative, Moderate and Aggressive risk profiles are for investors who are comfortable with below-average exposure to equity market volatility, investors who are comfortable with average exposure to equity market volatility and well-funded investors who are comfortable with above average exposure to equity market volatility, respectively.

These reports are not to be construed as an offer or the solicitation of an offer to buy or sell securities mentioned herein. Information contained in these reports are based on sources and data believed reliable. The information used to construct these reports was received via a variety of sources. These reports are for informational purposes only and are not intended to satisfy any compliance or regulatory conditions set forth by any governing body of the securities industry. These reports do not take the place of any brokerage statements, any fund company statements, or tax forms. You are urged to compare this report with the statement you receive from your custodian covering the same period. Differences in positions may occur due to reporting dates used and whether certain assets are not maintained by your custodian. There may also be differences in the investment values shown due to the use of differing valuation sources and methods. Past performance is no guarantee of future results. Investing involves risk, including risk of loss. Diversification does not ensure a profit or guarantee in any position.

Evaluation of investment managers covers both quantitative and qualitative aspects. In addition to the investment performance evaluation, we monitor ownership structure, track key-employee information, and hold regular meetings with each investment management organization employed by our clients.

The data presented in this report have been calculated on a time-weighted rate of return basis. All returns are net of investment advisory fees, but gross of Clearstead advisory fees and custodian fees, unless otherwise labeled. The deduction of Clearstead advisory fees and custodian fees would have the effect of decreasing the indicated investment performance.

The performance data shown represent past performance. Past performance is not indicative of future results. Current performance data may be lower or higher than the performance data presented.

Returns for periods longer than one year are annualized. Each number is independently rounded.

A current copy of Hartland & Co.'s ADV-Part 2 is available to all clients upon request.





**YOUNGSTOWN  
STATE  
UNIVERSITY**

**RESOLUTION TO APPROVE  
AN OUTSOURCED CHIEF INVESTMENT OFFICER  
INVESTMENT STRATEGY**

**WHEREAS**, the Investment Committee of the Board of Trustees of Youngstown State University is responsible for identification of asset classes, strategic asset allocation, acceptable asset ranges above and below the strategic asset allocation, and selecting investment managers, pursuant to University policy 3356-3-10; and

**WHEREAS**, the Investment Committee has considered various approaches to asset management, including the non-discretionary model currently used by the university, and the discretionary model commonly referred to as an *outsourced chief investment officer* (OCIO) model; and

**WHEREAS**, the OCIO approach provides greater flexibility to more quickly respond to changes in investment markets, thereby helping to mitigate investment risk.

**NOW, THEREFORE, BE IT RESOLVED**, that the Investment Committee of the Board of Trustees of Youngstown State University does hereby approve moving to an outsourced investment officer model, effective immediately upon approval of this resolution.

**Board of Trustees Meeting  
March 2, 2023  
YR 2023-**

## EXECUTIVE SUMMARY (CONTINUED)

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Tasks completed and next steps for the Board:

- Clearstead present education on different Fiduciary service models (**COMPLETED**)
- Clearstead to gather Committee feedback / questions and follow up with responses (**COMPLETED**)
- Board decision on evolving the investment structure with Clearstead to a discretionary assignment (**ACTION**)
- If Approved:
  - Clearstead would work with University stakeholders to update the investment advisory agreement to reflect a level of discretionary authority
  - Clearstead would review and recommend changes to the Investment Policy and guidelines to update roles and responsibilities
  - Clearstead would work with University stakeholders to be granted trading authority at PNC Bank (University's primary custodian) and any other custodians/managers (no authority for external cash movements will be given to Clearstead)



**YOUNGSTOWN  
STATE  
UNIVERSITY**

**RESOLUTION TO APPROVE  
THE ADDITION OF AN INVESTMENT MANAGER FOR THE  
NON-ENDOWED LONG-TERM INVESTMENT POOL**

**WHEREAS**, the Investment Committee of the Board of Trustees of Youngstown State University is responsible for identification of asset classes, strategic asset allocation, acceptable asset ranges above and below the strategic asset allocation, and selecting investment managers, pursuant to University policy 3356-3-10; and

**WHEREAS**, the Investment Committee has consulted with the University's investment advisor, Clearstead, regarding asset allocations, portfolio and market performance, and investment managers.

**NOW, THEREFORE, BE IT RESOLVED**, that the Investment Committee of the Board of Trustees of Youngstown State University does hereby approve the addition of Apollo Infrastructure Opportunities Fund III as an investment manager for the University's pool of non-endowed long-term assets.

**Board of Trustees Meeting  
March 2, 2023  
YR 2023-**

# EXECUTIVE SUMMARY

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**RECOMMENDATION:** Clearstead recommends a \$2.75 million commitment to the Apollo Infrastructure Opportunities Fund III in the Long-Term Pool.

## WHY INVEST IN APOLLO INFRASTRUCTURE OPPORTUNITIES?

- **Established Market Leader**
- **Deep Team & Resources**
- **Disciplined Process and Robust Platform**
- **Track Record of Results**



**YOUNGSTOWN  
STATE  
UNIVERSITY**

**RESOLUTION TO APPROVE  
CLEARSTEAD'S RECOMMENDATION TO REBALANCE THE  
NON-ENDOWMENT LONG-TERM INVESTMENT POOL**

**WHEREAS**, the Investment Committee of the Board of Trustees of Youngstown State University is responsible for identification of asset classes, strategic asset allocation, acceptable asset ranges above and below the strategic asset allocation, and selecting investment managers, pursuant to University policy 3356-3-10; and

**WHEREAS**, the Investment Committee has consulted with the University's investment advisors and recommends rebalancing the Non-Endowment Long-Term Investment Pool.

**NOW, THEREFORE, BE IT RESOLVED**, that the Investment Committee of the Board of Trustees of Youngstown State University does hereby approve the rebalance, attached hereto.

**Board of Trustees Meeting  
March 2, 2023  
YR 2023-**

# PORTFOLIO RECOMMENDATIONS (ACTION)

YOUNGSTOWN STATE UNIVERSITY

AS OF FEBRUARY 17, 2023

	TICKER	INVESTMENT STRATEGY	MARKET VALUE (CURRENT)	% OF PORTFOLIO	CHANGES	MARKET VALUE (POST CHANGES)	% OF PORTFOLIO	POLICY TARGET	POLICY RANGE	TACTICAL +/-
<b>Total Operating &amp; Short Term</b>			<b>\$33,606,554</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$33,606,554</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Operating Assets</b>			<b>\$33,606,554</b>	<b>100.0%</b>		<b>\$33,606,554</b>	<b>100.0%</b>		<b>60-100%</b>	
Federated Hermes Govt Obligations	FOGXX	Money Market	\$33,515,148	99.7%		\$33,515,148	99.7%			
Star Plus*	-	Cash Equivalent	\$0	0.0%		\$0	0.0%			
Star Ohio*	-	Cash Equivalent	\$91,406	0.3%		\$91,406	0.3%			
<b>Short-Term Assets</b>			<b>\$0</b>	<b>0.0%</b>		<b>\$0</b>	<b>0.0%</b>		<b>0-40%</b>	
Vanguard Short-Term Federal Adm	VSGDX	Short-Term Fixed	\$0	0.0%		\$0	0.0%			
<b>Total Long Term Reserves Pool</b>			<b>\$61,473,407</b>	<b>100.0%</b>	<b>\$0</b>	<b>\$61,473,407</b>	<b>100.0%</b>	<b>100.0%</b>		
<b>Domestic Equity</b>			<b>\$19,520,552</b>	<b>31.8%</b>		<b>\$18,720,552</b>	<b>30.5%</b>	<b>27.0%</b>	<b>20-35%</b>	<b>3.5%</b>
<b>Large Cap</b>			<b>\$12,537,449</b>	<b>20.4%</b>		<b>\$12,267,449</b>	<b>20.0%</b>			
Vanguard Instl Index	VINIX	Large Cap Core	\$12,537,449	20.4%	-\$270,000	\$12,267,449	20.0%			
<b>Small/Mid Cap</b>			<b>\$6,983,103</b>	<b>11.4%</b>		<b>\$6,453,103</b>	<b>10.5%</b>			
Vanguard Mid Cap Index Adm	VIMAX	Mid-Cap Core	\$3,276,186	5.3%	-\$180,000	\$3,096,186	5.0%			
Loomis Sayles Small Growth N2	LSSNX	Small Cap Growth	\$1,819,105	3.0%	-\$140,000	\$1,679,105	2.7%			
Victory Integrity Small Cap Value Y	VSVIX	Small Cap Value	\$1,887,811	3.1%	-\$210,000	\$1,677,811	2.7%			
<b>International Equity</b>			<b>\$5,256,046</b>	<b>8.6%</b>		<b>\$5,056,046</b>	<b>8.2%</b>	<b>8.0%</b>	<b>0-15%</b>	<b>0.2%</b>
William Blair International Growth I	BIGIX	Foreign Growth	\$2,305,758	3.8%		\$2,305,758	3.8%			
Dodge & Cox International Stock	DODFX	Foreign Value	\$2,950,288	4.8%	-\$200,000	\$2,750,288	4.5%			
<b>Total Equity</b>			<b>\$24,776,598</b>	<b>40.3%</b>		<b>\$23,776,598</b>	<b>38.7%</b>	<b>35.0%</b>	<b>25-45%</b>	<b>3.7%</b>
<b>Alternatives</b>			<b>\$6,797,431</b>	<b>11.1%</b>		<b>\$6,797,431</b>	<b>11.1%</b>	<b>15.0%</b>	<b>0-20%</b>	<b>-3.9%</b>
H.I.G. Principal Lending Fund*	-	Private Credit	\$2,200,333	3.6%		\$2,200,333	3.6%			
Apollo Infrastructure Opps Fund III	-	Real Assets	\$0	0.0%		\$0	0.0%			
Weatherlow Fund*	-	Hedge FoF	\$4,597,098	7.5%		\$4,597,098	7.5%			
<b>Fixed Income</b>			<b>\$29,899,133</b>	<b>48.6%</b>		<b>\$30,899,133</b>	<b>50.3%</b>	<b>50.0%</b>	<b>35-75%</b>	<b>0.3%</b>
<b>Short Term Fixed Income</b>			<b>\$17,644,413</b>	<b>28.7%</b>		<b>\$18,644,413</b>	<b>30.3%</b>	<b>30.0%</b>	<b>25-45%</b>	<b>0.3%</b>
YSU Short Term Bond	-	Short-Term Fixed	\$12,470,282	20.3%		\$12,470,282	20.3%			
Lord Abbett Short Duration	LLDYX	Short-Term Fixed	\$5,174,131	8.4%	\$1,000,000	\$6,174,131	10.0%			
<b>Intermediate Fixed Income</b>			<b>\$12,254,721</b>	<b>19.9%</b>		<b>\$12,254,721</b>	<b>19.9%</b>	<b>20.0%</b>	<b>10-30%</b>	<b>-0.1%</b>
IPMorgan Core Bond Fund R6**	ICBUX	Core Plus Fixed	\$5,040,843	8.2%		\$5,040,843	8.2%			
YSU Intermediate Term Fixed	-	Interm-Term Fixed	\$4,229,094	6.9%		\$4,229,094	6.9%			
Prudential High Yield Bond R6	PHYQX	High Yield	\$2,984,783	4.9%		\$2,984,783	4.9%			
<b>Cash &amp; Cash Equivalents</b>			<b>\$245</b>	<b>0.0%</b>		<b>\$245</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0-5%</b>	<b>0.0%</b>
Equity Account Cash	-	Money Market	\$245	0.0%		\$245	0.0%			
<b>Total University Assets</b>			<b>\$95,079,961</b>			<b>\$95,079,961</b>				

\*As of 01/31/2023.

\*\*Held at JPMorgan.

Why Lord Abbett? Lord Abbett has a significant yield advantage over the other short-term fixed income investment – the (PNC) short-term bond portfolio – which is primarily held by the University to satisfy ORC requirements. Lord Abbett's yield of ~6.2% (as of 12/31) is an attractive rate for short-term bond exposure.