ARKANSAS TEACHER RETIREMENT SYSTEM

April 3, 2023

1400 West Third Street
BOARD ROOM
Little Rock, AR 72201

Investment Committee Meeting
9:30 a.m.

Members

Chip Martin, Chair
Kathy Clayton, Vice Chair
Susan Ford
Shawn Higginbotham
Michael Johnson
Danny Knight
Susannah Marshall, State Bank Commissioner
Honorable Mark Lowery, State Treasurer

AGENDA

ARKANSAS TEACHER RETIREMENT SYSTEM

INVESTMENT COMMITTEE

April 3, 2023

9:30 a.m.

1400 West Third Street

Little Rock, AR 72201

I. ***Call to Order/Roll Call.** page 1.

II. ***Adoption of Agenda.** page 2.

III. Executive Summary. *Rod Graves, Deputy Director* (Attachment No. 1) page 5.

IV. ***Approval of Prior Meeting Minutes.**

   A. ***February 6, 2023, Minutes.** (Attachment No. 2) page 8.

   B. ***March 9, 2023, Minutes.** (Attachment No. 3) page 12.

V. Arkansas Related and Investment Update. *Rod Graves, Deputy Director*

   A. List of Fund Closings.

      1. Arrowstreet Global Equity ACWI Alpha Extension 130/30820, LP, a fund that uses advanced computer models to select global stocks for a long/short strategy, the Board authorized commitment of up to $800 million dollars on December 5, 2022 was accepted and closed on March 15, 2023.

      2. DIF Infrastructure VII Cooperatief U.A. and DIF Infrastructure VII SCSp (collectively DIF VII), an infrastructure fund focused on public-private partnership projects including toll roads, regulated utilities, and renewable energy projects, the Board authorized commitment of up to €50 million euros on December 5, 2022 was accepted and closed on February 14, 2023.

      3. Franklin Park Venture Capital Opportunity Fund, LP, a fund that invests in later stage venture capital funds, the Board authorized additional commitment of up to $30 million dollars on December 5, 2022 was accepted and closed on February 10, 2023.

* Action Item

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4. Franklin Park International Fund XI, LP, a fund that invests in international private equity, the Board authorized additional commitment of up to $30 million dollars on December 5, 2022 was accepted and closed on February 10, 2023.
5. GCG Investors VI, L.P., a fund focused on middle market debt and equity opportunities, the Board authorized commitment of up to $30 million dollars on February 6, 2023 with Imminent Need was accepted and closed on March 8, 2023.
6. Franklin Park Co- Investment Fund VI, L.P., a fund focused on private equity co-investments, the Board authorized commitment of up to $65 million dollars on February 6, 2023 with Imminent Need was accepted and closed on February 24, 2023.

VI. General Investment Consultant Report. *Aon Hewitt Investment Consulting*

A. Preliminary Performance Report for the Month Ending February 28, 2023. *P. J. Kelly of Aon Hewitt Investment Consulting* (Attachment No. 4) page 14.

B. ***Recommendation to approve for Board adoption Resolution 2023-13 authorizing an investment of up to $50 million dollars in Chatham Asset Private Debt and Strategic Capital Fund IV, L.P.** *P. J. Kelly and Kevin Hrad of Aon Hewitt Investment Consulting* (Attachment No. 5) page 39.

1. ***Resolution 2023-13.** (Attachment No. 6) page 68.

C. ***Recommendation to approve for Board adoption Resolution 2023-14 authorizing an investment of up to $40 million dollars in Prophet MSR Opportunities Fund.** *P. J. Kelly and Kevin Hrad of Aon Hewitt Investment Consulting* (Attachment No. 7) page 70.

1. ***Resolution 2023-14.** (Attachment No. 8) page 107.

VII. Real Assets Consultant Report. *Aon Hewitt Investment Consulting*

A. ***Recommendation to approve for Board adoption Resolution 2023-15 authorizing an investment of up to $50 million dollars in Lone Star Real Estate Fund VII, LP.** *Jack Dowd, Aon Hewitt Investment Consulting* (Attachment No. 9) page 109.

1. ***Resolution 2023-15.** (Attachment No. 10) page 115.

VIII. Other Business.

IX. ***Adjourn.**

Committee Members: Chip Martin, Chair
Kathy Clayton, Vice Chair

* Action Item

Susan Ford
Shawn Higginbotham
Michael Johnson
Danny Knight
Susannah Marshall, State Bank Commissioner
Honorable Mark Lowery, State Treasurer

* Action Item

EXECUTIVE SUMMARY

TO: Investment Committee

FROM: ATRS Staff

RE: Executive Summary

DATE: April 3, 2023

V. Arkansas Related and Investment Update. *Rod Graves, Deputy Director*

A. List of Fund Closings.

1. **Arrowstreet Global Equity ACWI Alpha Extension 130/30820, LP, a fund that uses advanced computer models to select global stocks for a long/short strategy, the Board authorized commitment of up to $800 million dollars on December 5, 2022 was accepted and closed on March 15, 2023.**
2. **DIF Infrastructure VII Cooperatief U.A. and DIF Infrastructure VII SCSp (collectively DIF VII), an infrastructure fund focused on public-private partnership projects including toll roads, regulated utilities, and renewable energy projects, the Board authorized commitment of up to €50 million euros on December 5, 2022 was accepted and closed on February 14, 2023.**
3. **Franklin Park Venture Capital Opportunity Fund, LP, a fund that invests in later stage venture capital funds, the Board authorized additional commitment of up to $30 million dollars on December 5, 2022 was accepted and closed on February 10, 2023.**
4. **Franklin Park International Fund XI, LP, a fund that invests in international private equity, the Board authorized additional commitment of up to $30 million dollars on December 5, 2022 was accepted and closed on February 10, 2023.**
5. **GCG Investors VI, L.P., a fund focused on middle market debt and equity opportunities, the Board authorized commitment of up to $30 million dollars on February 6, 2023 with Imminent Need was accepted and closed on March 8, 2023.**
6. **Franklin Park Co- Investment Fund VI, L.P., a fund focused on private equity co-investments, the Board authorized commitment of up to $65 million dollars on February 6, 2023 with Imminent Need was accepted and closed on February 24, 2023.**

VI. General Investment Consultant Report. *Aon Hewitt Investment Consulting*

A. Preliminary Performance Report for the Month Ending February 28, 2023. *P. J. Kelly of Aon Hewitt Investment Consulting* page 14.

PJ Kelly of Aon Hewitt Investment Consulting will provide the Board with a preliminary portfolio update for the month ending February 28, 2023.

B. *Recommendation to approve for Board adoption Resolution 2023-13 authorizing an investment of up to $50 million dollars in Chatham Asset Private Debt and Strategic Capital Fund IV, L.P. *P. J. Kelly and Kevin Hrad of Aon Hewitt Investment Consulting* page 39.

Founded in 2002 and based in Chatham, NJ, the fund is designed to provide clients with exposure to illiquid and opportunistic debt assets both on a long and short basis. The fund seeks to take advantage of opportunities arising from the mismatch between the supply of capital available to middle market companies and the demand for capital from those companies.

Prior to co-founding the management company in 2003, Anthony Melchiorre was a Managing Director and Head of Global High Yield Trading at Morgan Stanley from 1998 to 2002. At Morgan Stanley, Mr. Melchiorre actively traded a proprietary book including domestic and global investments in high yield debt, bank debt, and high yield credit derivatives. His duties also included responsibility for the risk management of a $4.3 billion dollar global balance sheet. In addition to his experience at Morgan Stanley, Mr. Melchiorre garnered over fifteen years of experience as a high yield trader for various other firms. Previous funds in this series have averaged a 21.3% return. In 2021, ATRS invested in Fund III which currently has a net 21% IRR. Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the anticipated closing date, Imminent Need is requested. Aon Hewitt Investment Consulting recommends an investment of up to $50 million dollars in Chatham Asset Private Debt and Strategic Capital Fund IV, L.P. with Imminent Need, and ATRS staff concurs.

1. ***Resolution 2023-13.** page 68.

C. *Recommendation to approve for Board adoption Resolution 2023-14 authorizing an investment of up to $40 million dollars in Prophet MSR Opportunities Fund. *P. J. Kelly and Kevin Hrad of Aon Hewitt Investment Consulting* page 70.

Prophet Capital Management was founded in 1995 by Bobby Epstein, who previously traded mortgage derivatives and founded MBS services firm Arbour Financial Corporation. Prophet was initially formed as a friends-and-family venture to invest in certain alternative fixed income and mortgage markets when deemed attractive and return capital when played out. In 2008, Prophet was reorganized as Prophet Capital Asset Management LP, preserving the same goals but with a focus on institutional investors. In

* Action Item

2009, CIO David Rosenblum joined Prophet after spending 17 years in various roles at Goldman Sachs, where he was ultimately named head of structured credit portfolio management. Since the addition of Mr. Rosenblum, the strategy lineup has progressed from distressed post-GFC investments to timely structured credit and mortgage opportunities in response to the changing market environment. The fund targets a net 12% IRR. Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the anticipated closing date, Imminent Need is requested. Aon Hewitt Investment Consulting recommends an investment of up to $50 million dollars in Prophet Mortgage Servicing Opportunities Fund Class A with Imminent Need, and ATRS staff concurs.

1. ***Resolution 2023-14.** page 107.

VII. Real Assets Consultant Report. *Aon Hewitt Investment Consulting*

A. ***Recommendation to approve for Board adoption Resolution 2023-15 authorizing an investment of up to $50 million dollars in Lone Star Real Estate Fund VII, LP.** *Jack Dowd, Aon Hewitt Investment Consulting* page 109.

John P. Grayken formed Lone Star in 1995 and continues to lead the highly successful, Texas based firm. Lone Star Real Estate Fund VII, L.P. will be a closed-end, global, opportunistic fund. The fund will invest in distressed and opportunistic commercial real estate debt and equity assets with a target net IRR to investors of 11-12%. The global allocation levels are expected to be no more than 70% in any one of Europe, Japan or North America or 15% in other markets. Lone Star has organized twenty-four private equity funds with aggregate capital commitments since inception totaling over $89 billion dollars. The aggregate projected net IRR across the prior funds for commercial real estate-related investments is 16.22%. ATRS previously invested in Fund IV of the series in 2015 that has generated a net IRR of 12.2%. Due to the fact that there is no scheduled meeting of the Arkansas Legislative Council before the anticipated closing date, Imminent Need is requested. Aon Hewitt Investment Consulting recommends an investment of up to $50 million dollars in Lone Star Real Estate Fund VII, L.P. with Imminent Need, and ATRS staff concurs.

1. ***Resolution 2023-15.** page 115.

VIII. Other Business.

* Action Item

MINUTES
ARKANSAS TEACHER RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING

Monday February 6, 2023
8:30 a.m.
1400 West Third Street
Little Rock, AR 72201

ATTENDEES

Investment Committee Members Present
Chip Martin, Chair
Kathy Clayton, Vice Chair
Shawn Higginbotham
Michael Johnson
Danny Knight
Jason Brady, Designee for Dennis Milligan
Susannah Marshall, Bank Commissioner

Investment Committee Members Absent
Susan Ford

Board Members Present
Anita Bell
Kelly Davis
Dr. Mike Hernandez
Bobby Lester
Jeff Stubblefield

Guest Present
Robin Nichols
Donna Morey
Bela Kirpalani – Mandatewire*
Carlos*

ATRS Staff Present
Clint Rhoden, Executive Director
Rod Graves, Deputy Director
Tammy Porter, Ex. Assistant/Board Secretary
Curtis Carter, Chief Financial Officer
Dena Dixson, Internal Audit/Risk Management*
Braeden Duke, Software Specialist Analyst
Vicky Fowler, Manager, Human Resources
Mike Lauro, Information Technology*
Manju, Director, Information Services
Whitney Sommers, Administration Analyst
Leslie Ward, Manager, Private Equity
Brenda West, Internal Audit/Risk Management
Misty Yant, Manager, Accounting/Reporting*

Consultants Present
PJ Kelly (Aon Hewitt)*
Katie Comstock (Aon Hewitt)
Chae Hong (Aon Hewitt)
Michael Bacine, Franklin Park

**Via ZOOM*

I. Call to Order/Roll Call. Mr. Chip Martin, Chair, called the Investment Committee meeting to order at 8:30 a.m. Ms. Ford were absent.

II. Adoption of Agenda.

Ms. Clayton *moved* for *adoption* of the Agenda. Mr. Higginbotham *seconded* the *motion,* and the Committee *unanimously approved the motion.*

III. **Executive Summary.** The Executive Summary was provided for reference with no questions or expansions on the written summary.

IV. **Approval of December 5, 2022, Minutes**

Mr. Johnson *moved* to *approve* the December 5, 2022, Investment Committee Minutes. Ms. Clayton *seconded* the *motion* and the Committee *unanimously approved the motion.*

V. **Arkansas Related and Investment Update.**

A. **List of Fund Closings.** Rod Graves, Deputy Director, gave an update on recent investment activity.

B. **Board Policies Report.** Rod Graves, Deputy Director, gave an update on the ATRS current asset allocations.

VI. **General Investment Consultant Report** ***Aon Hewitt***

A. **Performance Report for the quarter ending December 31, 2022.** Katie Comstock of Aon Hewitt Investment Consulting provided the Committee with a Performance Report for the quarter ending December, 31, 2022.

VII. **Real Assets Consultant Report** ***Aon Hewitt Investment Consulting***

A. **Performance Report for the Quarter Ending September 30, 2022.** Chae Hong of Aon Hewitt Investment Consulting provided the Committee with a performance report for the quarter ending September 30, 2022.

VIII. **Private Equity Consultant Report** ***Franklin Park***

A. **Preliminary Private Equity Portfolio Review for the Quarter Ended September 30, 2022.** Michael Bacine of Franklin Park provided the Committee with the private equity portfolio review for the quarter ended September 30, 2022.

B. **Recommendation to approve for Board adoption Resolution 2023-10 authorizing an investment of up to $30 million dollars in LLR Equity Partners VII, L.P. with Imminent Need.** Michael Bacine of Franklin Park provided the Committee with the recommendation for Board adoption of Resolution 2023-10, to authorize an investment of up to $30 million dollars in LLR Equity Partners VII, L.P. with Imminent Need.

Deputy Director Graves stated that staff concurs with the recommendation.

Mr. Higginbotham *moved* to *recommend* to the Board to approve a motion to authorize an investment of up to $30 million dollars in LLR Equity Partners VII, L.P. with Imminent Need. Ms. Clayton *seconded* the *motion*, and the Committee *unanimously approved the motion.*

C. **Recommendation to approve for Board adoption Resolution 2023-11 authorizing an investment of up to $30 million dollars in GCG Investors VI, L.P. with Imminent Need.** Michael Bacine of Franklin Park provided the Committee with the recommendation for Board adoption of Resolution 2023-11 authorizing an investment of up to $30 million dollars in GCG Investors VI, L.P. with Imminent Need.

Deputy Director Graves stated that staff concurs with the recommendation.

Mr. Knight *moved* to *recommend* to the Board to approve Resolution 2023-11 authorizing an investment of up to $30 million dollars in GCG Investors VI, L.P. with Imminent Need. Mr. Higginbotham *seconded* the *motion*, and the Committee *unanimously approved the motion*

D. **Recommendation to approve for Board adoption Resolution 2023-12, authorizing an investment of up to $65 million dollars in Franklin Park Co- Investment Fund VI, L.P. with Imminent Need.** Michael Bacine presented the Committee with the recommendation to approve for Board Adoption Resolution 2023-12, authorizing an investment of up to $65 million dollars in Franklin Park Co- Investment Fund VI, L.P. with Imminent Need

Deputy Director Graves stated that staff concurs with the recommendation.
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Mr. Higginbotham *moved* to *recommend* to the Board to approve Resolution 2023-12, authorizing an investment of up to $65 million dollars in Franklin Park Co- Investment Fund VI, L.P. with Imminent Need. Ms. Clayton *seconded* the *motion*, and the Committee *unanimously approved the motion.*

IX. **Other Business.** None.

X. **Adjourn.**

Mr. Knight *moved* to *adjourn* the Investment Committee Meeting. Ms. Clayton seconded the *motion*, and the Committee *unanimously approved the motion.*

Meeting adjourned at 10:48 a.m.

Clint Rhoden, Executive Director	Mr. Chip Martin, Chair
Tammy Porter, Recorder	Date Approved

MINUTES
ARKANSAS TEACHER RETIREMENT SYSTEM
INVESTMENT COMMITTEE MEETING

Thursday, March 9, 2023
4:15 p.m.
1400 West Third Street
Little Rock, AR 72201

ATTENDEES

Investment Committee Members Present
Chip Martin, Chair*
Susan Ford*
Shawn Higginbotham*
Michael Johnson*
Danny Knight
Jason Brady, Designee for Dennis Milligan*
Susannah Marshall, Bank Commissioner*

Investment Committee Members Absent
Kathy Clayton

Board Members Present
Kelly Davis*
Dr. Mike Hernandez*
Bobby Lester*
Jeff Stubblefield*
Will Cheatham, designee for Treasurer Mark Lowery*

ATRS Staff Present
Clint Rhoden, Executive Director
Rod Graves, Deputy Director
Tammy Porter, Ex. Assistant/Board Secretary
Curtis Carter, Chief Financial Officer*
Dena Dixson, Internal Audit/Risk Management*
Braeden Duke, Software Specialist Analyst
Vicky Fowler, Manager, Human Resources
Mike Lauro, Information Technology
Jennifer Liwo, General Counsel*
Jerry Meyer, Manager, Real Assets
Joe Sithong, Manager, Information Technology*

Guest Present
Donna Morey, ARTA*
Jack Dowd, Aon Hewitt Investment Consulting*
Chae Hong, Aon Hewitt Investment Consulting*
Roran O'Brien*
Clint Leman*
Richard Estes*
Matthew Hooker*
Lenovo Tab P10*

**Via ZOOM*

I. **Call to Order/Roll Call.** Mr. Chip Martin, Chair, called the Investment Committee meeting to order at 4:15 p.m. Roll call was taken. Ms. Kathy Clayton was absent.

II. **Adoption of Agenda.**

Mr. Higginbotham *moved* for *adoption* of the Agenda. Mr. Johnson *seconded* the *motion,* and the Committee *unanimously approved the motion.*

III. **Executive Summary.** The Executive Summary was provided for reference with no questions or expansions on the written summary.

IV. **Recommendation to approve for Board adoption a motion to authorize the use of up to $15 million dollars of recallable distributions for the US Agriculture farmland investment program.** Deputy Director Rod Graves presented the Committee with the Recommendation to authorize the use of up to $15 million dollars in recallable distributions for the US Agriculture farmland investment program.

Staff concurs with the recommendation.

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Mr. Knight *moved* to *recommend* to the Board to authorize the use of up to $15 million dollars of recallable distributions for the US Agriculture farmland investment program. Ms. Marshall *seconded* the *motion*, and the Committee *unanimously approved the motion.*

V. **Other Business.** None.

VI. **Adjourn.**

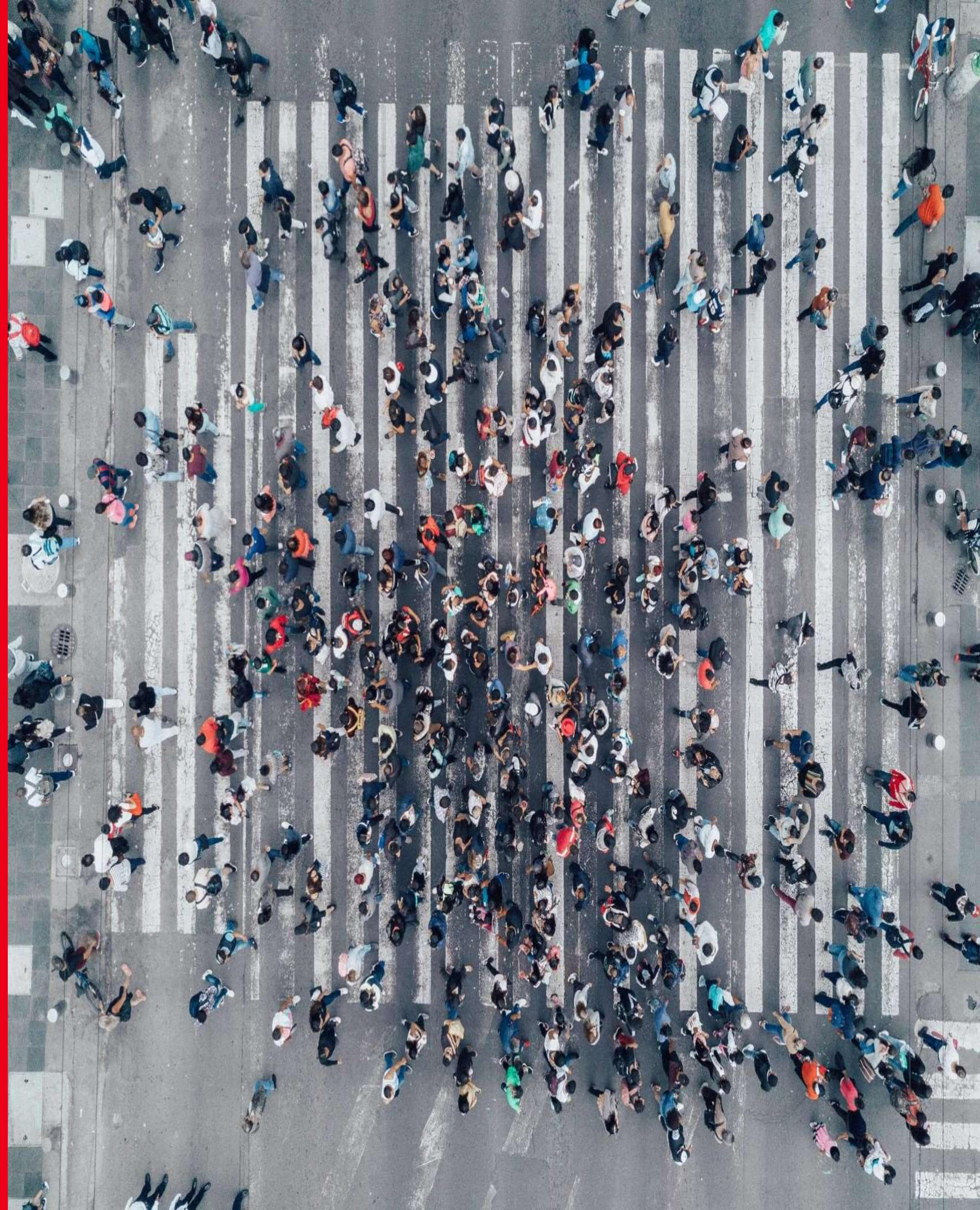
Mr. Knight *moved* to *adjourn* the Investment Committee Meeting. Mr. Higginbotham seconded the *motion*, and the Committee *unanimously approved the motion.*

Meeting adjourned at 4:21 p.m.

Clint Rhoden, Executive Director	Mr. Chip Martin, Chair
Tammy Porter, Recorder	Date Approved

Preliminary Monthly Investment Review

Arkansas Teacher Retirement System |
February 28, 2023



All information presented in this report should be considered preliminary.
Finalized data will be available on the next Quarterly Investment Report after the close of the quarter.

Investment advice and consulting services provided by Aon Investments USA Inc.

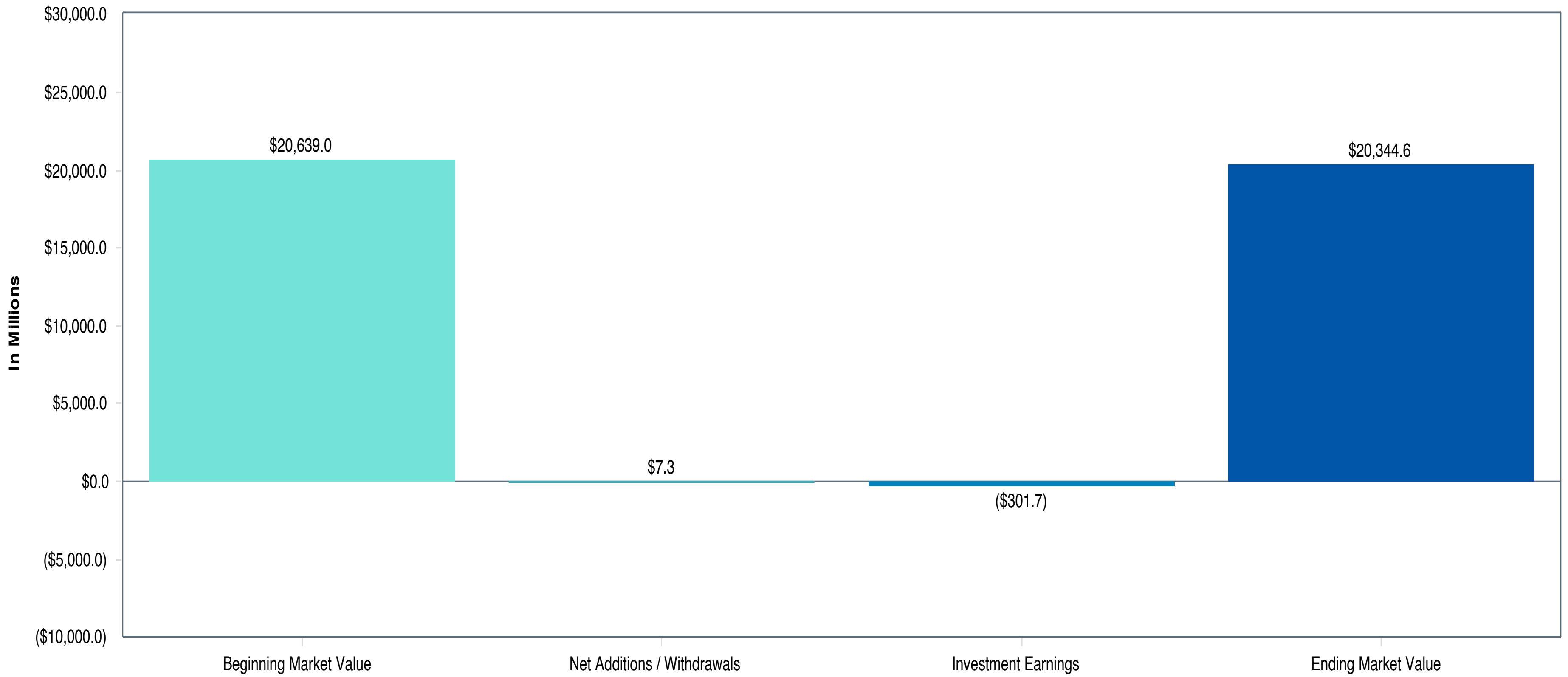
Asset Allocation & Performance

Market Environment

	Performance %						
	1 Month	Year to Date	Fiscal YTD	1 Year	3 Years	5 Years	10 Years
Dow Jones U.S. Total Stock Market Index	-2.3	4.5	6.9	-8.2	11.7	9.3	11.8
S&P 500 Index	-2.4	3.7	6.1	-7.7	12.1	9.8	12.3
Russell 1000 Index	-2.4	4.2	6.6	-8.2	11.9	9.7	12.1
Russell 1000 Value Index	-3.5	1.5	7.7	-2.8	11.0	7.2	9.6
Russell 1000 Growth Index	-1.2	7.0	5.5	-13.3	12.1	11.5	14.3
Russell 2000 Index	-1.7	7.9	12.1	-6.0	10.1	6.0	9.1
Russell 2000 Value Index	-2.3	7.0	10.7	-4.4	12.9	6.4	8.5
Russell 2000 Growth Index	-1.1	8.8	13.5	-7.9	6.5	5.1	9.3
MSCI AC World IMI (Net)	-2.8	4.4	7.0	-8.1	8.9	5.7	7.9
MSCI AC World ex USA IMI (Net)	-3.4	4.3	7.6	-7.5	5.5	1.6	4.1
MSCI EAFE Index (Net)	-2.1	5.8	12.6	-3.1	6.8	2.6	4.8
MSCI Emerging Markets Index (Net)	-6.5	0.9	-2.1	-15.3	1.0	-1.9	1.5
Blmbg. U.S. Universal Index	-2.5	0.6	-1.8	-9.3	-3.4	0.7	1.4
Blmbg. U.S. Aggregate	-2.6	0.4	-2.6	-9.7	-3.8	0.5	1.1
Blmbg. U.S. Government	-2.3	0.1	-3.5	-10.0	-4.1	0.4	0.6
Blmbg. Barc. Credit Bond Index	-3.0	0.7	-1.0	-10.1	-3.8	1.1	1.9
Blmbg. U.S. Mortgage Backed Securities	-2.6	0.6	-2.8	-9.1	-3.6	-0.1	0.8
Blmbg. U.S. Corp: High Yield	-1.3	2.5	6.1	-5.5	1.3	2.9	4.1
Citigroup 90-Day T-Bill	0.3	0.7	2.1	2.2	0.9	1.3	0.8

Total Plan Asset Summary

As of February 28, 2023



Summary of Cash Flows				
	1 Month	Year to Date	Fiscal YTD	1 Year
Total Fund				
Beginning Market Value	20,638,992,317	19,775,319,384	19,740,562,415	21,569,539,724
+ Additions / Withdrawals	7,263,642	-50,009,607	-472,831,262	-637,499,863
+ Investment Earnings	-301,698,254	619,247,929	1,076,826,552	-587,482,156
= Ending Market Value	**20,344,557,705**	**20,344,557,705**	**20,344,557,705**	**20,344,557,705**

Asset Allocation & Performance

As of February 28, 2023

	Allocation			Performance %								
	Market Value $ ($)	%	Policy %	1 Month	Year to Date	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Total Fund*	**20,344,557,705**	**100.0**	**100.0**	**-1.5**	**3.1**	**5.4**	**-2.8**	**9.2**	**7.3**	**8.8**	**8.4**	**04/01/1986**
Performance Benchmark				*-1.2*	*4.3*	*3.6*	*-5.6*	*8.0*	*6.7*	*8.4*	*8.4*	
Total Equity	**11,054,804,536**	**54.3**	**55.4**	**-2.4**	**5.4**	**9.1**	**-6.6**	**10.1**	**6.5**	**9.3**	**7.9**	**07/01/2015**
Total Equity Performance Benchmark				*-2.6*	*4.4*	*7.0*	*-8.1*	*9.8*	*6.8*	*9.3*	*8.2*	
Fixed Income	**2,833,328,183**	**13.9**	**15.0**	**-1.5**	**0.9**	**0.3**	**-5.0**	**-0.8**	**1.7**	**2.3**	**4.8**	**07/01/1992**
Performance Benchmark				*-2.5*	*0.6*	*-1.8*	*-9.3*	*-3.4*	*0.7*	*1.4*	*4.8*	
Opportunistic/Alternatives	**927,653,555**	**4.6**	**4.7**	**0.7**	**1.9**	**4.7**	**7.2**	**3.6**	**1.9**	**3.4**	**3.3**	**05/01/2011**
Custom Alternatives Benchmark				*0.2*	*1.6*	*2.9*	*2.6*	*4.0*	*2.8*	*2.5*	*2.2*	
Real Assets	**2,539,227,549**	**12.5**	**12.9**									
Real Estate	**1,583,389,524**	**7.8**										
Timber	**341,727,932**	**1.7**										
Agriculture	**208,739,741**	**1.0**										
Infrastructure	**405,370,352**	**2.0**										
Private Equity	**2,903,466,399**	**14.3**	**12.0**									
Cash	**86,077,484**	**0.4**	**0.0**									

*Preliminary Results

*Policy % is the interim target used for benchmarking purposes. See page 17 for long-term targets. Beginning July 1, 2013, an updated Investment Policy was adopted which includes the new Real Assets category, which includes Real Estate, Timber, Agriculture and Infrastructure.

*Real Assets and Private Equity are valued on a quarterly basis and reported on a quarter lag. Market values have been adjusted for the current month's cash flows. Updated results for these portfolios are not yet available and will be included in the quarterly performance report.

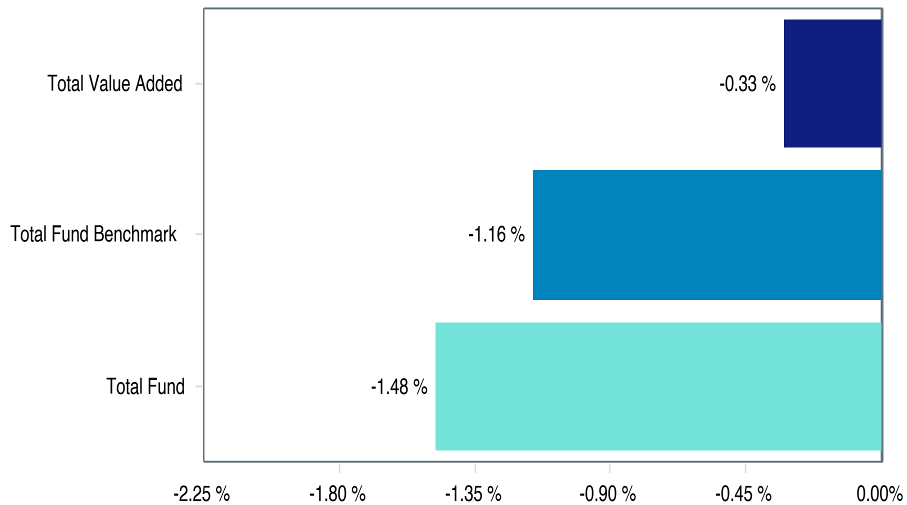
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 21 of this report.

*Includes investment gains from Allianz litigation income received on 2/28/2022.

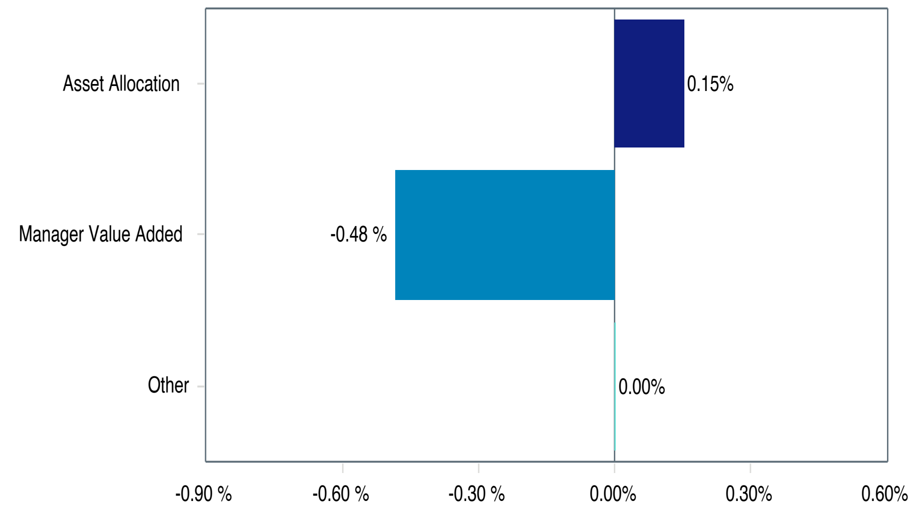
Total Fund Attribution

1 Month Ending February 28, 2023

Total Fund Performance

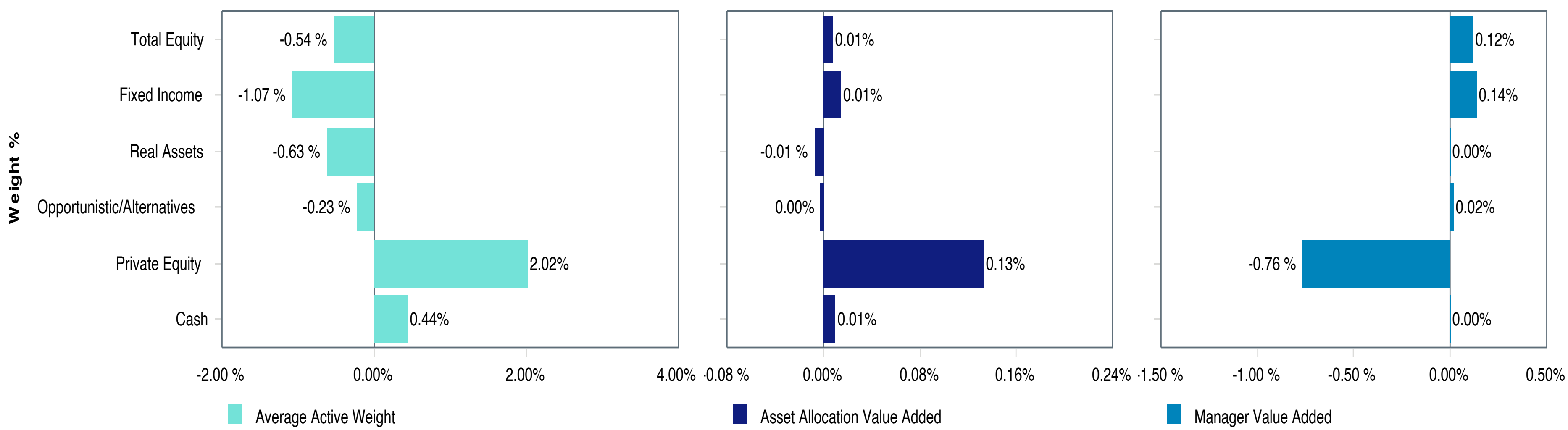


Total Value Added: -0.33 %



Total Asset Allocation: 0.15%

Total Manager Value Added: -0.48 %

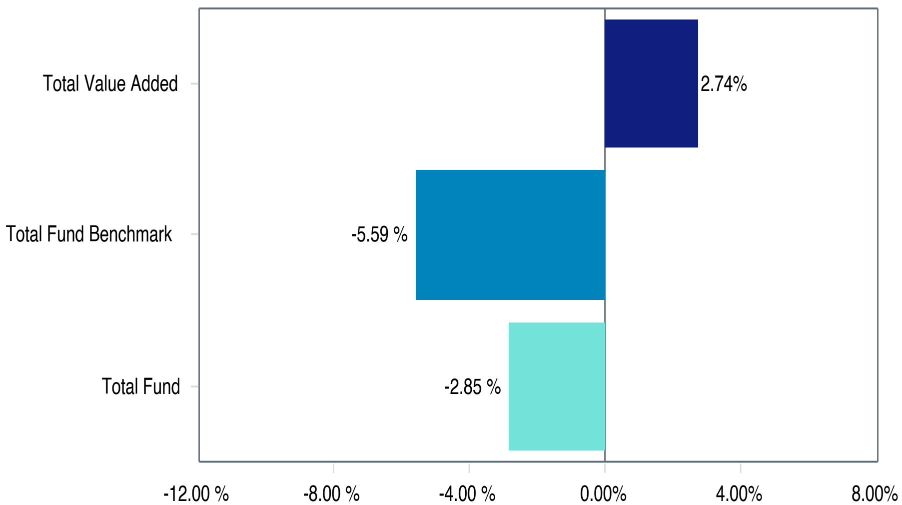


*Preliminary Results

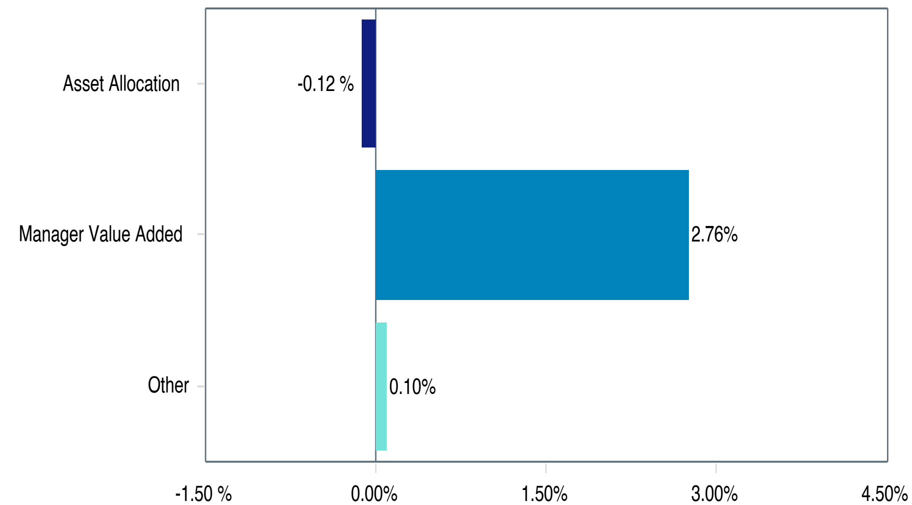
Total Fund Attribution

1 Year Ending February 28, 2023

Total Fund Performance

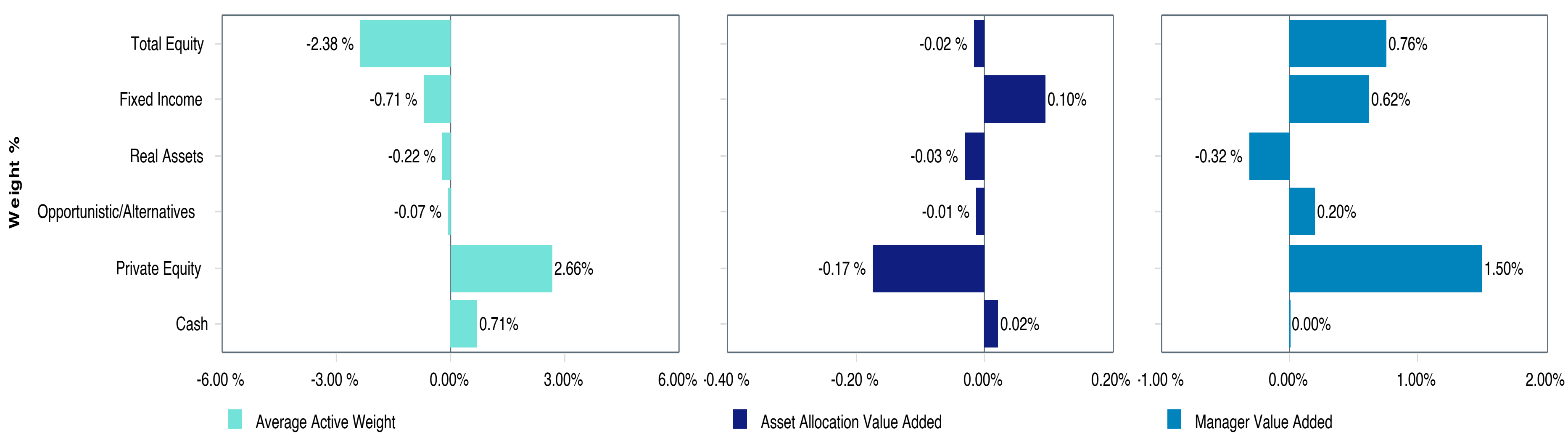


Total Value Added: 2.74%



Total Asset Allocation: -0.12 %

Total Manager Value Added: 2.76%



*Preliminary Results

Asset Allocation & Performance

As of February 28, 2023

	Allocation		Performance %							
	Market Value $	%	1 Month	Fiscal YTD	Year to Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Total Equity	11,054,804,536	100.0	-2.4	9.1	5.4	-6.6	10.1	6.5	7.9	07/01/2015
Total Equity Performance Benchmark			*-2.6*	*7.0*	*4.4*	*-8.1*	*9.8*	*6.8*	*8.2*	
Jacobs Levy 130/30	1,173,394,889	10.6	-0.9	12.2	6.5	7.0	24.7	15.7	12.2	01/01/2008
Russell 3000 Index			*-2.3*	*6.9*	*4.4*	*-8.1*	*11.8*	*9.4*	*8.9*	
Kennedy Capital Management	606,614,270	5.5	-1.9	9.8	6.9	-7.6	14.1	6.3	11.8	01/01/1994
Russell 2000 Value Index			*-2.3*	*10.7*	*7.0*	*-4.4*	*12.9*	*6.4*	*9.3*	
Stephens	536,218,063	4.9	-2.0	8.4	6.6	-11.2	9.6	8.3	9.2	08/01/2006
Russell 2000 Growth Index			*-1.1*	*13.5*	*8.8*	*-7.9*	*6.5*	*5.1*	*8.3*	
Voya Absolute Return	706,067,021	6.4	-3.3	4.8	4.7	-6.9	9.1	5.4	9.5	10/01/2008
Performance Benchmark Voya Absolute Return			*-2.9*	*6.5*	*4.1*	*-8.3*	*8.8*	*5.8*	*9.5*	
Voya U.S. Convertibles	901,120,124	8.2	-1.9	5.5	2.5	-8.5	11.5	12.2	10.2	12/01/1998
Performance Benchmark			*-1.3*	*6.4*	*4.4*	*-9.2*	*9.7*	*9.8*	*8.0*	
Pershing Square Holdings	255,513,307	2.3	0.5	21.2	3.4	-1.0	28.7	23.5	8.2	01/01/2013
Dow Jones U.S. Total Stock Market Index			*-2.3*	*6.9*	*4.5*	*-8.2*	*11.7*	*9.3*	*12.3*	
SSgA Global Index	1,304,972,900	11.8	-2.7	7.3	4.5	-7.7	9.3	6.0	6.3	04/01/2008
MSCI AC World IMI (Net)			*-2.8*	*7.0*	*4.4*	*-8.1*	*8.9*	*5.7*	*6.0*	
BlackRock MSCI ACWI IMI Fund	868,232,140	7.9	-2.8	7.3	4.4	-7.6	9.2	6.0	7.7	07/01/2011
MSCI AC World IMI (Net)			*-2.8*	*7.0*	*4.4*	*-8.1*	*8.9*	*5.7*	*7.4*	

*Preliminary Results

*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 21 of this report.

*Includes investment gains from Allianz litigation income received on 2/28/2022.

Asset Allocation & Performance

As of February 28, 2023

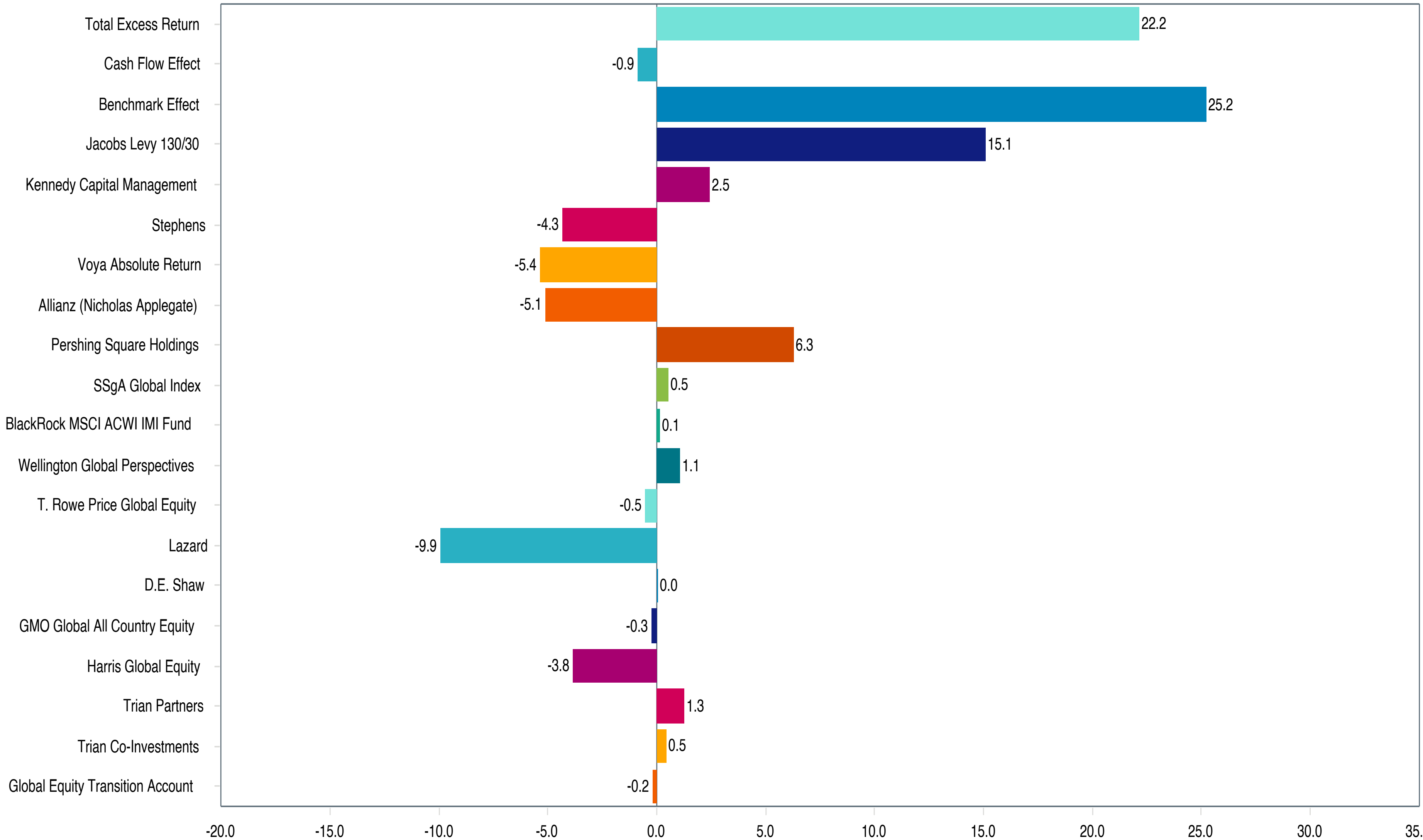
	Allocation		Performance %							
	Market Value $	%	1 Month	Fiscal YTD	Year to Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Wellington Global Perspectives	**635,003,084**	**5.7**	**-2.0**	**15.0**	**7.9**	**-4.5**	**12.8**	**5.6**	**12.3**	**07/01/2009**
Performance Benchmark			*-2.1*	*11.4*	*6.5*	*-6.6*	*9.8*	*4.6*	*10.0*	
T. Rowe Price Global Equity	**1,102,310,176**	**10.0**	**-2.9**	**7.5**	**5.3**	**-15.3**	**10.6**	**9.5**	**12.2**	**08/01/2009**
MSCI AC World Index (Net)			*-2.9*	*6.5*	*4.1*	*-8.3*	*8.8*	*5.8*	*8.6*	
MSCI AC World Index Growth (Net)			*-2.5*	*5.8*	*6.8*	*-13.5*	*8.2*	*7.2*	*10.0*	
Lazard	**679,376,373**	**6.1**	**-4.5**	**6.6**	**4.3**	**-9.8**	**7.2**	**3.0**	**7.8**	**08/01/2009**
MSCI AC World Index (Net)			*-2.9*	*6.5*	*4.1*	*-8.3*	*8.8*	*5.8*	*8.6*	
D.E. Shaw	**182,471,539**	**1.7**	**-2.4**	**9.7**	**4.8**	**-3.5**	**10.3**	**6.4**	**10.1**	**09/01/2009**
MSCI World Index (Net)			*-2.4*	*7.6*	*4.5*	*-7.3*	*9.9*	*6.9*	*9.1*	
Harris Global Equity	**608,306,443**	**5.5**	**-3.1**	**11.8**	**9.1**	**-4.6**	**12.2**	**4.4**	**6.3**	**06/01/2014**
MSCI World Index (Net)			*-2.4*	*7.6*	*4.5*	*-7.3*	*9.9*	*6.9*	*7.3*	
MSCI World Value (Net)			*-2.9*	*8.1*	*1.6*	*-2.2*	*9.3*	*4.7*	*5.0*	
Trian Partners	**83,354,472**	**0.8**	**-0.7**	**18.0**	**6.6**	**-1.6**	**6.9**	**7.7**	**7.2**	**11/01/2015**
S&P 500 Index			*-2.4*	*6.1*	*3.7*	*-7.7*	*12.1*	*9.8*	*11.3*	
Trian Co-Investments	**85,281,282**	**0.8**	**-1.8**	**22.6**	**9.3**	**7.4**	**11.1**	**11.4**	**7.1**	**01/01/2017**
S&P 500 Index			*-2.4*	*6.1*	*3.7*	*-7.7*	*12.1*	*9.8*	*11.7*	
Global Equity Transition Account	**1,326,511,410**	**12.0**								

*Preliminary Results
*The inception of the Total Equity asset class was July 1, 2015. Performance prior to July 2015 represents the weighted average of the U.S. Equity and Global Equity asset class monthly returns. For historical performance of the U.S. Equity and Global Equity asset classes please see page 21 of this report.
*Includes investment gains from Allianz litigation income received on 2/28/2022.

Asset Class Attribution

1 Month Ending February 28, 2023

1 Month

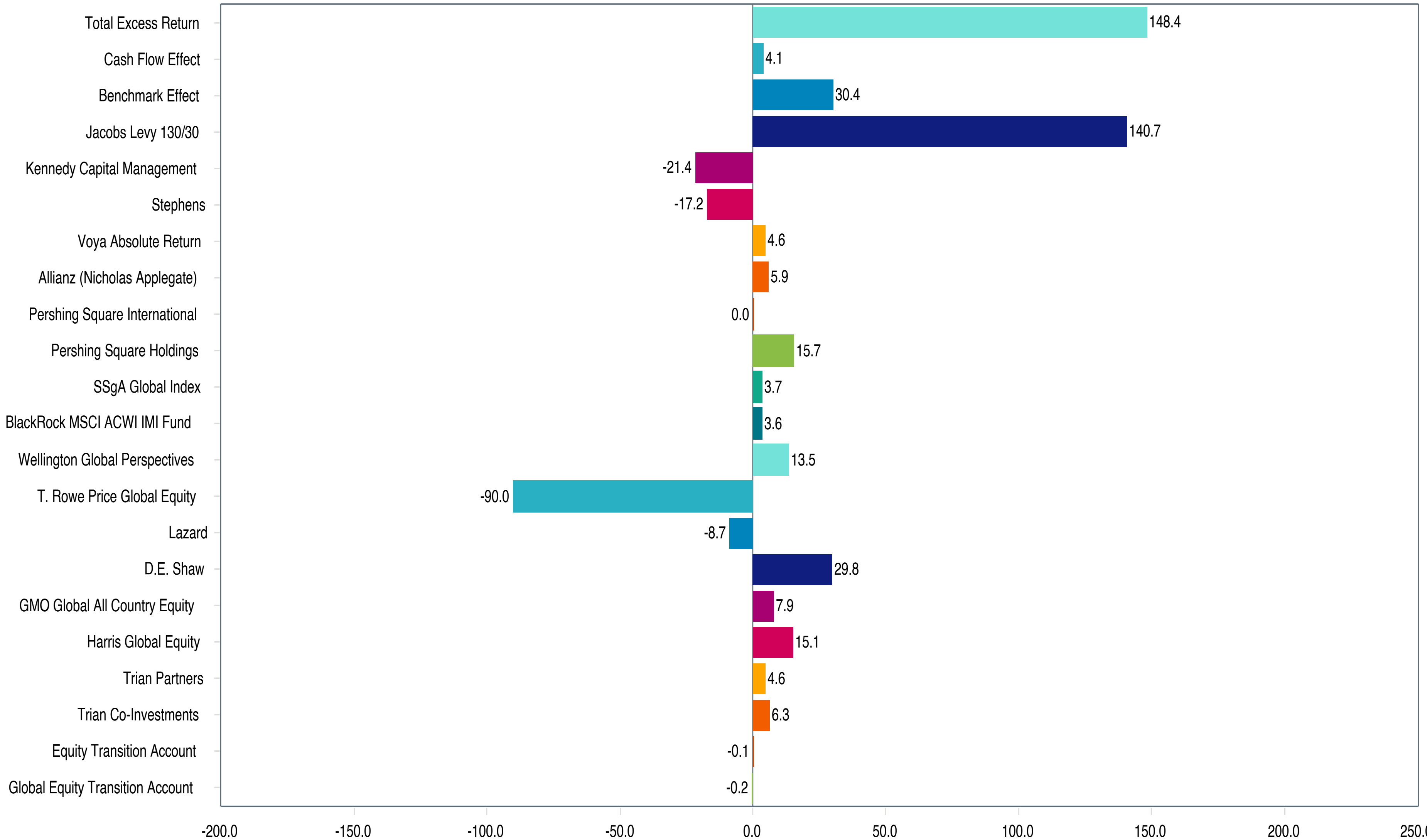


*Preliminary Results

Asset Class Attribution

1 Year Ending February 28, 2023

1 Year



*Preliminary Results

Asset Allocation & Performance

As of February 28, 2023

	Allocation		Performance %							
	Market Value $	%	1 Month	Fiscal YTD	Year to Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Fixed Income	**2,833,328,183**	**100.0**	**-1.5**	**0.3**	**0.9**	**-5.0**	**-0.8**	**1.7**	**4.8**	**07/01/1992**
Performance Benchmark			*-2.5*	*-1.8*	*0.6*	*-9.3*	*-3.4*	*0.7*	*4.8*	
BlackRock	**246,002,413**	**8.7**	**-2.6**	**-2.1**	**0.8**	**-9.8**	**-3.3**	**0.8**	**3.5**	**10/01/2003**
Performance Benchmark			*-2.5*	*-1.8*	*0.6*	*-9.3*	*-3.4*	*0.7*	*3.3*	
Loomis Sayles	**448,105,472**	**15.8**	**-2.4**	**1.7**	**1.3**	**-7.5**	**-0.1**	**2.3**	**6.5**	**09/01/2008**
Performance Benchmark			*-2.1*	*0.4*	*1.1*	*-8.4*	*-2.0*	*1.5*	*4.2*	
Putnam	**376,550,000**	**13.3**	**-0.3**	**2.4**	**1.1**	**-0.2**	**-0.6**	**1.2**	**2.4**	**08/01/2008**
LIBOR			*0.3*	*1.9*	*0.7*	*1.9*	*0.9*	*1.5*	*1.0*	
SSgA Aggregate Bond Index	**683,296,548**	**24.1**	**-2.6**	**-2.6**	**0.6**	**-9.8**	**-3.8**	**0.5**	**2.0**	**06/01/2010**
Blmbg. U.S. Aggregate			*-2.6*	*-2.6*	*0.4*	*-9.7*	*-3.8*	*0.5*	*2.0*	
Wellington Global Total Return	**386,852,774**	**13.7**	**1.2**	**4.7**	**1.1**	**7.7**	**3.3**	**3.9**	**2.7**	**06/01/2014**
ICE BofAML 3 Month U.S. T-Bill			*0.3*	*2.0*	*0.6*	*2.1*	*0.8*	*1.3*	*0.9*	
Reams Core Plus Bond Fund	**357,369,602**	**12.6**	**-2.6**	**0.4**	**1.4**	**-7.9**	**0.1**	**2.9**	**2.4**	**06/01/2014**
Blmbg. U.S. Aggregate			*-2.6*	*-2.6*	*0.4*	*-9.7*	*-3.8*	*0.5*	*1.1*	
BRS Recycling Tax Credit	**176,000,000**	**6.2**								
BRS Recycling Tax Credit Phase 2	**77,031,608**	**2.7**								
BRS Recycling Tax Credit Phase 2	**77,031,608**	**2.7**								

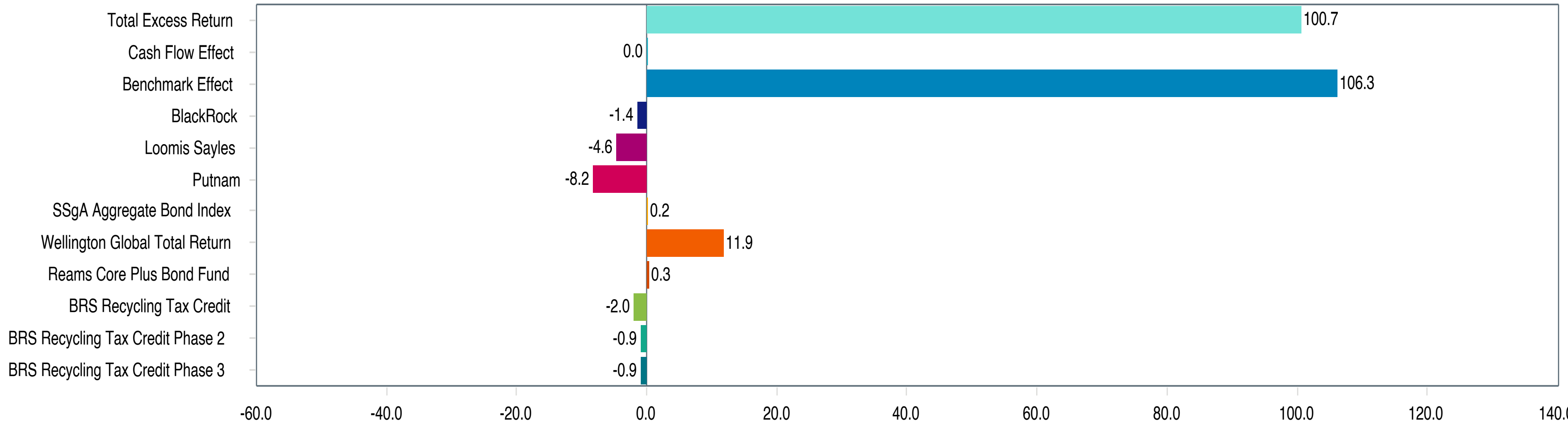
*Preliminary Results

*The BRS Recycling Tax Credit represents an annual income stream of $16 million dollars over the next 14 years, which ATRS purchased for approximately $162 million. The value shown above represents the year-end market value in accordance with GASB Statement 72, representing the 14 years of annual income, and has been incorporated into Total Fixed Income and Total Fund performance.

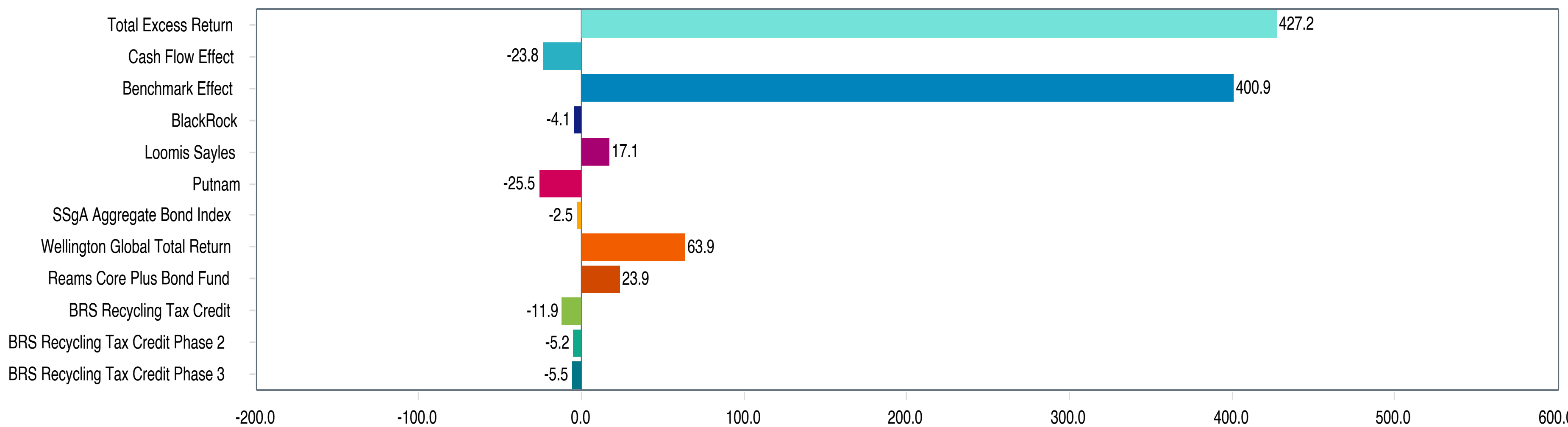
Asset Class Attribution

As of February 28, 2023

1 Month



1 Year



*Preliminary Results

Asset Allocation & Performance

As of February 28, 2023

	Allocation		Performance %								
	Market Value $ ($)	%	1 Month	Fiscal YTD	Year to Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Opportunistic/Alternatives	**927,653,555**	**100.0**	**0.7**	**4.7**	**1.9**	**7.2**	**3.6**	**1.9**	**3.4**	**3.3**	**05/01/2011**
Custom Alternatives Benchmark			*0.2*	*2.9*	*1.6*	*2.6*	*4.0*	*2.8*	*2.5*	*2.2*	
Anchorage	**38,035,582**	**4.1**	**-0.3**	**4.7**	**0.2**	**6.7**	**7.5**	**4.7**	**5.9**	**5.6**	**05/01/2011**
Credit Suisse Event Driven			*-0.4*	*2.8*	*1.8*	*-2.7*	*5.6*	*3.5*	*3.4*	*2.8*	
HFRI ED: Distressed/Restructuring Index			*0.3*	*1.9*	*2.6*	*-1.7*	*8.5*	*5.0*	*4.6*	*4.4*	
York	**11,321,903**	**1.2**	**9.9**	**25.3**	**21.0**	**58.0**	**-5.1**	**-9.0**	**-2.0**	**-0.9**	**05/01/2011**
Credit Suisse Event Driven			*-0.4*	*2.8*	*1.8*	*-2.7*	*5.6*	*3.5*	*3.4*	*2.8*	
HFRI ED: Distressed/Restructuring Index			*0.3*	*1.9*	*2.6*	*-1.7*	*8.5*	*5.0*	*4.6*	*4.4*	
Capula	**93,192,020**	**10.0**	**1.0**	**8.8**	**1.9**	**12.1**	**7.2**	**7.0**	**7.0**	**6.5**	**05/01/2011**
HFRI Macro (Total) Index			*0.1*	*0.9*	*0.4*	*7.2*	*7.9*	*5.1*	*3.0*	*2.1*	
Graham	**96,613,390**	**10.4**	**2.4**	**7.5**	**3.1**	**24.1**	**17.0**	**9.8**	**7.8**	**5.6**	**05/01/2011**
HFRI Macro (Total) Index			*0.1*	*0.9*	*0.4*	*7.2*	*7.9*	*5.1*	*3.0*	*2.1*	
Circumference Group Core Value	**37,632,544**	**4.1**	**0.9**	**10.1**	**5.8**	**0.4**	**9.9**	**8.2**		**8.6**	**08/01/2015**
Russell 2000 Index			*-1.7*	*12.1*	*7.9*	*-6.0*	*10.1*	*6.0*		*7.2*	
Aeolus Keystone Fund	**33,417,412**	**3.6**	**0.7**	**4.7**	**1.7**	**9.0**	**-1.7**	**-1.3**		**-1.5**	**12/01/2015**
FTSE 3 Month T-Bill			*0.3*	*2.1*	*0.7*	*2.2*	*0.9*	*1.3*		*1.1*	
Eurekahedge ILS Advisers Index			*0.8*	*-0.6*	*2.0*	*-0.6*	*1.1*	*0.1*		*0.1*	
Nephila Rubik Holdings	**8,606,695**	**0.9**	**2.3**	**1.7**	**2.4**	**-0.3**	**-7.6**	**-5.6**		**-5.0**	**06/01/2016**
FTSE 3 Month T-Bill			*0.3*	*2.1*	*0.7*	*2.2*	*0.9*	*1.3*		*1.2*	
Eurekahedge ILS Advisers Index			*0.8*	*-0.6*	*2.0*	*-0.6*	*1.1*	*0.1*		*-0.2*	
Parametric Global Defensive Equity Fund	**193,584,284**	**20.9**	**-1.0**	**5.3**	**2.8**	**-1.6**	**5.9**	**4.1**		**4.5**	**06/01/2017**
Performance Benchmark			*-1.3*	*4.7*	*2.5*	*-2.6*	*5.3*	*4.0*		*4.6*	
MSCI AC World Index			*-2.8*	*6.8*	*4.2*	*-7.8*	*9.3*	*6.3*		*7.8*	
Man Alternative Risk Premia	**112,783,917**	**12.2**	**1.3**	**7.5**	**0.9**	**12.8**	**6.1**			**2.7**	**06/01/2018**
SG Multi Alternative Risk Premia Index			*1.7*	*4.7*	*2.2*	*7.1*	*0.5*			*-0.2*	
CFM Systematic Global Macro Fund	**99,694,128**	**10.7**	**0.6**	**-3.1**	**-4.0**	**10.2**				**6.7**	**11/01/2021**
HFRI Macro: Systematic Diversified Index			*0.8*	*-2.7*	*0.1*	*8.7*				*6.3*	

*Preliminary Results

Asset Allocation & Performance

As of February 28, 2023

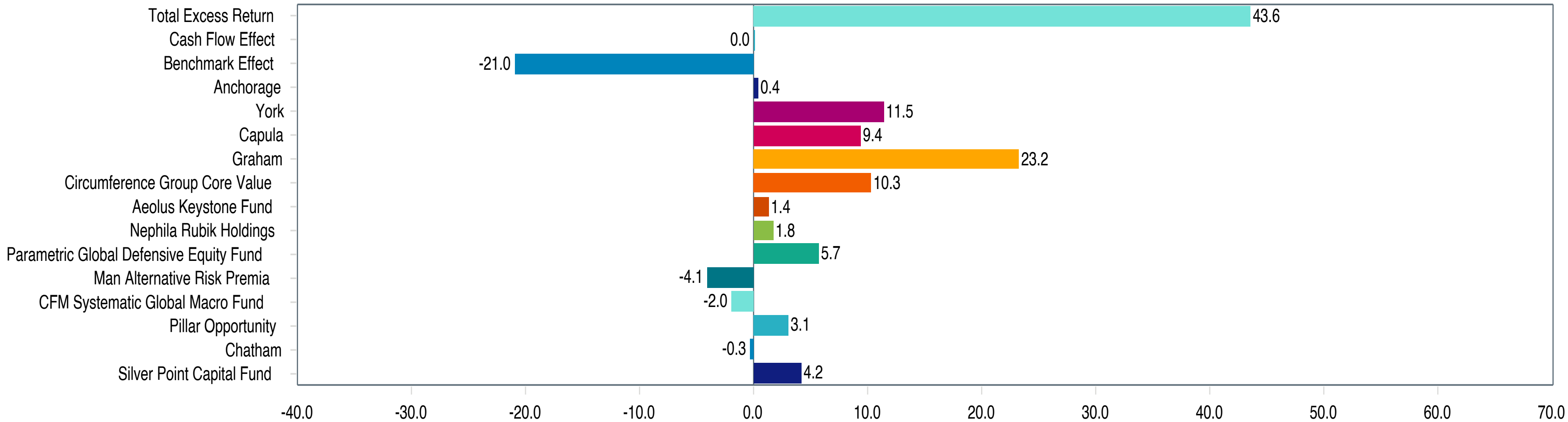
	Allocation		Performance %								
	Market Value $ ($)	%	1 Month	Fiscal YTD	Year to Date	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
Pillar Opportunity	**89,859,433**	**9.7**	**0.7**	**-7.7**	**2.2**	**-6.1**				**-4.4**	**12/01/2021**
FTSE 3 Month T-Bill			*0.3*	*2.1*	*0.7*	*2.2*				*1.8*	
Eurekahedge ILS Advisers Index			*0.8*	*-0.6*	*2.0*	*-0.6*				*0.0*	
Chatham	**62,715,275**	**6.8**	**0.1**	**16.8**	**4.1**	**25.9**				**18.7**	**11/01/2021**
HFRI Event-Driven (Total) Index			*0.2*	*6.1*	*3.3*	*0.4*				*-1.5*	
Silver Point Capital Fund	**50,196,973**	**5.4**	**1.1**	**5.5**	**1.8**	**1.3**				**1.3**	**03/01/2022**
HFRI ED: Distressed/Restructuring Index			*0.3*	*1.9*	*2.6*	*-1.7*				*-1.7*	

*Preliminary Results

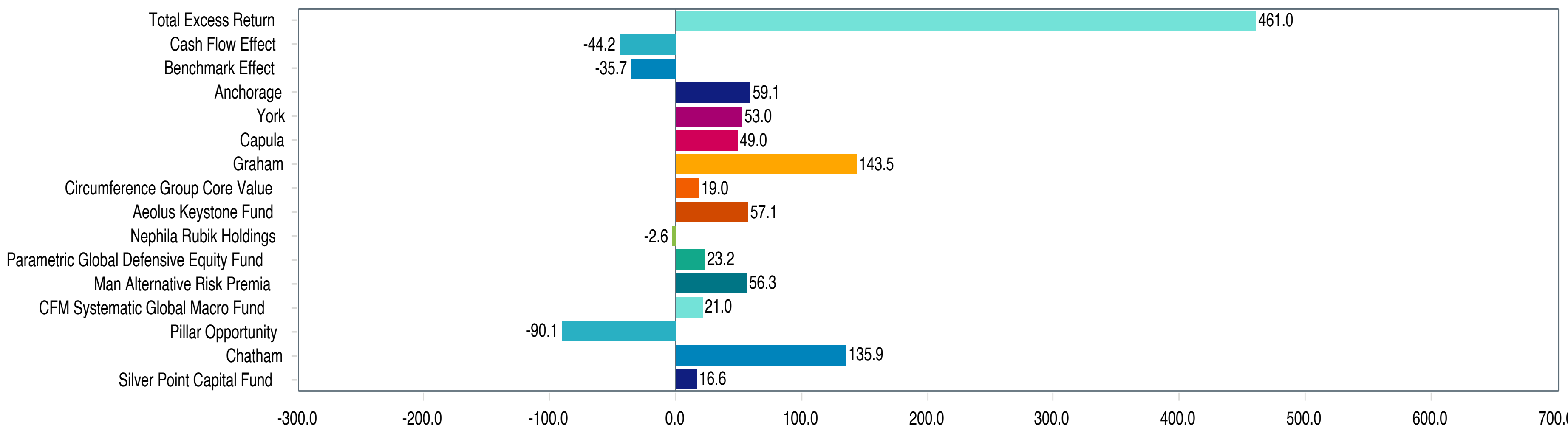
Asset Class Attribution

As of February 28, 2023

1 Month



1 Year



Total Fund Asset Allocation

Asset Allocation as of 2/28/2023									Values in $1,000
	Total Equity	U.S. Bond	Real Estate	Private Equity	Cash	Total	Percent of Total	Interim Policy	Long-Term Target
Jacobs Levy 130/30	$1,173,394.9	--	--	--	--	$1,173,394.9	5.77%		
Kennedy Capital Management	$606,614.3	--	--	--	--	$606,614.3	2.98%		
Stephens	$536,218.1	--	--	--	--	$536,218.1	2.64%		
Voya Absolute Return	$706,067.0	--	--	--	--	$706,067.0	3.47%		
Voya U.S. Convertibles	$901,120.1	--	--	--	--	$901,120.1	4.43%		
Pershing Square Holdings	$255,513.3	--	--	--	--	$255,513.3	1.26%		
SSgA Global Index	$1,304,972.9	--	--	--	--	$1,304,972.9	6.41%		
BlackRock MSCI ACWI IMI Fund	$868,232.1	--	--	--	--	$868,232.1	4.27%		
Wellington Global Perspectives	$635,003.1	--	--	--	--	$635,003.1	3.12%		
T. Rowe Price Global Equity	$1,102,310.2	--	--	--	--	$1,102,310.2	5.42%		
Lazard	$679,376.4	--	--	--	--	$679,376.4	3.34%		
D.E. Shaw	$182,471.5	--	--	--	--	$182,471.5	0.90%		
Harris Global Equity	$608,306.4	--	--	--	--	$608,306.4	2.99%		
Trian Partners	$83,354.5	--	--	--	--	$83,354.5	0.41%		
Trian Partners Co-Investments	$85,281.3	--	--	--	--	$85,281.3	0.42%		
Capital Guardian & Knight Vinke	$57.0	--	--	--	--	$57.0	0.00%		
Global Equity Transition Account	$1,326,511.4					$1,326,511.4	6.52%		
Total Equity						$11,054,804.5	54.34%	58.08%	53.00%
BlackRock	--	$246,002.4	--	--	--	$246,002.4	1.21%		
Loomis Sayles	--	$448,105.5	--	--	--	$448,105.5	2.20%		
Putnam	--	$376,550.0	--	--	--	$376,550.0	1.85%		
SSgA Aggregate Bond Index	--	$683,296.5	--	--	--	$683,296.5	3.36%		
Wellington Global Total Return	--	$386,852.8	--	--	--	$386,852.8	1.90%		
Reams Core Plus Bond Fund	--	$357,369.6	--	--	--	$357,369.6	1.76%		
BRS Recycling Tax Credit	--	$176,000.0	--	--	--	$176,000.0	0.87%		
BRS Recycling Tax Credit Phase 2	--	$77,031.6	--	--	--	$77,031.6	0.38%		
BRS Recycling Tax Credit Phase 3	--	$82,119.8	--	--	--	$82,119.8	0.40%		
Total Fixed Income						$2,833,328.2	13.93%	15.00%	15.00%
Anchorage	--	--	--	$38,035.6	--	$38,035.6	0.19%		
Capula	--	--	--	$93,192.0	--	$93,192.0	0.46%		
Graham	--	--	--	$96,613.4	--	$96,613.4	0.47%		
York	--	--	--	$11,321.9	--	$11,321.9	0.06%		
Circumference Group Core Value	--	--	--	$37,632.5	--	$37,632.5	0.18%		
Aeolus Keystone Fund	--	--	--	$33,417.4	--	$33,417.4	0.16%		
Nephila Rubik Holdings	--	--	--	$8,606.7	--	$8,606.7	0.04%		
Parametric Global Defensive Equity	--	--	--	$193,584.3	--	$193,584.3	0.95%		
Man Alternative Risk Premia	--	--	--	$112,783.9	--	$112,783.9	0.55%		
CFM Systematic Global Macro	--	--	--	$99,694.1	--	$99,694.1	0.49%		
Juniperus	--	--	--	$89,859.4	--	$89,859.4	0.44%		
Chatham	--	--	--	$62,715.3	--	$62,715.3	0.31%		
Silver Point Capital	--	--	--	$50,197.0	--	$50,197.0	0.25%		
Total Opportunistic/Alternatives						$927,653.6	4.56%	4.46%	5.00%
Real Estate			$1,583,389.5			$1,583,389.5	7.78%		
Timber			$341,727.9			$341,727.9	1.68%		
Agriculture			$208,739.7			$208,739.7	1.03%		
Infrastructure			$405,370.4			$405,370.4	1.99%		
Total Real Assets						$2,539,227.5	12.48%	10.46%	15.00%
Total Private Equity				$2,903,466.4		$2,903,466.4	14.27%	12.00%	12.00%
Total Cash					$86,077.5	$86,077.5	0.42%	0.00%	0.00%
Total Fund	**$11,054,804.5**	**$2,833,328.2**	**$2,539,227.5**	**$3,831,120.0**	**$86,077.5**	**$20,344,557.7**	**100.00%**	**100.00%**	**100.00%**

*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows.
Market values and allocation percentages may not add to the total due to rounding.

Real Estate Asset Allocation

Asset Allocation as of 2/28/2023 | **Values in $1,000**

	Real Estate	Percent of Real Estate	Percent of Total Fund		Real Estate	Percent of Real Estate	Percent of Total Fund
Almanac Realty Securities Fund V	$79.7	0.01%	0.00%	LaSalle Income & Growth Fund VI	$3,951.9	0.25%	0.02%
Almanac Realty Securities Fund VI	$3,857.4	0.24%	0.02%	LaSalle Income & Growth Fund VII	$14,969.7	0.95%	0.07%
Almanac Realty Securities Fund VII	$17,393.0	1.10%	0.09%	LaSalle Income & Growth Fund VIII	$23,154.7	1.46%	0.11%
Almanac Realty Securities Fund VIII	$17,288.7	1.09%	0.08%	LBA Logistics Value Fund	$14,208.3	0.90%	0.07%
Almanac Realty Securities Fund IX	$4,666.7	0.29%	0.02%	Lone Star Real Estate Fund IV	$6,773.1	0.43%	0.03%
American Center	$28,100.1	1.77%	0.14%	Long Wharf Real Estate Partners V	$18,569.4	1.17%	0.09%
AR Insurance	$2,237.5	0.14%	0.01%	Long Wharf Real Estate Partners VI	$29,522.7	1.86%	0.15%
AR Teachers Retirement Building	$5,688.8	0.36%	0.03%	Mesa West Income Fund V	$11,896.0	0.75%	0.06%
Blackstone Real Estate Partners VII	$11,006.7	0.70%	0.05%	Metropolitan RE Co-Investments	$9,846.3	0.62%	0.05%
Blackstone RE Europe VI	$22,297.2	1.41%	0.11%	Met Life Commercial Mtg Inc Fund	$46,760.8	2.95%	0.23%
Carlyle Realty Partners VII	$7,336.0	0.46%	0.04%	Morgan Stanley Prime Property Fund	$68,938.2	4.35%	0.34%
Carlyle Realty VIII	$15,837.7	1.00%	0.08%	New Boston Fund VII	$10,616.1	0.67%	0.05%
Carlyle Realty IX	$2,810.1	0.18%	0.01%	O'Connor NAPP II	$4,571.9	0.29%	0.02%
CBREI SP U.S. Opportunity V	$387.1	0.02%	0.00%	PRISA	$347,321.0	21.94%	1.71%
CBREI SP VIII	$23,681.5	1.50%	0.12%	Recoveries Land	$70.0	0.00%	0.00%
CBREI SP IX	$30,198.3	1.91%	0.15%	Rockwood Capital RE Partners IX	$5,278.5	0.33%	0.03%
Cerberus Institutional RE Partners III	$7,707.2	0.49%	0.04%	Rockwood Capital RE XI	$31,557.0	1.99%	0.16%
Calmwater	$13,601.6	0.86%	0.07%	Rose Law Firm	$4,373.2	0.28%	0.02%
Fletcher Properties	$1,135.6	0.07%	0.01%	RREEF Core Plus Industrial Fund	$48,660.3	3.07%	0.24%
FPA Core Plus IV	$35,230.3	2.22%	0.17%	Texarkana DHS	$0.0	0.00%	0.00%
GCP GLP IV	$34,164.7	2.16%	0.17%	Torchlight Debt Opportunity Fund IV	$2,811.8	0.18%	0.01%
Harbert European Real Estate	$8,292.1	0.52%	0.04%	Torchlight Debt Opportunity Fund V	$2,559.0	0.16%	0.01%
Heitman European Property IV	$382.5	0.02%	0.00%	Torchlight Debt Opportunity Fund VI	$18,058.2	1.14%	0.09%
JP Morgan Strategic Property Fund	$198,376.7	12.53%	0.98%	Torchlight Debt Opportunity Fund VII	$26,459.0	1.67%	0.13%
Kayne Anderson V	$20,357.2	1.29%	0.10%	UBS Trumbull Property Fund	$159,910.9	10.10%	0.79%
Kayne Anderson VI	$12,755.2	0.81%	0.06%	UBS Trumbull Property Income Fund	$59,440.0	3.75%	0.29%
Landmark Fund VI	$130.1	0.01%	0.00%	Victory	$33,344.9	2.11%	0.16%
Landmark Real Estate VIII	$13,152.7	0.83%	0.06%	Walton Street Real Estate Debt II	$11,519.1	0.73%	0.06%
LaSalle Asia Opportunity Fund IV	$1,725.6	0.11%	0.01%	West Mphs. DHS	$0.0	0.00%	0.00%
LaSalle Asia Opportunity Fund V	$11,491.5	0.73%	0.06%	Westbrook IX	$8,324.2	0.53%	0.04%
LaSalle Asia Opportunity Fund IV	-$831.2	-0.05%	0.00%	Westbrook Real Estate Fund X	$9,385.1	0.59%	0.05%
				Total Real Estate	**$1,583,389.5**	**100.00%**	**7.78%**

*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows.
Market values and allocation percentages may not add to the total due to rounding.

Private Equity Asset Allocation

Asset Allocation as of 2/28/2023							Values in $1,000
	Private Equity	Percent of Private Equity	Percent of Total Fund		Private Equity	Percent of Private Equity	Percent of Total Fund
Alpine VIII	$13,186.3	0.45%	0.06%	JF Lehman V	$26,113.9	0.90%	0.13%
Arlington Capital IV	$29,981.6	1.03%	0.15%	KPS III	$76.4	0.00%	0.00%
Arlington Capital V	$30,903.6	1.06%	0.15%	KPS IV	$21,635.4	0.75%	0.11%
Advent GPE VI	$3,419.0	0.12%	0.02%	KPS X	$21,865.8	0.75%	0.11%
Altus Capital II	$2,840.1	0.10%	0.01%	KPS Mid-Cap	$15,093.7	0.52%	0.07%
American Industrial Partners VI	$28,097.8	0.97%	0.14%	Levine Leichtman V	$9,446.3	0.33%	0.05%
American Industrial Partners VII	$28,578.9	0.98%	0.14%	Lime Rock III	$24,574.5	0.85%	0.12%
Altaris Constellation Partners	$19,085.4	0.66%	0.09%	LLR III	$1,600.3	0.06%	0.01%
Altaris Health Partners IV	$18,154.8	0.63%	0.09%	LLR VI	$19,500.6	0.67%	0.10%
Atlas Capital II	$14,895.7	0.51%	0.07%	Mason Wells III	$29.4	0.00%	0.00%
Audax Mezzanine III	$1,415.8	0.05%	0.01%	NGP IX	$172.7	0.01%	0.00%
Big River - Equity	$1,677.9	0.06%	0.01%	NGP X	$4,868.1	0.17%	0.02%
Big River - Holdings Note 2023	$0.0	0.00%	0.00%	NGP XI	$22,964.7	0.79%	0.11%
Big River - Holdings Note 3/16/23	$0.0	0.00%	0.00%	NGP XII	$22,711.8	0.78%	0.11%
Bison V	$26,841.5	0.92%	0.13%	One Rock Capital Partners II	$48,677.2	1.68%	0.24%
Bison VI	$142.1	0.00%	0.00%	PineBridge	$8,958.6	0.31%	0.04%
Boston Ventures VII	$1,488.1	0.05%	0.01%	Revelstoke	$13,351.1	0.46%	0.07%
Boston Ventures IX	$32,551.2	1.12%	0.16%	Riverside Value Fund I	$28,664.9	0.99%	0.14%
Boston Ventures X	$19,526.2	0.67%	0.10%	Riverside IV	-$8.7	0.00%	0.00%
BV VIII	$22,122.0	0.76%	0.11%	Riverside V	$25,488.1	0.88%	0.13%
Castlelake II	$10,422.8	0.36%	0.05%	Riverside VI	$26,455.4	0.91%	0.13%
Castlelake III	$12,345.1	0.43%	0.06%	Siris III	$20,291.0	0.70%	0.10%
Clearlake V	$37,812.2	1.30%	0.19%	Siris IV	$34,447.7	1.19%	0.17%
Clearlake VI	$42,188.0	1.45%	0.21%	SK Capital V	$29,383.8	1.01%	0.14%
Clearlake VII	$15,238.4	0.52%	0.07%	Sk Capital VI	$6,116.5	0.21%	0.03%
Court Square III	$29,681.5	1.02%	0.15%	Sycamore Partners II	$12,598.5	0.43%	0.06%
CSFB-ATRS 2005-1 Series	$24,011.8	0.83%	0.12%	Sycamore Partners III	$19,671.7	0.68%	0.10%
CSFB-ATRS 2006-1 Series	$31,810.2	1.10%	0.16%	TA XI	$12,344.7	0.43%	0.06%
Diamond State Ventures II	$431.9	0.01%	0.00%	Tennenbaum VI	$827.5	0.03%	0.00%
DW Healthcare III	$5,334.5	0.18%	0.03%	Thoma Bravo Discover	$5,622.2	0.19%	0.03%
DW Healthcare IV	$29,379.5	1.01%	0.14%	Thoma Bravo Discover II	$21,947.0	0.76%	0.11%
DW Healthcare V	$24,837.0	0.86%	0.12%	Thoma Bravo Discover III	$19,452.5	0.67%	0.10%
EnCap IX	$9,755.1	0.34%	0.05%	Thomas Bravo Discover IV	$2,100.4	0.07%	0.01%
EnCap VIII	$19,090.5	0.66%	0.09%	Thoma Bravo Explore I	$18,746.0	0.65%	0.09%
EnCap X	$28,021.7	0.97%	0.14%	Thoma Bravo XI	$20,236.6	0.70%	0.10%
EnCap XI	$36,646.9	1.26%	0.18%	Thoma Bravo XII	$29,723.3	1.02%	0.15%
Franklin Park Series	$1,121,796.6	38.64%	5.51%	Thoma Bravo XIII	$41,980.2	1.45%	0.21%
Greenbriar V	$24,643.0	0.85%	0.12%	Thoma Bravo XIV	$17,415.5	0.60%	0.09%
GCG IV	$12,839.4	0.44%	0.06%	Thoma Bravo XV	$7,988.4	0.28%	0.04%
GCG V	$27,625.3	0.95%	0.14%	Vista Equity III	$3,698.9	0.13%	0.02%
GTLA Holdings	$70,000.0	2.41%	0.34%	Vista Foundation II	$7,239.3	0.25%	0.04%
Highland	$210,491.1	7.25%	1.03%	Vista Foundation III	$33,395.3	1.15%	0.16%
Insight Equity II	$8,953.5	0.31%	0.04%	Wellspring V	$11,589.1	0.40%	0.06%
Insight Mezzanine I	$1,829.3	0.06%	0.01%	Wicks IV	$8,011.3	0.28%	0.04%
JF Lehman III	$20,806.1	0.72%	0.10%	WNG II	$16,734.6	0.58%	0.08%
JF Lehman IV	$8,764.8	0.30%	0.04%				
				Total Private Equity	**$2,903,466.4**	**100.00%**	**14.27%**

*Note: The market values for the Real Assets and Private Equity investments shown above are lagged one quarter and adjusted for the current quarter's cash flows.
Market values and allocation percentages may not add to the total due to rounding.

Description of Benchmarks

Total Fund - The Performance Benchmark for the Total Fund reflects a weighted average of the underlying asset class benchmarks, weighted as follows:
Opportunistic/Alternatives and Real Assets at the weight of the previous month's ending market values, Fixed Income and Private Equity at their long-term Policy Targets of 15% and 12%, respectively, and Total Equity at its long-term Policy Target of 50% plus the balance of the unfunded or uncommitted assets of the Opportunistic/Alternatives and Real Assets categories. These targets can be found on page 14 of the this report. From October 2007 to July 2013, the Performance Benchmark was the performance of the asset class benchmarks as a weighted average of the previous month's ending market values. The historical components of the benchmark are shown in the table below. Returns prior to September 30, 1996, consist of the actual allocations to the seven different asset classes included in the Arkansas Teacher Retirement System over time. The historical benchmarks used for each asset class are noted below.

Date	DJ Total Stock Market Index	Russell 3000 Index	MSCI ACW ex-U.S. Index	MSCI All Country World Index	BC Universal Bond Index	BC Aggregate Bond Index	Alternative Policy*
03/2004-9/2007	40.0%	–	17.5%	–	25.0%	–	17.5%
06/2003-02/2004	40.0	–	17.5	–	–	25.0%	17.5
10/2001-07/2003	–	40.0%	17.5	–	–	25.0	17.5
08/1998-09/2001	–	40.0	17.0	–	–	28.0	15.0
10/1996-07/1998	–	40.0	20.0	–	–	28.0	12.0

*Historically, the Alternative Policy was comprised of the weighted averages of the Private Equity, Real Estate, and Alternatives policy benchmarks. Prior to July 31, 2003 the alternative benchmark consisted of 57.0% of the Russell 3000 + a 2% Premium per year, 8.5% of the NCREIF Southeast Timberland Index, 28.5% of the Real Estate Index, 6% of the EnnisKnupp STIF Index.

Arkansas Teacher Retirement System

Total Equity -A weighted average of the Dow Jones U.S. Total Stock Market Index and the MSCI All Country World IMI Index based on weights of the underlying investment manager allocations. As of February 1, 2023, the Total Equity Performance Benchmark was comprised of 34.3% DJ U.S. Total Stock Market Index and 65.7% MSCI ACWI IMI.

Fixed Income - The Barclays Capital Universal Bond Index as of March 1, 2004.

Opportunistic/Alternatives - A custom benchmark consisting of 25% DJ/CS Event-Driven Index, 25% HFR Macro Index, and 50% South Timberland NCREIF Index until June 30,2013; 60% HFRI Macro Index and 40% DJ/CS Event-Driven Index until July 31, 2015; 56% HFRI Macro Index, 38% DJ/CS Event-Driven Index, and 6% Russell 2000 Index until March 31, 2016; 45% HFRI Macro Index, 30% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 20% FTSE 3 Month T-bill until May 31, 2016; 37% HFRI Macro Index, 25% DJ/CS Event-Driven Index, 5% Russell 2000 Index, and 33% FTSE 3 Month T-bill until May 31, 2017; 28% HFRI Macro Index, 20% DJ/CS Event-Driven Index, 4% Russell 2000 Index, 25% FTSE 3 Month T-bill, and 23% Parametric Performance Benchmark Until May 31, 2018. 22% HFRI Macro Index, 18% DJ/CS Event-Driven Index, 3% Russell 2000 Index, 27% FTSE 3 Month T-bill, 18.50% Parametric Performance Benchmark, and 11.5% SG Multi-Alternative Risk Premia Until June 30, 2018. 20% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 25% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until August 31, 2018. 17% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 28% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia Until November 30, 2018. 15% HFRI Macro Index, 15% DJ/CS Event-Driven Index, 3.5% Russell 2000 Index, 30% FTSE 3 Month T-bill, 16.5% Parametric Performance Benchmark, and 20% SG Multi-Alternative Risk Premia thereafter.

Real Assets - A custom benchmark consisting of a weighted average of the net asset values at previous month's end of the sub-categories' benchmarks, defined as Real Estate Benchmark, Timber Benchmark, Agriculture Benchmark and Infrastructure Benchmark.

Real Estate-The NCREIF Index.

Timberland Property Benchmark - NCREIF Timberland Property Index (NTPI) weighted according to ATRS' regional exposure based on net asset value.

Agriculture Benchmark - NCREIF Farmland Index (NFI) weighted according to ATRS' regional and crop type exposure based on net asset value.

Infrastructure Benchmark - Consumer Price Index (CPI) plus 500 basis points annually.

Private Equity - The Dow Jones U.S. Total Stock Market Index + a 2% premium per year.

Cash Equivalents - The Citigroup 90 day T-bill.

Description of Benchmarks

FTSE 90 day T-bill Index - Treasury bill rates of return, as reported by Citigroup (Salomon Smith Barney), for bills with a maximum time remaining to maturity of 90 days.

Bloomberg Barclays Aggregate Bond Index - A market-value weighted index consisting of the Barclays Capital Corporate, Government and Mortgage-Backed Securities Indices. The Index also includes credit card-, auto- and home equity loan-backed securities, and is the broadest available measure of the aggregate U.S. fixed income market.

Bloomberg Barclays Universal Bond Index - A market-value weighted index consisting of the components of the Barclays Capital Bond Index, plus EuroDollar bonds, emerging markets bonds, 144A fixed income securities, and U.S. credit high yield securities.

Bloomberg Barclays Mortgage Index - A market value-weighted index consisting of the mortgage pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA) and Freddie Mac (FHLMC).

MSCI All Country World ex-U.S. Index - A capitalization-weighted index consisting of 22 developed and 23 emerging countries, but excluding the U.S. Covers approximately 85% of global equity opportunity set outside of the U.S.

MSCI All Country World Index - A capitalization-weighted index of stocks representing 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

MSCI All Country World IMI Index - A capitalization-weighted index representing large and small cap stock from 46 stock markets in Europe, Australia, the Far East, the Middle East, Latin America and North America.

FTSE Europe - A tradable index, designed to represent the performance of the 100 most highly capitalized blue chip companies in Europe.

MSCI Europe, Australasia, Far East (EAFE) Non-U.S. Stock Index - A capitalization-weighted index of stocks representing 21 developed and emerging country markets in Europe, Australia, Asia and the Far East.

NCREIF Index - The National Council of Real Estate Investment Fiduciaries (NCREIF) Net Property Index is an unlevered, market-value weighted Index consisting of $128 billion in domestic institutional real estate assets. The Index is representative of the national real estate market, across all property types and regions.

Voya U.S. Convertibles Performance Benchmark - On January 1, 2005, the benchmark for the portfolio was changed to the Merrill Lynch Convertible Bond (All Quality) Index. Prior to January 1, 2005, the performance benchmark for the Voya U.S. Convertibles portfolio was the CSFB Convertible Securities Index. Prior to May 1, 2004, the performance benchmark consisted of 90% CSFB Convertible Securities Index and 10% Salomon High Yield Index.

Wellington Global Performance Benchmark- As of July 1, 2012 the benchmark was changed to MSCI All Country World Small Cap Index. Prior to July 1, 2012, the benchmark was MSCI All Country World Small/Mid Cap Index.

BlackRock Performance Benchmark - The Barclays Capital Universal Bond Index as of March 1, 2004.

Voya Absolute Return Performance Benchmark - As of December 1, 2015 the benchmark was changed to MSCI All Country World Index. Prior to December 1, 2015, the benchmark was the S&P 500 Stock Index.

LIBOR Index - London Interbank Offered Rate. A filtered average of the world's most creditworthy banks' interbank deposit rates with maturities between overnight and one full year.

Russell 3000 Index - An index that measures the performance of the 3000 stocks that make up the Russell 1000 and Russell 2000 Indices.

Russell 1000 Index - An index that measures the performance of the largest 1,000 stocks contained in the Russell 3000 Index.

Russell 1000 Value Index - An index that measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

Russell 2000 Index - An index that measures the performance of the smallest 2000 companies contained in the Russell 3000 Index.

Russell 2000 Growth Index - An index that measures the performance of those Russell 2000 companies with greater price-to-book ratios and greater I/B/E/S growth forecasts.

Russell 2000 Value Index - An index that measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower I/B/E/S growth forecasts.

Russell Mid Cap Value Index - And index that measure the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

S&P 500 Stock Index - A capitalization-weighted stock index consisting of the 500 largest publicly traded U.S. stocks.

HFR Macro Index - Macro: Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Primary investment thesis is predicated on predicted or future movements in the underlying instruments.

HFR Distressed/Restructuring Index - Distressed Restructuring Strategies 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. Distressed Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

Parametric Performance Benchmark - 50% MSCI All Country World Index and 50% Citigroup 90 day T-Bill Index as of June 1, 2017.

SG Multi Alternative Risk Premia Index - An equally weighted index composed of risk premia managers who employ investment programs diversified across multiple asset classes while utilizing multiple risk premia factors.

Historical U.S. Equity and Global Equity composite returns

As of June 30, 2015	1 Year	3 Years	5 Years	10 Years	Since Inception	Inception Date
U.S. Equity	6.7	18.1	16.4	9.4	10.5	04/01/1986
Dow Jones U.S. Total Stock Market Index	7.2	17.6	17.5	8.3	-	
Global Equity	1.8	14.6	12.1	-	2.5	11/01/2007
MSCI AC World Index (Net)	0.7	13.0	11.9	6.4	2.1	

In June 2015, the ATRS Board approved the combination of the U.S. and Global equity asset classes to a single Total Equity asset class. Total Equity performance reporting began in July 2015. In the table above, we show the historical returns for the U.S. Equity and Global Equity asset classes since inception through June 2015. Performance for the Total Equity asset class prior to July 2015 represents a weighted average of the U.S. Equity and Global Equity historical performance.

Notes

- The rates of return contained in this report are shown on an after-fees basis unless otherwise noted. They are geometric and time-weighted. Returns for periods longer than one year are annualized.
- Universe percentiles are based upon an ordering system in which 1 is the best ranking and 100 is the worst ranking.
- Due to rounding throughout the report, percentage totals displayed may not sum to 100%. Additionally, individual fund totals in dollar terms may not sum to the plan total.
- All information presented in this report should be considered preliminary. Finalized data will be available on next Quarterly Investment Report after the close of the quarter.

Disclaimer

Past performance is not necessarily indicative of future results.

Unless otherwise noted, performance returns presented reflect the respective fund's performance as indicated. Returns may be presented on a before-fees basis (gross) or after-fees basis (net). After-fee performance is net of each respective sub-advisors' investment management fees and include the reinvestment of dividends and interest as indicated on the notes page within this report or on the asset allocation and performance summary pages. Actual returns may be reduced by Aon Investments' investment advisory fees or other trust payable expenses you may incur as a client. Aon Investments' advisory fees are described in Form ADV Part 2A. Portfolio performance, characteristics and volatility also may differ from the benchmark(s) shown.

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Refer to Hedge Fund Research, Inc. www.hedgefundresearch.com for information on HFR indices.

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Aon Investments USA Inc.
200 East Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

Aon InTotal: Chatham Asset Management

Chatham Asset Private Debt and Strategic Capital Fund IV, LP

Review Date	Overall Rating	Previous Overall Rating
March 2023	Buy	New Rating

Overall Rating

Chatham Asset Private Debt and Strategic Capital Fund IV ("PDSC IV") is the firm's fourth vintage of the closed-end product. PDSC IV is designed to provide investors with exposure to the illiquid opportunistic component of the firm's flagship open-ended strategy and other illiquid positions that are unsuitable for the mandate of the flagship offering. The fund is not an overflow product, but closer to a best-ideas portfolio that can upsize positions that would otherwise be too illiquid in an evergreen fund. Chatham will rely on fundamental research conducted by a team of sector specialists to source and work through ideas to populate the portfolio. Aon believes Chatham's edge is its deep credit research skills which helps them find unique stressed opportunities with large mispricings that are expected to perform well over the fund's life. Like the main fund, PDSC IV will focus on lower middle market companies.

Component Ratings

	Rating	Previous Rating	Aon InForm Assessment**
Business	3	*New Rating*	-
Staff	3	*New Rating*	-
Process	3	*New Rating*	-
Risk	2	*New Rating*	-
ODD	A2	*New Rating*	-
Performance	3	*New Rating*	-
T&C	3	*New Rating*	-

** We are not currently able to provide an Aon InForm Assessment for this strategy as the manager has not provided us with enough data to perform a meaningful analysis. We are working with the manager to collect the necessary data for future quarters.

Prior Vintage Performance

Private Debt Fund I	+15.5%
Private Debt Fund II	+20.7%
Private Debt Fund III	+27.8%

Performance Since Inception Date of individual fund through December 2022.

Performance (USD) is an annualized return and net of fees. CY = calendar year.
Source: Manager

Firm and Strategy Summary

Head Office Location	Chatham, NJ	**Parent Name**	Chatham Asset Management
Firm AUM	$5.3 billion	**Private Credit AUM**	$1.7 billion
Team Location	Chatham, NJ/Chicago, IL	**Team Head**	Anthony Melchiorre
Firm/Strategy Inception	2002/2017	**Strategy Size**	$300 - $500 MM
Management Fee	1.0%*	**Performance Fee**	20%
Hurdle Rate	5% preferred return	**Fund Term**	Five years

Note: **Past performance is no guarantee of future results**. *Early investors are eligible for a management fee discount.

Empower Results®

Rating Sheet

Factor	Rating	Previous Rating	Comments
Business	3	*New Rating*	Chatham is employee-owned by six partners, with Anthony Melchiorre the majority owner of the management company. The remaining partnership interests are held by Evan Ratner, James Ruggerio, Feisal Alibhai, Barry Schwartz, and Dave Sobolewski. Chatham has been disciplined at managing capacity, at times pausing capital raising activity when the market opportunity warrants a slowing of new inflows. The client base is focused on institutional investors.
Investment Staff	3	*New Rating*	Anthony Melchiorre oversees all investing activity at Chatham with an emphasis on reviewing ideas coming from the research team, understanding credit market dynamics and liquidity, and directing portfolio hedging. In Evan Ratner's capacity as Director of Research and Portfolio Manager for the Private Debt Fund, he reviews the ideas and output of the research team and works with portfolio companies to push forward positive change. The research team comprises a deep, senior group of sector specialists who cover all companies in their universe and are expected to know them well and bring forth ideas; in our view, some of them are strong enough to lead their own credit hedge fund. Additionally, the combination of research, trading, and portfolio construction talent encompassed by Melchiorre and Ratner are strong compared to their peers.
Investment Process	3	*New Rating*	Chatham's investment process starts with deep fundamental research in middle market companies. The manager emphasizes the importance of conviction based on fundamental research, which results in a more concentrated portfolio. The investment team also believes the middle market is inefficient with a meaningful opportunity to find mispriced credits, which leads to the portfolio having differentiated positions as Chatham aims to avoid crowded trades made by larger private credit competitors.
Risk Management	2	*New Rating*	Chatham's risk management is embedded into the research process and serves as the main control of portfolio risk. Chatham wants to work through potential risk areas in the research process and understand the downside risks to each investment. The initial valuation of the company at entry is a key risk control. Unlike many private debt funds, Chatham will hedge the portfolio's market risk through the use of equity index options that will mirror the portfolio hedging of Chatham's flagship hedge fund.

Rating Sheet			
Factor	**Rating**	**Previous Rating**	**Comments**
Operational Due Diligence (ODD)	A2	*New Rating*	The firm employs experienced non-investment staff and utilizes well known third-party service providers within the hedge fund industry. Valuation processes related to Level 2 and 3 securities in its main hedge fund follow best practices. A majority independent Board of Directors oversees the Fund.
Performance Analysis	3	*New Rating*	All three of Chatham's private debt fund vintages have performed well on both an absolute basis and compared to other long duration credit funds managed by peers. PDSC IV is opening during a period of volatility in the credit markets, and we would expect that middle market debt should be an area for continued success for Chatham.
Terms & Conditions (T&C)	3	*New Rating*	The Fund's fees and liquidity provisions are in-line with longer lock credit strategies, with reasonable fees and investor liquidity that is appropriate for the portfolio. The management fee offered for early investors in the Fund is compelling.
Overall Rating	**Buy**	*New Rating*	Chatham Asset Private Debt and Strategic Capital Fund IV ("PDSC IV") is the firm's fourth vintage of the closed-end product. PDSC IV is designed to provide investors with exposure to the illiquid opportunistic component of the firm's flagship open-ended strategy and other illiquid positions that are unsuitable for the mandate of the flagship offering. The fund is not an overflow product, but closer to a best-ideas portfolio that can upsize positions that would otherwise be too illiquid in an evergreen fund. Chatham will rely on fundamental research conducted by a team of sector specialists to source and work through ideas to populate the portfolio. Aon believes Chatham's edge is its deep credit research skills which helps them find unique stressed opportunities with large mispricings that are expected to perform well over the fund's life. Like the main fund, PDSC IV will focus on lower middle market companies.

Manager Profile

Overview

Chatham Asset Private Debt and Strategic Capital Fund IV ("PDSC IV") is the firm's fourth vintage of the closed-end product. PDSC IV is designed to provide investors with exposure to the illiquid, opportunistic component of the firm's flagship open-ended strategy and other illiquid positions that are unsuitable for the mandate of the flagship offering. The fund is not an overflow product, but closer to a best-ideas portfolio that can upsize positions that would otherwise be too illiquid in an evergreen fund. Chatham will rely on fundamental research conducted by a team of sector specialists to source and work through ideas to populate the portfolio. Aon believes Chatham's edge is its deep credit research skills which helps them find unique, stressed opportunities with large mispricings that are expected to perform well over the fund's life. Like the main fund, PDSC IV will focus on lower middle market companies.

Business

- Chatham Asset Management is wholly owned by internal partners with Anthony Melchiorre holding the majority of the ownership interest. Five other senior team members are partners in the management company.
- Chatham manages the flagship hedge fund and four longer-lock private debt funds. Chatham manages a few funds-of-one for investors who have made significant capital allocations to the manager.
- Chatham employs a team of 22, with 14 investment professionals. The majority of the team is based in Chatham, New Jersey, with a small team based in Chicago, IL.

Client Base

- Firm wide assets on December 31, 2022 were $5.3 billion, with the private credit funds having $1.7 billion in assets.
- Chatham has a highly institutional client base with 79% of AUM provided by public pension plans, sovereign wealth funds, corporations, and endowments and foundations.
- Chatham's partners' and employees' capital invested in the private credit funds represents approximately 13% of the initial three Funds' AUM.

Investment Staff

Key Staff	Position	Date Joined	Years of Experience
Anthony Melchiorre	Founder/Portfolio Manager	2003	34
Evan Ratner	Director of Research/PDSC Portfolio Manager	2009	29
Barry Schwartz	Senior Analyst	2006	36
Feisal Alibhai	Senior Analyst	2004	30

- Anthony Melchiorre leads the investment team and spends the majority of his time focused on investment idea reviews, portfolio construction, hedging, and trading.
- Evan Ratner leads the research team and focuses his time working with the analyst team as they research new ideas and track positions currently in the portfolio. For PDSC IV, Ratner also serves as the Fund's portfolio manager and spends a lot of time with portfolio companies where Chatham is active on credit committees or works closely with company management.
- The research team is broken down by sector specialists who are expected to know their universe well and bring forth new investment ideas.

Investment Process

Philosophy

Chatham is an opportunistic credit manager that believes it distinguishes itself from peers through an emphasis on credit research and a focus on lower middle market companies. The manager emphasizes the importance of fundamental conviction based their work, which results in a concentrated portfolio of high conviction ideas. Chatham believes it can remain nimble by sourcing lower middle market positions that are outside the reach of larger private credit competitors. Chatham will express its investment thesis across a company's entire capital structure. Additionally, engagement with underlying management is variable based on the situation, but in PDSC IV Chatham is expected to be more active on the credit committees of portfolio companies and advising management.

Process

Sourcing investment ideas is done through several different avenues including proprietary research, interactions with covered companies' customers, suppliers, and competitors, recent and sizeable price moves, and sector and/or market disruptions. Idea sourcing is important to Chatham as it usually invests in smaller or medium sized companies where the story is not always front-page news. Therefore, it needs to dig a little more to find ideas. Chatham's senior team members have been in the business for a long time and have created a large catalog of contacts on the Street and in the sectors they frequently invest. To mine their contacts for new ideas, Evan Ratner and other team members are in New York at least weekly talking to the Street and industry contacts. Idea generation for PDSC IV will rely on the team's existing network of bankers, bankruptcy lawyers, management companies of current investments, and prior investment relationships. While Chatham may collaborate with other credit managers, it will not source opportunities from larger syndicate groups that are simply looking to offload some exposure.

Chatham's analysts are sector focused. Therefore, when analysts begin to work on a new idea, they will complete enough diligence to be able to propose the idea to Anthony Melchiorre and Evan Ratner. The senior leaders will walk through the idea with the analyst and review it to see if it is viable from risk/return, liquidity, and edge perspectives. If the idea is approved for more work, the analyst begins deep fundamental analysis on the company and its capital structure, which includes detailed models to project a company's ability to repay debt, catalysts, and timeline to unlock value, and expected returns in downside, base, and upside scenarios. Chatham is a big believer in meeting with management at company headquarters and doing field trips to key operational locations, which help it to understand the business better and identify potential issues.

The Chatham research team member will also conduct a full legal document review of the company's bond indentures and covenants. The focus of the review will be for areas that may trigger a default or another event that may cause Chatham to either potentially enter or exit a position. The legal analysis may also point the team to areas that could potentially be leveraged in negotiations with management teams.

While analysts are in constant contact with Evan Ratner on their work agenda and progress, he performs a more formal review when the analyst has completed their work. Ratner will review the idea and supporting diligence, ask questions, and request further support or clarification where needed. In this role, Ratner acts as a firewall between the analysts and Anthony Melchiorre to free up his time to focus on the portfolio and weed out unfitting ideas. If the idea is approved, Chatham will look for an entry and build exposure to the idea. The team keeps a 30-35 name watch list and begins buying a security once it reaches a particular price.

The PDSC IV portfolio should focus about half of the book on event driven opportunities in public markets where credit could rapidly sell off should equity markets decline in the face of inflation. Within this book, Chatham will continue to look for mispricing similar to past cycles where investors indiscriminately sell without evaluating individual credits within a sector. The remaining portfolio will include a combination of distress for influence and capital solutions

Risk Management

Chatham's risk management philosophy is to embed risk management into its investment research process and use that as the main control of portfolio risk. Chatham wants to work through potential risk areas in the investment research process as it seeks to know a company and pressure points on the downside. With a high degree of idiosyncratic risk in the portfolio, Chatham is not a big believer in managing risks through controlling correlations and betas.

A secondary risk control is Chatham's trading ability to lower exposures in a down market and increase exposures in an upward moving market. Tertiary risk controls include minimal use of leverage and strong sell discipline.

Chatham does not maintain either a risk management or investment committee to control risk. Instead, Chatham believes the constant interaction between the two senior investment leaders and the research team helps them to know the portfolio and the market well and to react quickly to a changing environment.

Chatham uses a hedge overlay that focuses on left tail risk to help control the portfolio's market sensitivity. Chatham spends approximately 15 - 20 basis points per month purchasing S&P 500 index puts expiring 1-2 months out with a strike price 5% to 10% below the current trading level. In a market where the hedges are working, Chatham is quick to crystalize profits and reset hedges based on market moves. Chatham will also do some interest rate and credit market hedging at both the portfolio and individual investment levels when deemed appropriate.

Operational Due Diligence

- All trades are entered into the firm's Northpoint Order Management System and are reconciled daily by the Chatham operations group.
- The manager uses external service provider Duff and Phelps to valuate illiquid portfolio positions.

Terms & Conditions

- Targeted fund size is $300 - $500 million.
- The management fee is 1% and the performance fee is 20% over a 5% preferred return with a 100% General Partner catch-up. Early investors are eligible for a management fee discount.
- The investment period on the Fund is four years from the final close which is scheduled for April 2024. There is a one-year harvest period for a five-year total life. There can be two one-year extensions of the Fund at the discretion of the General Partner.
- To date, Chatham has called all committed capital in the Private Debt funds.

Ratings Explanation

Below we describe the criteria which we use to rate fund management organizations and their specific investment products. Our manager research process assesses each component using both our qualitative and Aon InForm criteria. With the exception of Operational Due Diligence ("ODD"), each component is assessed as follows:

Qualitative Outcome	Aon InForm Outcome	
1 = Weak	✓	**Pass**: This component in isolation meets or exceed our desired criteria
2 = Average	⚐	**Alert**: This component in isolation does not meet our desired criteria, or the lack of data on this component means that we are not able to judge whether it meets our desired criteria
3 = Above Average		
4 = Strong	-	**Not assessed**: There is a lack of data, which means that we are not able to assess this component, however we do not consider this in isolation to justify an Alert

The ODD factor is assigned a rating and can be interpreted as follows:

Overall ODD Rating*	What does this mean?
A1 Pass	No material operational concerns – the firm's operations largely align with a well-controlled operating environment.
A2 Pass	The firm's operations largely align with a well-controlled operating environment, with limited exceptions – managers may be rated within this category due to resource limitations or where isolated areas do not align with best practice.
Conditional Pass ("CP")	Specific operational concerns noted that the firm has agreed to address in a reasonable timeframe; upon resolution, we will review the firm's rating.
F	Material operational concerns that introduce the potential for economic or reputational exposure exist – we recommend investors do not invest and/or divest current holdings.

*Operational due diligence inputs provided to the research team by Aon's Operational Risk Solutions and Analytics Group (ORSA). ORSA is an independent entity from Aon Solutions UK Limited, Aon Investments USA Inc., and Aon Hewitt Inc./
Aon Investments Canada Inc.
Investment advice is provided by these Aon entities.

Aon previously assigned ODD ratings of pass, conditional pass, or fail for the ODD factor. We are in the process of refreshing all ODD ratings to the new terminology. During the transition period, the prior ratings, as follows, may persist in some deliverables until the ODD factor rating is converted to the above noted letter ratings.

- **Pass** – Our research indicates that the manager has acceptable operational controls and procedures in place.
- **Conditional Pass** – We have specific concerns that the manager needs to address within a reasonable established timeframe.
- **Fail** – Our research indicates that the manager has critical operational weaknesses and we recommend that clients formally review the appointment.

An overall rating is then derived taking into account both the above outcomes for the product. The overall rating can be interpreted as follows:

Overall Rating	What does this mean?
Buy	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products
Buy (Closed)	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products, however it is closed to new investors
Qualified	A number of criteria have been met and we consider the investment manager to be qualified to manage client assets
Not Recommended	A quantitative assessment of this strategy indicates it does not meet our desired criteria for investment. This strategy is not recommended
Sell	We recommend termination of client investments in this product
In Review	The rating is under review as we evaluate factors that may cause us to change the current rating

The comments and assertions reflect our views of the specific investment product and our opinion of its quality. Differences between the qualitative and Aon InForm outcome can occur and if meaningful these will be explained within the Key Monitoring Points section. Although the Aon InForm Assessment forms a valuable part of our manager research process, it does not automatically alter the overall rating where we already have a qualitative assessment. Overall rating changes must go through our qualitative manager vetting process. Similarly, we will not issue a Buy recommendation before fully vetting the manager on a qualitative basis.

Disclaimer

As of December 31, 2020, Aon's quantitative model is run on approximately 13,000 strategies from an external database. Aon assigned a quantitative rating of "Qualified" to 42% of these strategies and a "Not Recommended" to 23% of these strategies. The remainder were not rated. A "Buy" rating cannot be assigned via quantitative analysis. Across asset classes (excludes private real estate and real assets), Aon had approximately 21,000 strategies in its internal database. Aon assigned a qualitative rating of "Buy" to 7% of strategies in the database; "Qualified" to 1% of strategies in the database; "Sell" to <1% of strategies in the database; and "In Review" to <1% of strategies in the database. The remaining strategies in the database are not rated. Some strategies may be included in both the internal and external database. Where a qualitative rating exists, it prevails over the quantitative rating. These statistics exclude real estate / Townsend databases and ratings.

Aon does not receive compensation from investment managers for strategy ratings. On occasion, a research analyst may have an economic interest in the security or product being rated. Aon maintains policies and procedures regarding personal securities transactions in a Code of Ethics. On occasion the Aon entities referenced below or their affiliates may receive compensation for investment advisory, placement agent or underwriting services provided to the subject company. A copy of the Code of Ethics, a statement regarding whether the research analyst rating this strategy or security has any financial interest in the strategy or security, and additional information regarding compensation received from a subject company is available upon written request to the Aon compliance department in your local region, address as listed below.

Aon plc/Aon Solutions UK Limited Registered office The Aon Centre The Leadenhall Building 122 Leadenhall Street London EC3V 4AN	Aon Investments USA Inc. 200 E. Randolph Street Suite 700 Chicago, IL 60601 USA	Aon Hewitt Inc./Aon Investments Canada Inc. 20 Bay Street, Suite 2300 Toronto, ON M5J 2N9 Canada

Arkansas Teacher Retirement System

Opportunistic/Alternatives Strategy Recommendations

April 3, 2023

Executive Summary

- Aon continuously vets the investment landscape for attractive investment opportunities that may be appropriate for the ATRS Opportunistic / Alternatives portfolio
- Overall, the Opportunistic/Alternatives portfolio is well-diversified across strategy type and manager, providing broad coverage of the available opportunities and offering potential to improve the Total Fund's risk-adjusted returns
  - The portfolio has protected on the downside and outperformed its custom benchmark since inception, though performance has been somewhat disappointing from an absolute return perspective
  - Recently, ATRS made a number of manager enhancements, including the addition of two opportunistic credit managers, replacement of ILS managers, and a transition of the CFM strategy to their Systematic Global Macro strategy
- As legacy managers wind down, Aon has identified two attractive opportunities to add to the portfolio with the goal of offering attractive risk-adjusted returns and diversification with the rest of the portfolio

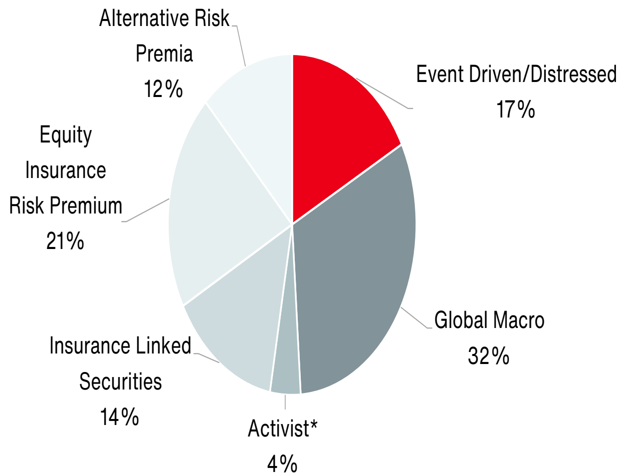
Recommendations

1. **Commit $50 M to Chatham Private Debt Fund IV –** Opportunistic debt strategy with an existing ATRS manager targeting low double digit returns and fulfilling desirable exposure to event-driven strategies
2. **Commit $40 M to Prophet Mortgage Servicing Opportunities Fund –** Compelling strategy based on current dynamics across mortgage market and interest rate environment, Prophet seeks uncorrelated, low double digit returns

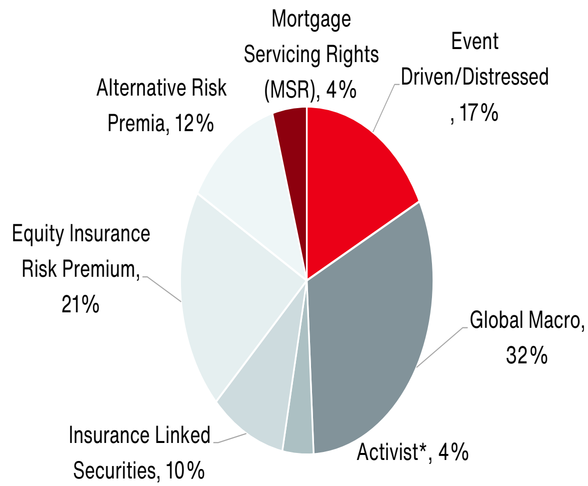
Opportunistic / Alternatives Portfolio Snapshot

- Below charts highlight the current (as of 12/31/22) and recommended Opportunistic/Alternatives portfolio
- As York, Anchorage wind down, an allocation to Chatham Fund IV maintains desired event driven/distressed exposure, while the mortgage servicing rights (MSR) strategy offers a compelling uncorrelated return opportunity

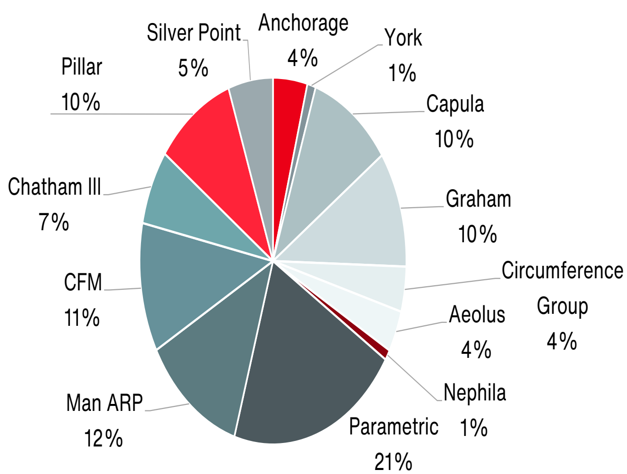
Strategy Allocation - Current



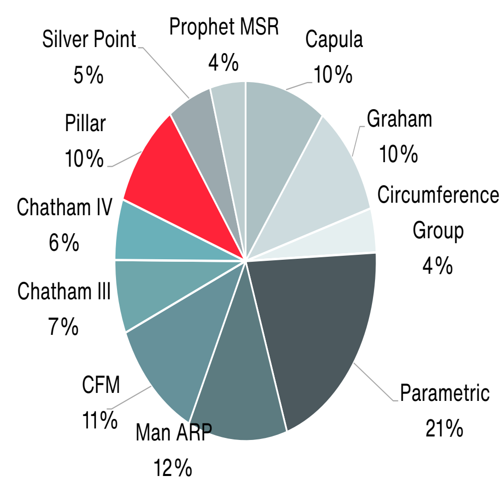
Strategy Allocation – Recommended



Manager Allocation - Current



Manager Allocation - Recommended



Chatham Asset Private Debt and Strategic Capital Fund IV

Credit Portfolio Recommendation:

Commit $50M to Chatham Asset Private Debt and Strategic Capital Fund IV (“PDSC IV”)

- Allocation to Chatham’s Fund IV will maintain the overall credit exposure at approx. 15% of the Opportunistic/ Alternatives portfolio and 1% of the Total Fund
  - Anchorage and York continue to slowly return capital back to ATRS
- Current Chatham Fund III has earned ATRS 17.6% on a time-weighted return basis since inception into the portfolio in November 2021
- ATRS also has potential for an attractive fee rate for getting in during first close
- Recommend committing $50M to Chatham PDSC IV to maintain the credit exposure and gain access to an attractive investment opportunity

Current Credit Exposure	Current		Recommendation	
	$(M)	% of Opp/Alts	$(M)	% of Opp/Alts
York	$9	1%		
Anchorage	$28	4%		
Silver Point	$49	5%	$49	5%
Chatham PDSC Fund III	$60	7%	$60	7%
Chatham PDSC Fund IV			$50	6%

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Data above is approximate based on 12/31/2022 information

Chatham Asset Private Debt and Strategic Capital Fund IV

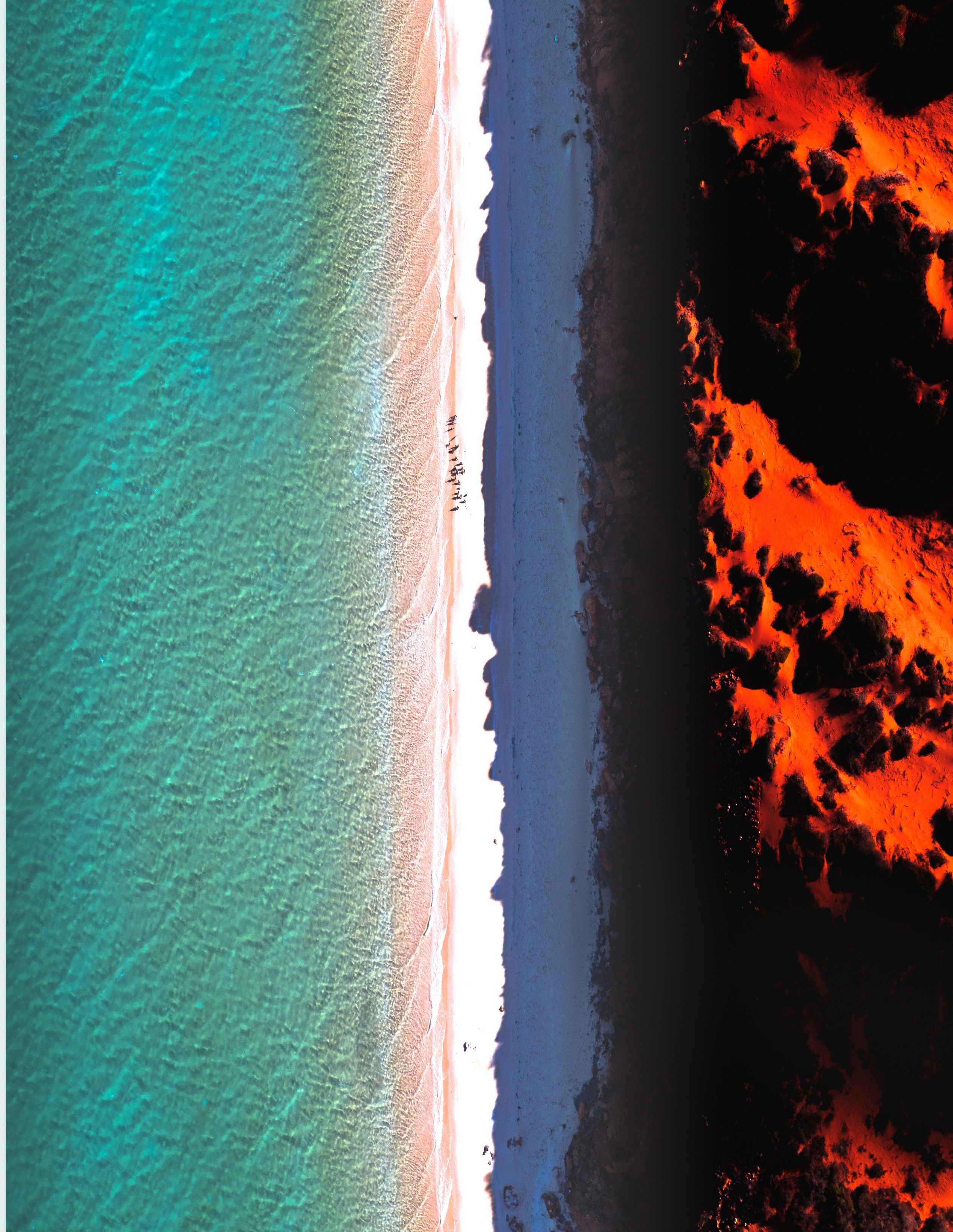
- Chatham is employee owned by six partners with client base focused on pensions and E&Fs
- The combination of research, trading, and portfolio construction talent encompassed by the team is rated highly to those found amongst their peers
- Research team is senior and broken out as sector specialists, covering all companies in their universe
- PDSC IV is an opportunistic distressed strategy of best ideas that are more illiquid and with a more distant catalyst
- Focused on middle market companies where there is less competition for alpha
- Anticipate many ideas to be distressed for influence or capital solutions
- Key Differentiators:
  - The team executes on a deep level of credit research in areas of the market that are under-followed
  - Unlike other private credit funds, the manager will do some hedging to reduce market risk and volatility

Fund	Chatham PDSC IV
Fund Inception	2023
Management Fee	1.0%*
Performance Fee	20% over 5% preferred return
Redemption Terms	Five year fund life with two one year extensions possible
Lock-up/Gate	Four year investment period / One year harvest period
Target return	10-15%
Previous Vintage Performance	• PDSC I - Net IRR ITD of 15.5% • PDSC II - Net IRR ITD of 20.7% • PDSC III – Net IRR ITD of 27.8%

**Early investors benefit from a lower management fee*

AON

Prophet Mortgage Servicing Opportunities Fund



Mortgage Service Rights (MSRs)

- **U.S. Mortgage Market and Mortgage Servicing Rights (MSRs)**
  - Agency Mortgage-Backed Securities (MBS)
  - Servicing Fees
- **Investment Opportunity Today**
  - Historically Low Refinancing / Prepayment Environment
  - Supply / Demand Imbalance
- **Prophet Capital Asset Management**
  - Organizational Profile
  - MSR Investing Edges

The U.S. Mortgage-Backed Securities Market

Agency Mortgage-Backed Securities

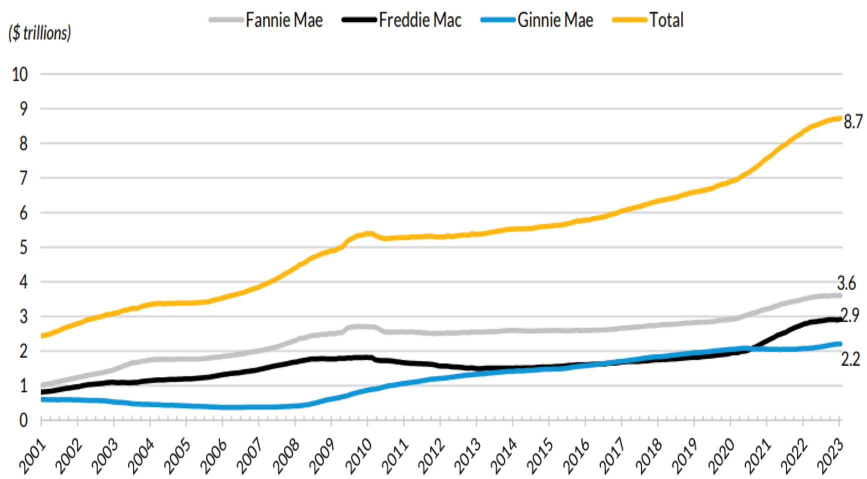
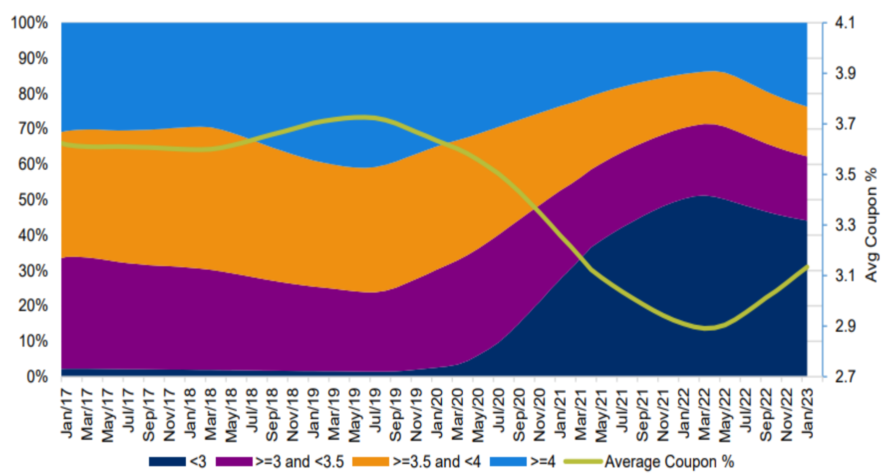


Figure 32. Outstanding Ginnie Mae MBS Balance, by Coupon



- The U.S. agency mortgage market totals $8.7T
  - o The housing market is an estimated $44 trillion
    - – $31 trillion of equity
    - – $13 trillion of debt ($4T non-agency)

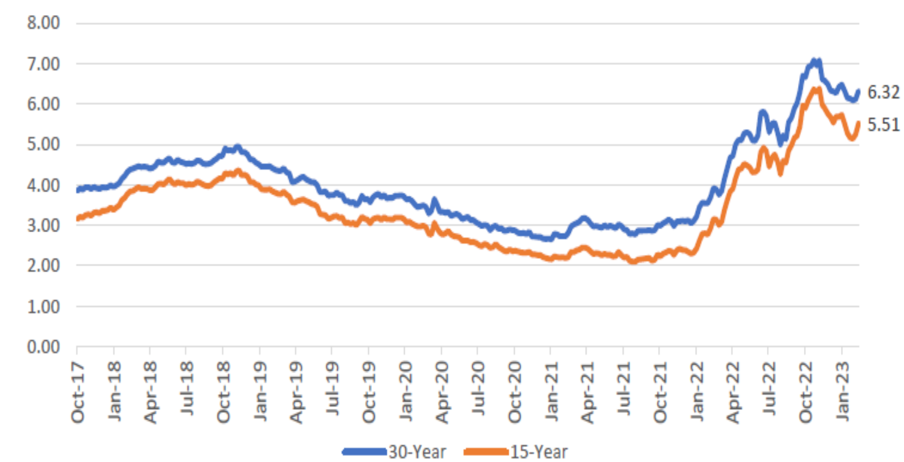
- The vast majority of outstanding MBS were issued with coupon payments below 4.0%
  - o Mortgage rates fell to all-time lows in the Covid-19 era
    - ➢ <u>Huge</u> amount of new origination and refinancing activity followed

Source: "Housing Finance at a Glance – a Monthly Chartbook." February 2023. www.urban.org (top chart)
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov (bottom chart)

Mortgage Market Dynamics

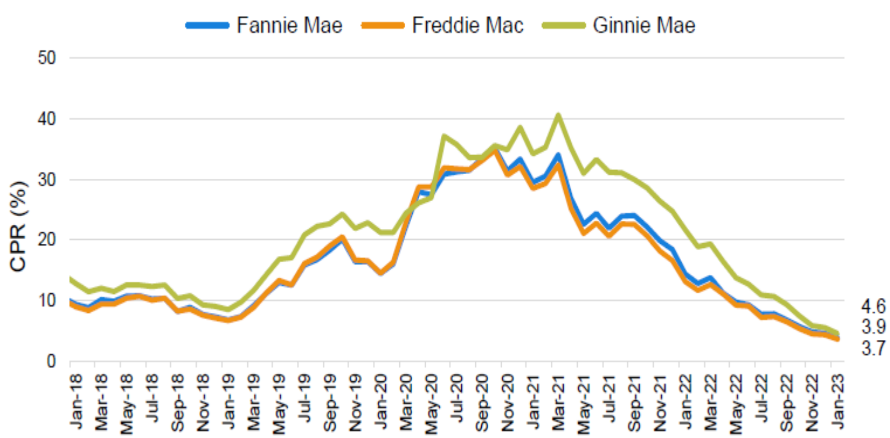
Sharp rise in interest rates since 2021 => Historically Low Refinance Activity

Figure 78. Average Fixed Rate Mortgage Rates



Sources: FRED data as of January 2023

Fixed Rate Aggregate 1-Month CPR



Source: Recursion. Note: Data as of January 2023.

- Interest rates on outstanding MBS pools are *FAR* below the current mortgage interest run rate
  - Mortgage rates jumped at the fastest pace in history from 2H 2021 to 2H 2022

- This has led to historically low levels of CPR (conditional prepayment rate)
  - A lack of prepayments means a longer life of cash flow streams from monthly mortgage payments
  - As a result, the value of an MSR increases

AON

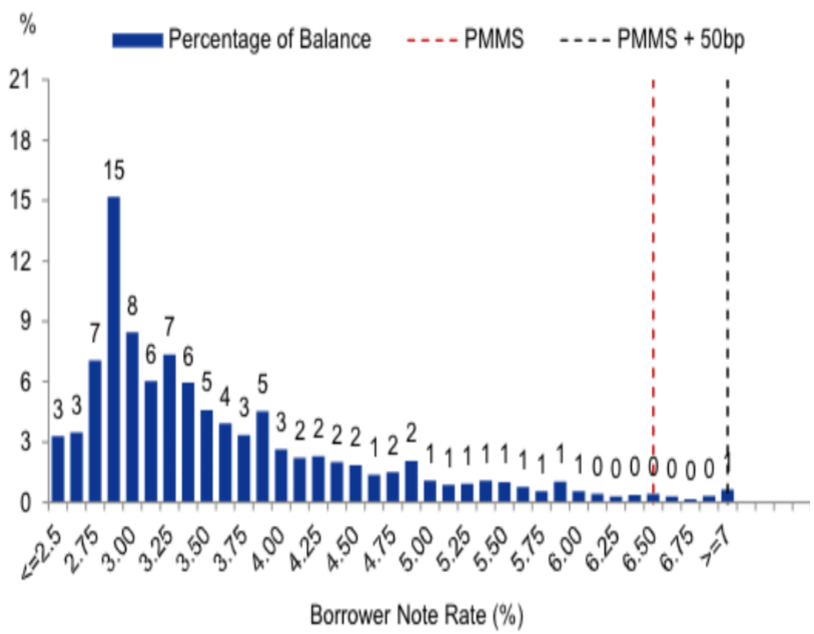
Source: “The Ginnie Mae Global Markets Analysis Report.” February 2023. www.ginniemae.gov

Mortgage Market Dynamics

There is very little incentive to refinance

99% of outstanding mortgages have interest rates below PMMS

Distribution of outstanding 30-year conventional mortgage borrower interest rates



Source: eMBS, Goldman Sachs Global Investment Research

- The share of outstanding mortgages with low interest rates

  +

- The relatively high levels of current market rates

  =

- *Refinancing is uneconomical for an estimated 99% of mortgage loans*
  - Most refis are at least 3% out-of-the-money
  - As a result, borrowers are incentivized to:
    - Remain in their current homes
    - Keep their low interest mortgage loans
    - And stay current on payments
      - This increases the expected longevity of MSR cash flows

Mortgage Servicing Fees

Base Fee + Excess Servicing Fee

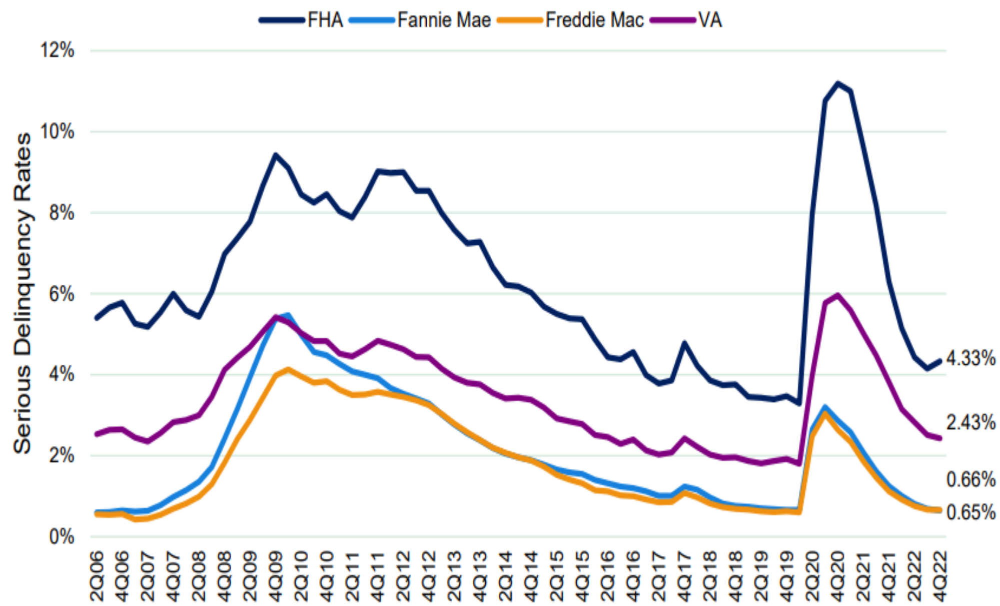
- Mortgage interest rate: 5.00%
- GNMA guarantee fee: 0.06%
- Servicing Fee: 0.44%
  - *Base servicing fee: 0.08%*
  - *Excess servicing fee: 0.36%*
- MBS Coupon: 4.50%

- Once a mortgage loan is originated, the lender can:
  - Retain the loan and the servicing
  - Sell either the loan or servicing, or sell both
- An MSR is created when the right to service the loan is monetized and sold as a separate asset from the loan itself
  - This occurs during the MBS securitization process
- By transferring MSRs to companies that specialize in this business, banks and other mortgage originators free up their books and resource capacity to originate more loans.
- The government agencies require servicing fees
  - For FNMA + FHLMC, a range of 25 – 50 bps
  - For GNMA, is a range of 25 – 75 bps
    - The guarantee fee to the agencies
    - Servicing fee that overcompensates for the cost of servicing in order to make servicing a worthwhile and attractive business
  - This comes out of the interest portion of the monthly payment before it goes to the MBS investor

Mortgage Market Dynamics

Delinquencies are near historic lows

Figure 44. Serious Delinquency Rates: Single-Family Loans



Sources:

1. *Fannie Mae and Freddie Mac Monthly Summary Reports*
2. *MBA Delinquency Survey*

Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q3 2022.

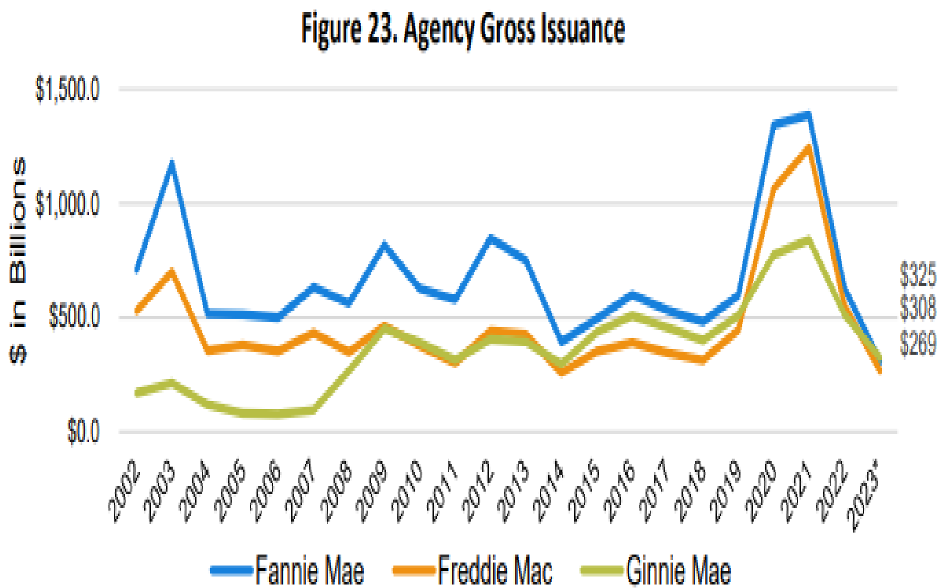
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

- Despite the challenges presented in 2022, delinquency rates remained very low
  - The rate is almost always higher for GNMA loans (represented in the chart by FHA and VA) vs. Fannie Mae and Freddie Mac loans
- While mortgage delinquency rates should be expected to rise under deteriorating economic conditions, there are several mitigating factors
  - Unlike pre-GFC
    - Consumers are in relatively good shape financially vs. high debt burdens in 2000s
    - There is much less adjustable-rate exposure
    - Home equity levels are high

MSR Supply / Demand Imbalance

Weak Mortgage Origination Revenue and Bank Regulations Pressure Supply

Mortgage Origination is Down Significantly



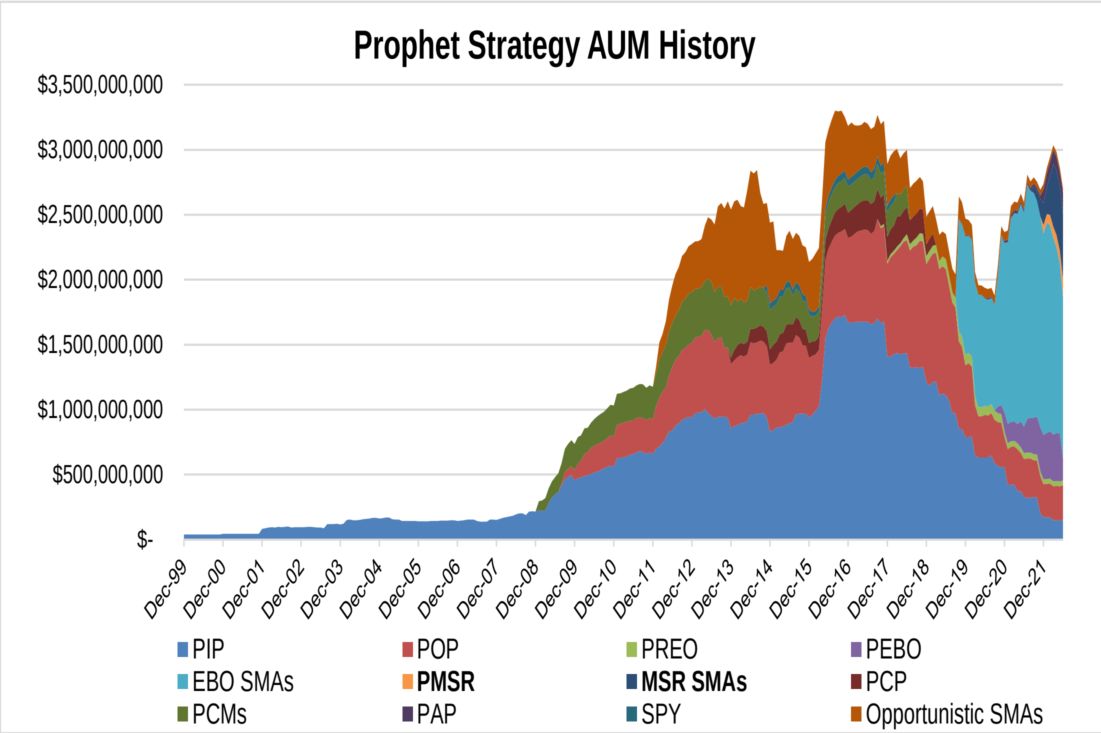
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

- With mortgage rates exceeding 6.0 – 7.0%, mortgage origination has been falling dramatically
  - To fill the revenue void, mortgage originators have been under pressure to sell MSRs
- The supply overhang has not only continued into 2023, *but strengthened*
  - Wells Fargo has announced a plan to sell a massive share of its MSR portfolio
  - Other MSR holders have front-run this telegraphed supply
    - MSR packages have traded at discounts
- On the demand side
  - Regulatory issues and capital requirements have limited demand from banks
  - Barriers to establish MSR investment capabilities
    - License requirements from agencies
    - Fixed operational costs
      - Need for servicing partners

Prophet Capital Asset Management

Culture of Opportunistic Investing in Alternative Fixed Income Markets

Firm AUM by Strategy Over Time



Source: Manager

- Prophet has a long history of capitalizing on uniquely compelling alternative fixed income market opportunities
- Demonstrated patience to enter and discipline to exit over multiple decades and market cycles
- Experienced team led by CIO David Rosenblum
  - He has spent his entire career on all sides of the mortgage investment industry and is an expert in the field
    - Sell side at Goldman Sachs
    - Government implementation of the Fed's $1.25 trillion post-GFC agency MBS program
    - Buy side at GSAM and Prophet
- Strategic Partnership with Carrington
- Strong network in an OTC relationship market

Mortgage Servicing Partner: Carrington Mortgage Services

An Important GNMA Mortgage Servicer

Table 23. Top 30 Holders of Ginnie Mae Mortgage Servicing Rights (MSRs), by UPB

MSR Holder	Rank Current	Rank Year prior	Rank Change	UPB ($ millions)	Share	Cumulative Share	CPR	CDR
LAKEVIEW LOAN SERVIC	1	3	↑	$272,273,475,120	12.7%	12.66%	4.39%	0.41%
DBA FREEDOM HOME MOR	2	1	↓	$261,756,100,219	12.2%	24.83%	5.33%	1.04%
PENNYMAC LOAN SERVIC	3	2	↓	$248,558,123,865	11.6%	36.39%	4.19%	0.65%
NATIONSTAR MORTGAGE,	4	6	↑	$127,821,916,064	5.9%	42.33%	4.74%	0.67%
NEWREZ LLC	5	7	↑	$119,144,048,732	5.5%	47.87%	4.14%	0.57%
WELLS FARGO BANK, NA	6	4	↓	$111,837,413,124	5.2%	53.07%	5.10%	0.50%
ROCKET MORTGAGE, LLC	7	5	↓	$104,302,473,215	4.8%	57.92%	5.75%	0.48%
CARRINGTON MORTGAGE	8	10	↑	$89,263,741,507	4.2%	62.07%	4.78%	0.76%
U. S. BANK, NA	9	9	↔	$51,662,773,973	2.4%	64.47%	4.25%	0.87%
UNITED WHOLESALE MOR	10	11	↑	$45,951,106,614	2.1%	66.61%	2.33%	0.50%
PLANET HOME LENDING,	11	15	↑	$43,936,379,389	2.0%	68.65%	2.97%	0.21%
LOANDEPOT.COM,LLC	12	12	↔	$36,852,218,454	1.7%	70.36%	4.83%	0.41%
MORTGAGE RESEARCH CE	13	14	↑	$33,963,436,769	1.6%	71.94%	3.02%	0.23%
AMERIHOME MORTGAGE C	14	22	↑	$31,712,229,854	1.5%	73.42%	2.43%	0.25%
NAVY FEDERAL CREDIT	15	16	↑	$29,217,152,269	1.4%	74.77%	4.37%	0.31%
GUILD MORTGAGE COMPA	16	19	↑	$22,404,410,154	1.0%	75.82%	3.80%	0.50%
THE MONEY SOURCE INC	17	18	↑	$20,906,874,348	1.0%	76.79%	5.05%	0.80%
TRUIST BANK	18	17	↓	$20,304,845,519	0.9%	77.73%	4.31%	0.39%
CROSSCOUNTRY MORTGAG	19	20	↓	$18,259,278,838	0.8%	78.58%	3.62%	0.51%
NEW AMERICAN FUNDING	20	21	↑	$17,852,279,406	0.8%	79.41%	4.07%	0.53%
VILLAGE CAPITAL & IN	21	23	↑	$16,682,006,041	0.8%	80.19%	6.33%	0.58%
MOVEMENT MORTGAGE,LL	22	N/A	↑	$16,528,613,618	0.8%	80.95%	2.75%	0.50%
CMG MORTGAGE, INC.	23	27	↑	$15,671,593,426	0.7%	81.68%	3.71%	0.62%
IDAHO HOUSING AND FI	24	26	↑	$14,618,867,326	0.7%	82.36%	3.58%	1.06%
CITIZENS BANK N.A.	25	25	↔	$13,895,196,614	0.6%	83.01%	3.46%	0.40%
PHH MORTGAGE CORPORA	26	29	↑	$12,949,689,031	0.6%	83.61%	4.91%	0.82%
FLAGSTAR BANK, FSB	27	N/A	↑	$11,737,519,785	0.5%	84.16%	3.54%	0.23%
MIDFIRST BANK	28	N/A	↑	$11,443,548,148	0.5%	84.69%	6.24%	1.99%
JP MORGAN CHASE BANK	29	30	↑	$10,276,190,079	0.5%	85.17%	5.71%	1.71%
SUN WEST MORTGAGE CO	30	N/A	↑	$10,123,926,030	0.5%	85.64%	4.52%	0.30%

Source: Deloitte. Data as of January 2023

- Carrington is a GNMA specialist servicer
- It is one of two Ginnie Mae servicers (the other is quite small) with the MSS designation from Ginnie Mae as a master subservicer of last resort
  - This allows Ginnie Mae to transfer servicing from other servicers that run into trouble
  - Carrington has been vetted by the gov't (upfront RFP process, onsite due diligence, regular auditing, renegotiations subsequently)
  - As an MSS, Carrington needs to be prepared to take on up to hundreds of thousands of new mortgage loan accounts at any time
    - Personnel and systems resources are in place to comfortably take on over $100 billion more in UPB

Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

Prophet Mortgage Servicing Opportunities Fund (PMSO)

Recommendation: Commit $40M to Prophet Mortgage Servicing Opportunities Fund – Class A

- Prophet has a rich history of patiently waiting for compelling entries into alternative fixed income markets over the course of decades (several market cycles)
- The team has significant experience and a strong network in the mortgage investment industry, which is very much an OTC relationship business
- Alignment of interest is strong with 100% internal ownership and co-investments from key employees
- Relationship-driven investor base that has been loyal across successive strategies
- Prophet has crafted a strategy that is expected to deliver double-digit returns for a multi-year period given current market conditions
- Key Differentiators:
  - Pure-play focus on GNMA MSR excess servicing fees
  - Partnership and overall close relationship with Carrington Mortgage Services, a significant GNMA loan servicer, which provides Prophet with an open-ended supply of servicing for the MSRs that Prophet seeks to purchase as well as recapture loans that it refinances

Fund	Prophet PMSO Fund – Class A
Fund Inception	2023 (Closed-end strategy: 2021)
Management Fee	1.5%*
Performance Fee	20% over 8% preferred return
Redemption Terms	Semi-annual liquidity on 90 days notice • 2.00% coupon per quarter (optional) • 3.75% per quarter total distribution • Remaining balance available Year 5
Lock-up/Gate	1-year lockup option available*
Target return	High single % / double-digit IRR%

**Lower management fee in exchange for a 1-year lockup*

Appendix

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Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

ARKANSAS TEACHER RETIREMENT SYSTEM
1400 West Third Street
Little Rock, Arkansas 72201

R E S O L U T I O N
No. 2023-13

Approving Investment in Chatham Asset Private Debt and Strategic Capital Fund IV, LP with Imminent Need

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its private equity consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Chatham Asset Private Debt and Strategic Capital Fund IV, LP,** a closed-ended fund that invests in high yield bonds, leverage loans and equity, both on a long and short basis; and

WHEREAS, the ATRS Board approves an investment of up to **$50 million dollars ($50,000,000.00)** in **Chatham Asset Private Debt and Strategic Capital Fund IV, LP,** and the Board, after its review of the timing in which the closing of the investment in **Chatham Asset Private Debt and Strategic Capital Fund IV, LP** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **$50 million dollars ($50,000,000.00)** in **Chatham Asset Private Debt and Strategic Capital Fund IV, LP** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Chatham Asset Private Debt and Strategic Capital Fund, LP.** The total investment amount is to be determined by the general investment consultant and

ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board**;** and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

Adopted this 3rd day of April 2023

____

Mr. Danny Knight, *Chair*
Arkansas Teacher Retirement System

Aon InTotal: Prophet

Prophet Mortgage Servicing Opportunities Fund (PMSO)

Review Date	Overall Rating	Previous Overall Rating
March 2023	Buy	New Rating

Overall Rating

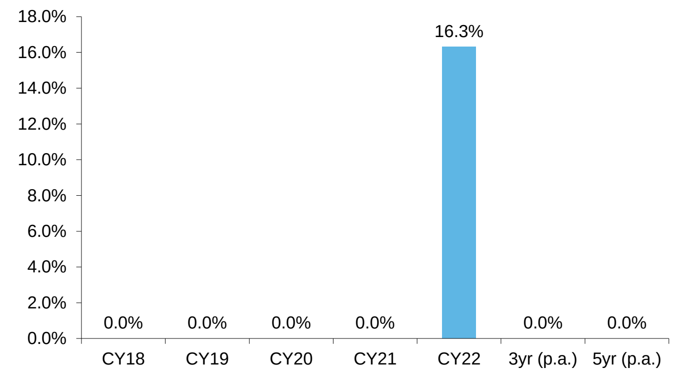
Prophet is an experienced manager of opportunistic strategies in alternative fixed income and mortgage markets. The investment team has the mortgage finance expertise, robust investment process, and industry relationships necessary to execute its MSR strategy, most notably the partnership with Carrington Mortgage Services, a major GNMA servicer. We believe the interest rate environment makes the PMSO Fund a compelling offering for investors seeking diversification with double-digit return potential and low correlations to traditional markets.

Component Ratings

	Rating	Previous Rating
Business	2	*New Rating*
Staff	3	*New Rating*
Process	3	*New Rating*
Risk	2	*New Rating*
ODD	A2 Pass	*New Rating*
Performance	3	*New Rating*
T&C	3	*New Rating*
ESG	Integrated	*New Rating*

* We are not currently able to provide an Aon InForm Assessment for this strategy.

Absolute Performance to 31 December 2022



Performance (USD) is net of fees for the commingled fund. CY = calendar year. Returns shown above are from the predecessor fund, Prophet MSR Opportunities LP

Source: Manager

Firm and Strategy Summary

Head Office Location	Austin, TX	**Parent Name**	Not Applicable
Firm AUM	$2.3 billion	**Hedge Fund AUM**	$2.3 billion
Team Location	Austin, TX | Greenwich, CT	**Team Head**	David Rosenblum
Firm/Strategy Inception	1995 / September 2021	**Strategy Size**	$0.7 billion
Performance Objective	Target IRR 12% net	**Risk Objective**	Not Applicable
Management Fee	1.50%*	**Performance Fee**	20%
Hurdle Rate	8%*	**Lock-up**	Not Applicable*
Redemption Terms	Semiannual (90-day notice)	**Currency Available**	$

Note: **Past performance is no guarantee of future results**. *Standard management fee for Class A shares. Other terms are available.

Investment Manager Evaluation

Rating Sheet

Factor	Rating	Previous Rating	Comments
Business	2	*New Rating*	Prophet has a rich history of patiently waiting for compelling entries into alternative fixed income markets over several cycles, and the rolling product lineup has allowed AUM to sustain at healthy levels as opportunities arise and play out. The PMSO Fund predecessor and accompanying managed accounts launched during 2H 2021 represent under half of the firm's AUM, however we believe the MSR strategy is of main importance going forward. While less in institutional composition, the investor base has been relationship-driven and loyal across successive strategies. Alignment of interest is strong with 100% internal ownership and sizable co-investments from key employees.
Investment Staff	3	*New Rating*	The investment team is well-rounded with complementary skillsets and a long history of working together. In our view, the leadership of avid mortgage investor CIO David Rosenblum and the team's experience in multiple facets of the mortgage market are key strengths. While there is limited depth on the investment team, we believe Prophet is sufficiently resourced to manage the MSR strategy, where the team devotes most of its time, as well as others which are not overly demanding on a day-to-day basis.
Investment Process	3	*New Rating*	Prophet's MSR strategy combines macro intuition, a close industry network, and fundamental mortgage pool modeling into a pure-play, buy-and-hold approach. We believe the process is rigorous and repeatable, but also benefits from the manager's judgement and impressive knowledge of mortgage market functioning. Prophet has developed multiple sourcing channels, established a recapture program, and demonstrated robust due diligence and modeling capabilities. A strong servicing relationship is a prerequisite for Prophet's role as capital provider in exchange for excess servicing fees; we believe the partnership with Carrington is particularly strong given its position as a prominent GNMA servicer, which gives Prophet an edge in this specialty focus area, and their mutually beneficial business relationship over the past decade.

Rating Sheet			
Factor	**Rating**	**Previous Rating**	**Comments**
Risk Management	2	*New Rating*	Much of the risk management effort is integrated into the investment process. On the front end, Prophet continually analyzes the macro landscape and pursues attractive entry points through a detailed modeling effort, investment team QC, and cross-check with Carrington's own independent work. On the back end, Prophet uses customized surveillance reports to refresh loan pool scenario analysis on models from multiple providers. While the OTC nature of MSR investing is less conducive to traditional risk modeling, and the more episodic hedging philosophy is intentional with the strategy's favorable market backdrop, we note that there is no independent risk management function at Prophet and interest rate hedging is more discretionary and not as intensive vs. peers, which drives our average rating.
Operational Due Diligence (ODD)	A2 Pass	*New Rating*	As is common for small, privately held manager, Prophet does not have a formal governing body at the management company level and a documented succession plan. In addition, the manager's COO/CCO has a history of being subject to FINRA's Consent Order back in 2010. However, Prophet has a strong IT/Cybersecurity program, and Board of Directors with independent representation at the Fund level. The rating is based on these exceptions and best practice.
Performance Analysis	3	*New Rating*	While there is limited historical performance for MSRs as an asset class, based on analysis of similar strategies, our confidence in the team to execute, and the fund's success during the short period since inception, we believe Prophet is capable of achieving the fund's return objective. The return target is relatively high among peers but achievable in our view with enhanced returns from more lucrative GNMA servicing fees, modest leverage during periods of calmer prepayment forecasts, selective MSR pool bids, and a captive recapture agreement with Carrington. Risks to performance include an unusually high and consistent level of delinquent loans and prepayment activity.

Rating Sheet			
Factor	**Rating**	**Previous Rating**	**Comments**
Terms & Conditions (T&C)	3	*New Rating*	The liquidity features are appropriate for the strategy, while fee terms are more attractive on average relative to peers. We note illiquidity risk with extended time period until a full redemption can be realized, however this is mitigated by option to receive a quarterly dividend distribution of cash flows. Access to key people, service, and transparency have been excellent in our experience.
ESG	**Integrated**	*New Rating*	Prophet's strategy is disadvantaged from an ESG perspective due to a lack of ESG-based alpha opportunities, pertinent risk factors, and limited scope to effectuate change in excess MSRs relative to other investments. However, Prophet has documented policies and procedures, prides itself on management company initiatives, and highlights the social benefit of providing capital to government home loan programs that target lower income and veteran borrowers. Prophet has driven governance outcomes in other strategies and will explore ways to be impactful in the MSR strategy.
Overall Rating	**Buy**	***New Rating***	Prophet is an experienced manager of opportunistic strategies in alternative fixed income and mortgage markets. The investment team has the mortgage finance expertise, robust investment process, and industry relationships necessary to execute its MSR strategy, most notably the partnership with Carrington Mortgage Services, a major GNMA servicer. We believe the interest rate environment makes the PMSO Fund a compelling offering for investors seeking diversification with double-digit return potential and low correlations to traditional markets.

Manager Profile

Overview

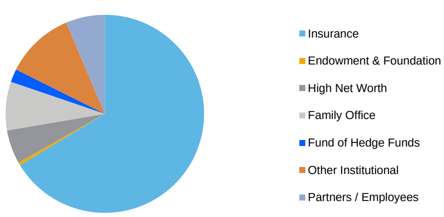
Prophet Capital Management was founded in 1995 by Bobby Epstein, who previously traded mortgage derivatives and founded MBS services firm Arbour Financial Corporation. Prophet was initially formed as a friends-and-family venture to invest in certain alternative fixed income and mortgage markets when deemed attractive and return capital when played out. In 2008, Prophet was reorganized as Prophet Capital Asset Management LP, preserving the same goals but with a focus on institutional investors. Since CIO David Rosenblum joined Prophet in 2009 after spending 17 years in various roles at Goldman Sachs, where he was ultimately named head of structured credit portfolio management, the strategy lineup has progressed from distressed post-GFC investments to timely structured credit and mortgage opportunities in response to the changing market environment.

Business

- Over the course of its existence, Prophet has patiently monitored alternative fixed income and mortgage markets before investing opportunistically. The MSR strategy is the latest manifestation of this approach that has spanned decades and previously focused on RMBS, CMBS, CLOs, EBOs, and multi-strategy structured credit, overlapping one another based on the respective stages of their opportunity lifecycles.
- Prophet is a Delaware LP that is registered with the SEC and CFTC and operates out of two offices in Austin, TX (headquarters) and Greenwich, CT.
- Prophet has cultivated a business relationship with Carrington Mortgage Services, a large mortgage servicer that focuses on GNMA loans, through various ventures over the past decade. For the MSR strategy, Carrington has partnered with Prophet to service an open-ended supply of the mortgage loans from which Prophet buys the excess servicing fees, and also deliver recaptured loans which it has refinanced.
- Ownership is concentrated with David Rosenblum and Bobby Epstein, and a minority stake is held by other current and former senior partners. Epstein has granted an increasing portion of equity over time, most notably when Rosenblum was named CIO prior to the launch of the dedicated MSR strategy.

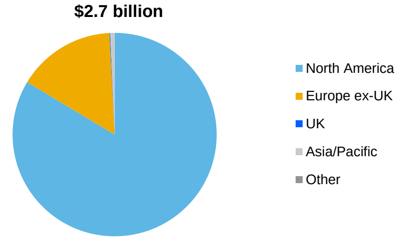
Client Base

Prophet
Total AUM by business type
June 2022
$2.7 billion



Source: Manager

Prophet
Total AUM by client domicile
June 2022
$2.7 billion



Source: Manager

- AUM totaled $2.7 billion as of June 30, 2022, approximately two-thirds of which was held in managed accounts. Dedicated MSR strategy AUM was approximately $640 million, $145 million of which was managed in a commingled fund.
- The client base is diverse with a significant level of co-investment from Prophet partners and employees across the strategy lineup, however with a limited number of large institutional investors.
- Historically, client relationships have been close as many have been retained to invest in successive launches.

Investment Staff

Key Staff	Position	Date Joined	Years of Experience
David Rosenblum	CIO	2009	29
Bobby Epstein	Founding Partner	1995	35
Kevin Merrick	Portfolio Manager	2012	18
Tony Comunale	Portfolio Manager	2015	9
James McMurray	Portfolio Analyst / Controller	2017	15
Evan Thompson	Portfolio Analyst	2022	1

- There are 15 total employees at Prophet, including the six investment professionals listed above.
- All back office employees are based in Austin, while the investment team is split between offices but connected constantly through electronic and video communication.
- CIO David Rosenblum has spent his entire career on all sides of the mortgage investment space (sell side, government, buy side) and has demonstrated himself to be an expert in the field.
- Bobby Epstein's role has gradually shifted to providing strategic direction, overseeing business affairs, vetting existing and prospective strategies, and serving as a sounding board.
- The investment team comprises an experienced, tenured, and cohesive group of individuals who are dedicated to the business and work closely together on the product offerings. Each member works on all strategies but to different degrees based on their significance to the firm, the product lifecycle, and areas of expertise.
- David Rosenblum, Tony Comunale, and Kevin Merrick are all portfolio managers on the MSR strategy and work collaboratively. Rosenblum ultimately has decision-making authority as CIO, while Comunale and Merrick manage various aspects of the day-to-day investment process.
- Turnover has been very low historically.

Investment Process

Philosophy

The strategy emanates from Prophet's overarching investment philosophy to monitor markets within its expertise and invest when believed to be ripe for entry. Prophet has considered mortgage servicing rights (MSRs) for an extensive period due to their potential to have diversifying return properties relative to traditional markets, as a rising interest rate environment is generally beneficial: Prepayment rates decline as borrowers have less incentive to refinance, which increases the life of mortgage loans along with the servicing fees that are earned from monthly mortgage payments. As interest rates reached historic lows and the supply of mortgages reached historic highs in the aftermath of the Covid pandemic, Prophet determined that there was limited downside risk to interest rates if mortgage lending was to remain an economically viable business. Because Prophet believes there is a low likelihood of mortgage rates falling enough to induce further refinancing, while on-the-run opportunities can be hedged, this is believed to be a long-term investment opportunity consistent with the 5+ year life of the fund.

Prophet has experience trading interest-only strips (IOs), which are very similar to MSRs from an economic perspective. Both require upfront purchases in exchange for future cash flows from monthly payments over the lives of mortgage pools. Thus, they benefit from mortgage pool longevity and lose value as the number of loans in the pool recedes, mostly due to refinancing prepayments. But while IOs receive coupon payments, MSRs receive servicing fee compensation, which is part of a monthly mortgage payment and can be broken into base fee and excess servicing fee components: The base fee is intended to compensate the servicer for its ongoing operations, while the excess servicing fee is designed to incentivize mortgage servicing and attract capital to the housing market. The example below decomposes the interest portion of a 5.00% GNMA mortgage-backed security.

- Mortgage interest rate: 5.00%
- GNMA guarantee fee: 0.06%
- Servicing Fee: 0.44%
  - Base servicing fee: 0.08%
  - Excess servicing fee: 0.36%
- MBS Coupon: 4.50%

While this environment is conducive for both, the manager believes there is a structural advantage for MSRs vs. IOs. This is due to (1) favorable spreads as a result of reduced competition, as banks have gravitated away from the mortgage servicing business; and (2) the ability to recapture loans that are refinanced, which provides a recouped source of servicing fees as opposed to dropping out of the pool and ending their cash flow stream.

Most strategies target conventional MSRs, which are pools packaged by Fannie Mae or Freddie Mac and represent the majority of MSRs available for purchase. In contrast, Prophet has a specialty focus on Ginnie Mae MSRs, which represent a smaller share of the market and trade at a premium due to having less market participants, less liquidity, and additional credit risk which is effectively a form of prepayment risk.

Process

Prophet and Carrington Mortgage Services are engaged in a full third-party relationship that is mutually beneficial. As the mortgage servicer and titleholder to the MSRs, Carrington aims to profit from earning base servicing fees that are greater than the costs of servicing the loans. Prophet, as capital provider, purchases the excess servicing strip from Carrington without the operational or regulatory burdens associated with servicing mortgage loan pools, which helps Carrington maintain an asset-light business. The arrangement includes recaptured loans, wherein Carrington generates origination revenue from the captive loan pool while Prophet retains access to excess servicing fees which otherwise would have dropped out of the pool. It also includes Prophet providing ready advance payments to Carrington for delinquent loans at an interest rate of 12%, which is well above market.

There are two ways to source MSR pools:

- Directly through co-issue “flow” of new MBS pools
  - These are pre-arranged PIIT (pools for immediate transfer) relationships with originators, where the loan pool compensation and price are negotiated directly
  - Expected to represent roughly 25% of Prophet’s supply
- Bulk trades
  - These are larger pools of seasoned mortgage loans that are sold in auctions through broker/dealers
  - Prophet maintains close relationships with industry participants, including servicers, originators, and broker/dealers, so that it can see all of the bulk pools that come to market
  - Expected to represent roughly 75% of Prophet’s supply

The MSR market is very much a non-automated, OTC relationship business. While there are typically dozens of bids on conventional MSR pools, only a handful may participate in GNMA auctions. This promotes direct lines of communication in the process between counterparties.

The workflow is geared around modeling MSR pools through a combination of third party and proprietary tools. Once Prophet receives the “loan tape” of loan pool data usually 1-2 weeks before an auction, the first step in the process, referred to as “tape-cracking,” is a labor-intensive effort to harmonize the data into a uniform set of fields and columns (loan balance, region, property type, age, FHA, VA, or USDA, etc.) that fit Prophet’s systems for modeling. From there, data is evaluated and scenarios are tested through several sets of assumptions to develop return expectations and price targets. The investment team checks the data, adjusts the variables (for example, accelerating prepayment speeds) based on experience and knowledge of market dynamics, and ultimately bids for MSRs at prices that are believed to be attractive. Carrington runs parallel underwriting analysis and will convey its value and charges to Prophet, which influences if and how Prophet bids and negotiates for deals.

When a bid is accepted, Carrington issues a letter of intent (LOI) to close which is co-signed by Prophet and states the conditions that need to be met before the deal can be closed. A collateral review process is managed by Carrington through a combination of internal due diligence and external providers. Prophet also reviews the collateral, seeking to ensure that certain information and documentation is in place, perform data sampling, and generally know as much as it can about the pool before closing. When the seller provides the final loan pool data, Prophet will make sure that that its file matches Carrington’s and that balances are consistent with the removal of certain loans. Funds are settled 30-45 days after the LOI is executed, which is the start date for P&L accruing to the buyer, and standard practice is for the servicing transfer to take place 30 days after settlement.

While Prophet receives daily reporting on positions and can make adjustments based on market information, new information on loan characteristics is available only on a monthly basis. Prophet collaborated with Carrington to develop customized surveillance reports as both a portfolio monitoring tool as well as one that informs the investment strategy and bidding process. Once all of the remittances come in (usually 2 weeks after month-end), Carrington prepares these surveillance reports which Prophet reviews to assess whether or not the previous month’s prepay and recapture figures came in as expected given movements in interest rates. Prophet also maintains a regular dialogue with Carrington to discuss details on specific pools and trends in prepays, recapture, delinquencies, and overall borrower behavior.

Risk Management

Risk management is embedded in the investment strategy from front to back.

- On the front end, Prophet is closely engaged with industry participants and subscribes to publications to enhance its feel of the mortgage market pulse. This helps Prophet to formulate views of the macro and micro environment, account for risk factors, and monitor regulatory developments that impact MSR values.
- Within the investment process, the manager regularly sifts through loan tape, rigorously models MSR pools, and tests assumptions in an effort to make attractive bids at a discount to expected long term value. A pre-close due diligence effort in collaboration with Carrington aims to ensure the quality of the loan pools.
- On the back end, Prophet incorporates the influence of changing market risk factors on the portfolio and reviews incoming remittance data. A range of stress tests challenge existing assumptions in an ongoing feedback loop, which guides investment decisions for newly acquired MSR packages that are expected to be incrementally beneficial to the portfolio.

David Rosenblum and Bobby Epstein are responsible for risk management at Prophet, with no dedicated risk team or independent portfolio oversight. (We note the limited utility of a dedicated risk function given the illiquid, OTC nature of an MSR strategy where transactions are processed over the course of weeks. However, such a role could provide additional compliance/guideline monitoring, another layer of testing scenarios and modeling assumptions, and more interactions with data providers and counterparties.)

<u>Strategy Risk</u>

The following risks are inherent in a buy-and-hold MSR strategy that is concentrated in GNMA loans. These are calculated risks that Prophet has considered and addressed in the structure of the fund, and we have found that Prophet has good command of the recourse that flows through the Ginnie Mae oversight system.

- Prepayment risk
  - Prepayment speeds may be faster than expected, which can be categorized as follows:
    - Voluntary (home sale + refinancing + curtailment + cash-out)
      - Following the interest rates surge through mid-2022, industry estimates show that the vast majority of borrowers need rates to fall >1.0% before having a refinance incentive
    - Involuntary (delinquent loans)
      - GNMA loans carry additional delinquency risk due to lower credit quality (FICO minimums), which is effectively a form of prepayment from the fund's perspective
- Servicer risk
  - For GNMA MBS, credit risk from delinquent mortgage borrowers lies with servicers, which are responsible for making P+I payments, as GNMA steps in only if the servicer risks insolvency
    - GNMA would replace the servicer, however Prophet would retain excess MSRs from performing loans
    - Carrington is one of two firms designated by Ginnie Mae as a master subservicer (MSS) to absorb large loan quantities transferred by Ginnie Mae should other servicers run into solvency issues
    - Fitch and Carrington have represented Carrington's balance sheet to be in solid financial position
  - There is risk of Carrington defaulting on advance payments from Prophet, however the advance payment loans are senior and collateralized by underlying mortgage payments
  - There is risk that Carrington executes early buyouts (EBOs) of underlying mortgages at par rather than utilize the advance payment line of credit from Prophet, which would effectively serve as a prepayment, however with mortgage loans now trading below par there is not an economic incentive for EBOs in this environment
- Regulatory risk
  - Ginnie Mae or other entities can change the rules that govern mortgage lending, securitization, servicing, loan guarantees, and forbearance
- Market risk
  - The supply/demand mechanisms which drive sentiment and MSR pricing
  - The solvency of the mortgage market system and government/central bank actions; generally a systematic financial market risk that would not be unique to an MSR investment strategy
- Liquidity risk
  - There is risk that the MSR market could freeze similar to the unprecedented experience during the Covid-19, however this is largely addressed by the long-term life of the fund
  - In normal conditions, it takes roughly 2-4 weeks to sell an MSR pool and a few months to settle; Prophet estimates that MSRs valued up to $500 million could be sold in that timeframe if needed

<u>Hedging</u>

The purpose of MSR hedging is to reduce the risk of prepayments reducing future cash flows, which are highly related to refinancing activity in response to falling interest rates. Because MSRs are not liquid, the most suitable way to hedge the portfolio's sensitivity to prepayments is through liquid instruments that benefit from a fall in rates.

Prophet follows a discretionary hedging philosophy that is based on market conditions and a preference for avoiding additional gross exposure and cost drag if possible. Due to the MSR portfolio trading significantly out-of-the-money in mid-2022 in terms of refinance incentive, Prophet had yet to hedge interest rates. However, once the supply of lower rate mortgages is exhausted, hedges will be in place for MSR pools that are closer to being at-the-money.

- 10-year U.S. Treasury securities, futures, or call options
- MBS, MBS futures, or call options on futures
- Interest rate swaps (receiving fixed)

Leverage

Prophet intends to use leverage only if the following conditions are in place:

- If returns are expected to be stable, which is typically when interest rate sensitivity is lower; this corresponds with the portfolio being out-of-the-money for refinancing incentive
- If hedges are in place

The fund will utilize up to 1x leverage, with financing rates expected to be in the SOFR + 4.0% - 4.5% range.

Operational Due Diligence

As is common for small, privately held manager, Prophet does not have a formal governing body at the management company level and a documented succession plan. In addition, the manager's COO/CCO has a history of being subject to FINRA's Consent Order back in 2010. However, Prophet has a strong IT/Cybersecurity program, and Board of Directors with independent representation at the Fund level.

Fund/Strategy Name	Prophet Mortgage Servicing Opportunities LP Fund
Fund Structure / Domicile	Delaware Limited Partnership
Fund's General Partner (if applicable)	Prophet Asset Management LLC
Directors/Trustee(s)	Brent Martin (independent), Doug Barnard (independent), Robert Epstein
Open-ended/Close-ended	Open-Ended
Other strategy vehicles	SMA 1, SMA 2
Trade Operations Systems	Back Office/Accounting System: Advent Software - Geneva
FASB Asset Levels	Level 3 Assets: 100%
Prime Brokers (if applicable)	Bank of New York ("BNY")
Administrator (if applicable)	Stone Coast Fund Services
Auditor	KPMG
Valuation Agent (if applicable)	Riskspan
Custodian Bank (if applicable)	BNY

Terms & Conditions

Terms below are representative of the PMSO Fund. Separately managed accounts are available at a minimum investment of roughly $25 million.

Fees

- Management Fee:
    - 1.50% per annum (Class A)

- 2.00% per annum (Class B)
  - There is potential for a fee reduction in both share classes with a 1-year lockup
- Performance Fee:
  - 20% of distributions above 8% preferred return (100% GP catchup) paid every 5 years (Class A)
  - 20% of distributions above 4% preferred return (100% GP catchup) paid every year (Class B)

<u>Liquidity</u>

- Semiannual liquidity (90-day notice):
  - 3.75% per quarter distribution cap for 20 quarters, lump sum redemption at end of year 5 (Class A)
  - 5.00% per quarter distribution cap for 16 quarters, lump sum redemption at end of year 4 (Class B)
    - For investors who elect a 1-year lockup, all distributions are delayed out for an additional year.
- Accelerated redemptions:
  - Not applicable (Class A)
  - Lump sum redemption available after 2.5 years with 5% penalty (Class B)
- Redemption LPs subscribe to one of two share options:
  - Dividend distributing interests, targeting 2% per quarter
  - Non-Distributing Interests, which fully reinvests proceeds
- There is a key man provision in place should David Rosenblum become unable to perform his duties for a 90-day period.

ESG

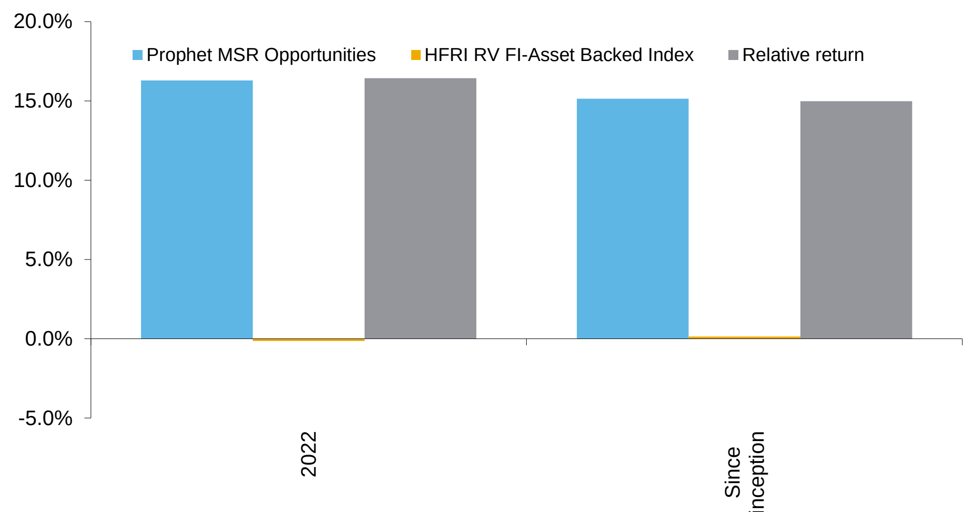
- Most policies are implemented at the management company level. Prophet promotes a diverse and inclusive workforce, embraces environmental responsibility, and champions charitable support for underserved communities. Prophet is not a PRI signatory and does not intend to be.
- ESG policies fall under the purview of Prophet's Executive Committee as a regular meeting agenda item. The investment team is responsible for portfolio implementation, while the compliance team handles adherence.
- Few ESG outlets exist given the nature of the assets. Prophet highlights the inherent social improvement aspects of investing in MSRs, which advance the missions of the agencies and GSEs to increase affordable home loan access by providing capital and liquidity to mortgage markets. (Ginnie Mae in particular serves lower income, veteran, and native borrowers.) Mortgage servicers are also aligned with borrowers to keep them current, and they adhere to strict government requirements designed to help keep people in their homes when payments are delinquent. The investment team must consider and review ESG risks for each investment, develop an action plan to address any risks, and escalate concerns to the IC. Prophet acknowledges that not all ESG risks can be mitigated and that some may be desirable as risks for which the fund is well-compensated.
- With limited direct engagement and no proxy votes as the owner of excess servicing fees, there are no direct avenues for active ownership. Prophet notes its advocacy for ESG-based governance changes.in other strategies, such as successfully lobbying for a director position for a highly qualified individual.

Performance and Risk Metrics

While also opportunistic and specialist strategies within the alternative fixed income and mortgage market universe, previous funds offerings have been unrelated to the unique elements and timing of the current opportunity in MSRs. Therefore, below we illustrate performance of MSR Opportunities, the closed-end predecessor managed under an identical investment strategy, during the short period since inception. (Performance of previous funds can be provided upon request.)

Benchmark: The HFRI RV: Fixed Income-Asset Backed Index. **Past performance is no guarantee of future results**.

Historic Performance (Inception: September 2021)



Risk – Return Since Inception Ending 31 December 2022

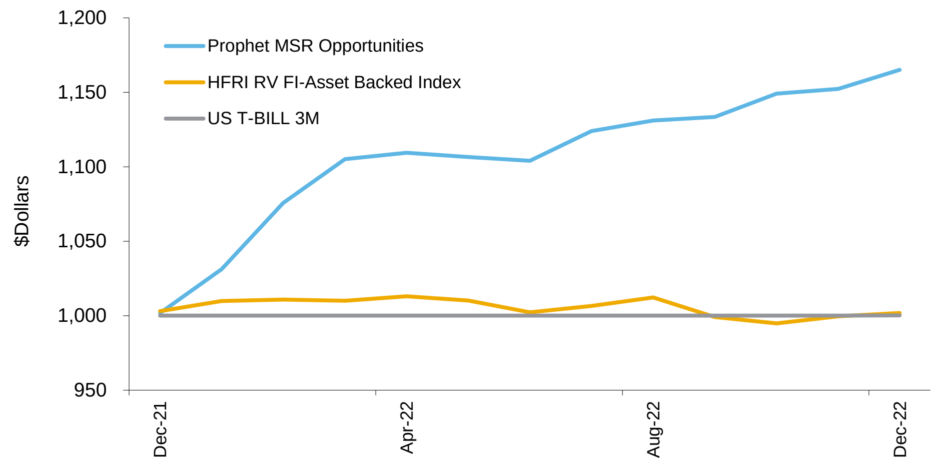
[Insufficient performance history for this analysis]

Monthly Return and 12-Month Rolling Volatility 5 Years Ending 31 December 2022

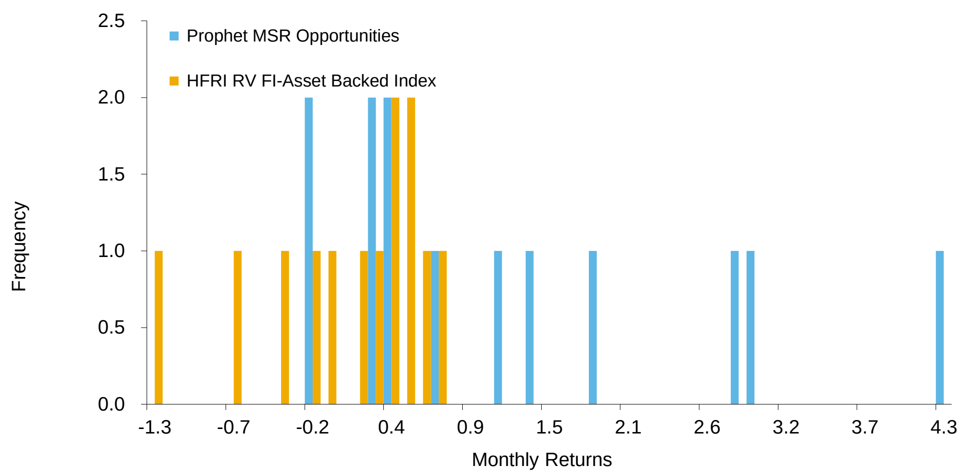
[Insufficient performance history for this analysis]

Performance and Risk Metrics

Growth of 100 (Inception: December 2021)



Monthly Distribution of Returns (Inception: December 2021)



Ratings Explanation

Below we describe the criteria which we use to rate fund management organizations and their specific investment products. Our manager research process assesses each component using both our qualitative and Aon InForm criteria. With the exception of Operational Due Diligence ("ODD"), each component is assessed as follows:

Qualitative Outcome	Aon InForm Outcome	
1 = Weak	✓	**Pass**: This component in isolation meets or exceed our desired criteria
2 = Average	🏳	**Alert**: This component in isolation does not meet our desired criteria, or the lack of data on this component means that we are not able to judge whether it meets our desired criteria
3 = Above Average		
4 = Strong	-	**Not assessed**: There is a lack of data, which means that we are not able to assess this component, however we do not consider this in isolation to justify an Alert

The ODD factor is assigned a rating and can be interpreted as follows:

Overall ODD Rating*	What does this mean?
A1 Pass	No material operational concerns – the firm's operations largely align with a well-controlled operating environment.
A2 Pass	The firm's operations largely align with a well-controlled operating environment, with limited exceptions – managers may be rated within this category due to resource limitations or where isolated areas do not align with best practice.
Conditional Pass ("CP")	Specific operational concerns noted that the firm has agreed to address in a reasonable timeframe; upon resolution, we will review the firm's rating.
F	Material operational concerns that introduce the potential for economic or reputational exposure exist – we recommend investors do not invest and/or divest current holdings.

*Operational due diligence inputs provided to the research team by Aon's Operational Risk Solutions and Analytics Group (ORSA). ORSA is an independent entity from Aon Solutions UK Limited, Aon Investments USA Inc., and Aon Hewitt Inc./
Aon Investments Canada Inc.
Investment advice is provided by these Aon entities.

Aon previously assigned ODD ratings of pass, conditional pass, or fail for the ODD factor. We are in the process of refreshing all ODD ratings to the new terminology. During the transition period, the prior ratings, as follows, may persist in some deliverables until the ODD factor rating is converted to the above noted letter ratings.

- **Pass** – Our research indicates that the manager has acceptable operational controls and procedures in place.
- **Conditional Pass** – We have specific concerns that the manager needs to address within a reasonable established timeframe.
- **Fail** – Our research indicates that the manager has critical operational weaknesses and we recommend that clients formally review the appointment.

An overall rating is then derived taking into account both the above outcomes for the product. The overall rating can be interpreted as follows:

Overall Rating	What does this mean?
Buy	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products
Buy (Closed)	We recommend clients invest with or maintain their existing allocation to our Buy rated high conviction products, however it is closed to new investors
Qualified	A number of criteria have been met and we consider the investment manager to be qualified to manage client assets
Not Recommended	A quantitative assessment of this strategy indicates it does not meet our desired criteria for investment. This strategy is not recommended
Sell	We recommend termination of client investments in this product
In Review	The rating is under review as we evaluate factors that may cause us to change the current rating

The comments and assertions reflect our views of the specific investment product and our opinion of its quality. Differences between the qualitative and Aon InForm outcome can occur and if meaningful these will be explained within the Key Monitoring Points section. Although the Aon InForm Assessment forms a valuable part of our manager research process, it does not automatically alter the overall rating where we already have a qualitative assessment. Overall rating changes must go through our qualitative manager vetting process. Similarly, we will not issue a Buy recommendation before fully vetting the manager on a qualitative basis.

The ESG factor is assigned a rating and can be interpreted as follows:

Overall ESG Rating	What does this mean?
Advanced	The fund management team demonstrates an advanced awareness of potential ESG risks in the investment strategy. The fund management team can demonstrate advanced processes to identify, evaluate and potentially mitigate these risks across the entire portfolio.
Integrated	The fund management team has taken appropriate steps to identify, evaluate and mitigate potential financially material ESG risks within the portfolio.
Limited	The fund management team has taken limited steps to address ESG considerations in the portfolio.
N/A (Not Applicable)	ESG risks and considerations are not applicable to this strategy, for example, on the grounds of materiality or asset class relevance.
NR (Not Rated)	An evaluation of ESG risks is not yet available for this strategy.

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As of December 31, 2021, Aon's quantitative model is run on approximately 12,500 strategies from an external database. Aon assigned a quantitative rating of "Qualified" to 44% of these strategies and "Not Recommended" to 21% of these strategies. The remainder were not rated. A "Buy" rating cannot be assigned via quantitative analysis. Across asset classes (excludes private real estate and real assets), Aon had approximately 23,000 strategies in its internal database. Aon assigned a qualitative rating of "Buy" to approximately 6% of strategies in the database; "Qualified" to approximately 4% of strategies in the database; "Sell" to approximately 1% of strategies in the database; and "In Review" to <1% of strategies in the database. The remaining strategies in the database are not rated. Some strategies may be included in both the internal and external database. Where a qualitative rating exists, it prevails over the quantitative rating. These statistics exclude real estate / Townsend databases and ratings.

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AON

Arkansas Teacher Retirement System

Opportunistic/Alternatives Strategy Recommendations

April 3, 2023

Investment advice and consulting services provided by Aon Investments USA, Inc.

Executive Summary

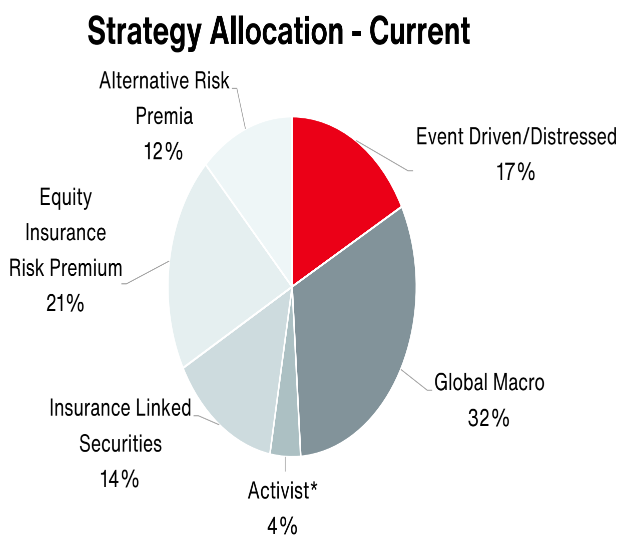
- Aon continuously vets the investment landscape for attractive investment opportunities that may be appropriate for the ATRS Opportunistic / Alternatives portfolio
- Overall, the Opportunistic/Alternatives portfolio is well-diversified across strategy type and manager, providing broad coverage of the available opportunities and offering potential to improve the Total Fund's risk-adjusted returns
  - The portfolio has protected on the downside and outperformed its custom benchmark since inception, though performance has been somewhat disappointing from an absolute return perspective
  - Recently, ATRS made a number of manager enhancements, including the addition of two opportunistic credit managers, replacement of ILS managers, and a transition of the CFM strategy to their Systematic Global Macro strategy
- As legacy managers wind down, Aon has identified two attractive opportunities to add to the portfolio with the goal of offering attractive risk-adjusted returns and diversification with the rest of the portfolio

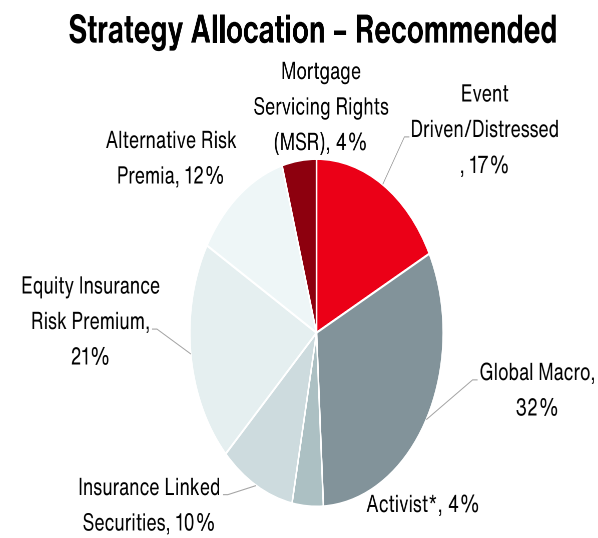
Recommendations

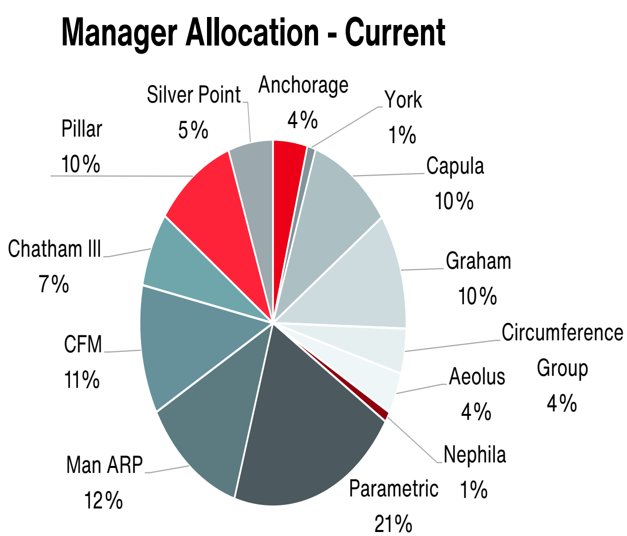
1. **Commit $50 M to Chatham Private Debt Fund IV –** Opportunistic debt strategy with an existing ATRS manager targeting low double digit returns and fulfilling desirable exposure to event-driven strategies
2. **Commit $40 M to Prophet Mortgage Servicing Opportunities Fund –** Compelling strategy based on current dynamics across mortgage market and interest rate environment, Prophet seeks uncorrelated, low double digit returns

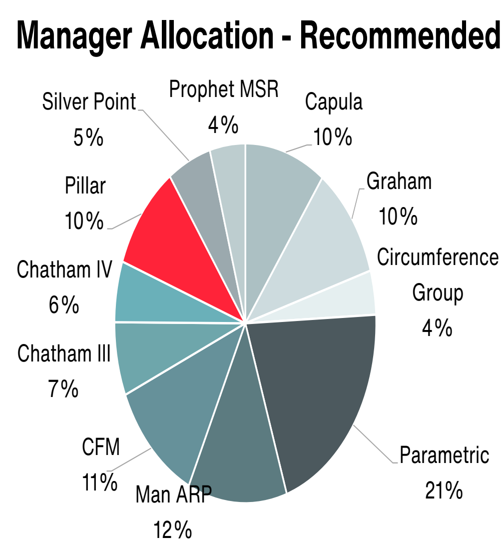
Opportunistic / Alternatives Portfolio Snapshot

- Below charts highlight the current (as of 12/31/22) and recommended Opportunistic/Alternatives portfolio
- As York, Anchorage wind down, an allocation to Chatham Fund IV maintains desired event driven/distressed exposure, while the mortgage servicing rights (MSR) strategy offers a compelling uncorrelated return opportunity









Chatham Asset Private Debt and Strategic Capital Fund IV

Credit Portfolio Recommendation:

Commit $50M to Chatham Asset Private Debt and Strategic Capital Fund IV (“PDSC IV”)

- Allocation to Chatham’s Fund IV will maintain the overall credit exposure at approx. 15% of the Opportunistic/ Alternatives portfolio and 1% of the Total Fund
  - Anchorage and York continue to slowly return capital back to ATRS
- Current Chatham Fund III has earned ATRS 17.6% on a time-weighted return basis since inception into the portfolio in November 2021
- ATRS also has potential for an attractive fee rate for getting in during first close
- Recommend committing $50M to Chatham PDSC IV to maintain the credit exposure and gain access to an attractive investment opportunity

Current Credit Exposure	Current		Recommendation	
	$(M)	% of Opp/Alts	$(M)	% of Opp/Alts
York	$9	1%		
Anchorage	$28	4%		
Silver Point	$49	5%	$49	5%
Chatham PDSC Fund III	$60	7%	$60	7%
Chatham PDSC Fund IV			$50	6%

Data above is approximate based on 12/31/2022 information

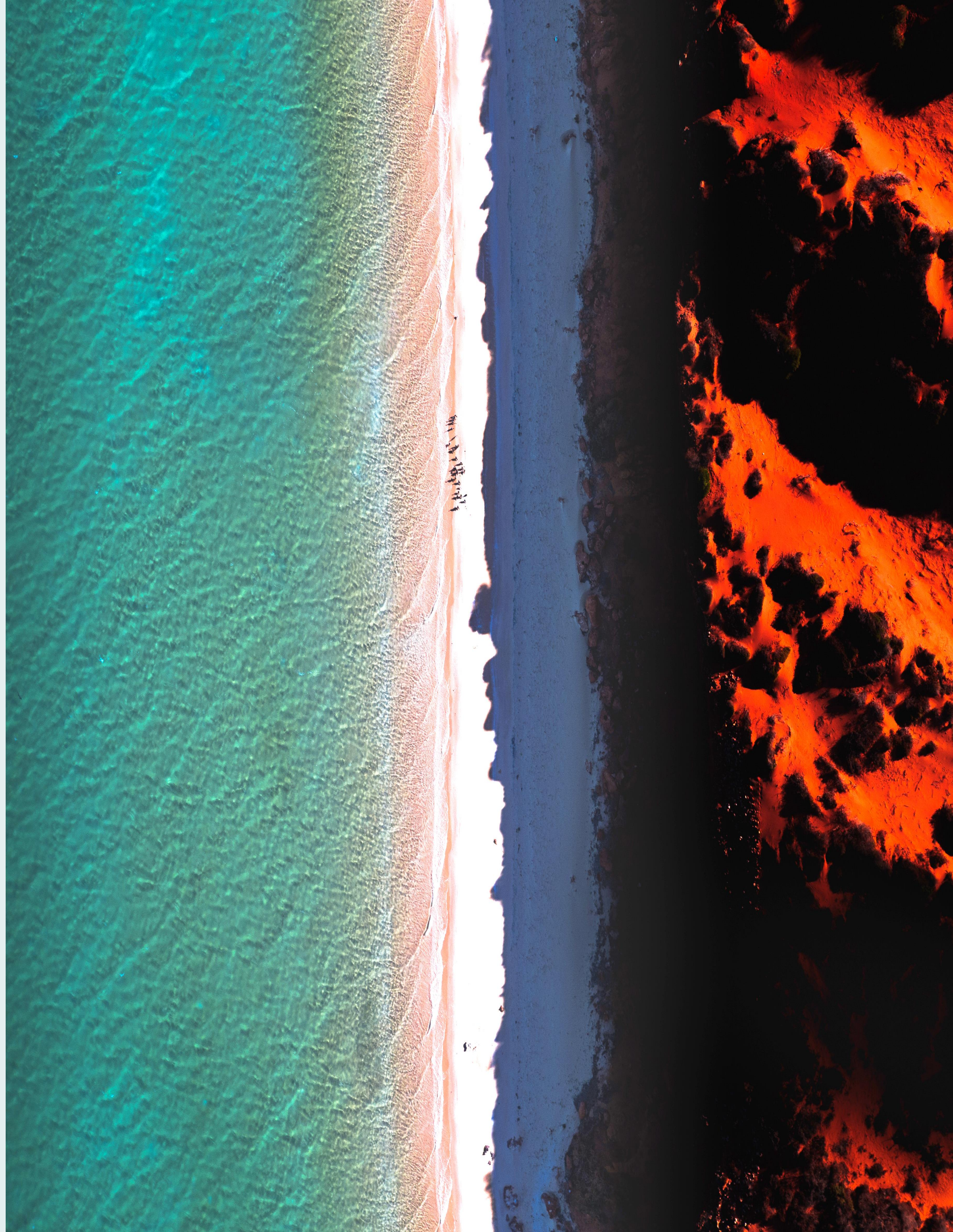
Chatham Asset Private Debt and Strategic Capital Fund IV

- Chatham is employee owned by six partners with client base focused on pensions and E&Fs
- The combination of research, trading, and portfolio construction talent encompassed by the team is rated highly to those found amongst their peers
- Research team is senior and broken out as sector specialists, covering all companies in their universe
- PDSC IV is an opportunistic distressed strategy of best ideas that are more illiquid and with a more distant catalyst
- Focused on middle market companies where there is less competition for alpha
- Anticipate many ideas to be distressed for influence or capital solutions
- Key Differentiators:
  - The team executes on a deep level of credit research in areas of the market that are under-followed
  - Unlike other private credit funds, the manager will do some hedging to reduce market risk and volatility

Fund	Chatham PDSC IV
Fund Inception	2023
Management Fee	1.0%*
Performance Fee	20% over 5% preferred return
Redemption Terms	Five year fund life with two one year extensions possible
Lock-up/Gate	Four year investment period / One year harvest period
Target return	10-15%
Previous Vintage Performance	• PDSC I - Net IRR ITD of 15.5% • PDSC II - Net IRR ITD of 20.7% • PDSC III – Net IRR ITD of 27.8%

**Early investors benefit from a lower management fee*

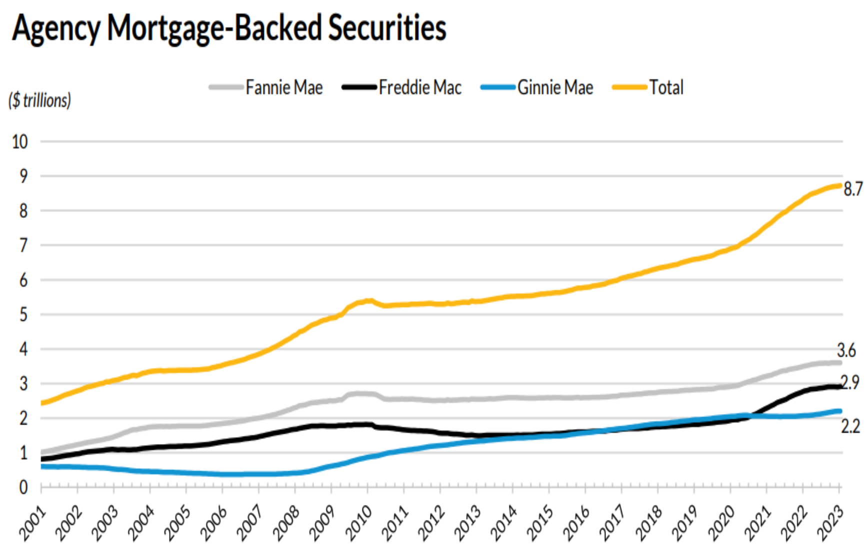
Prophet Mortgage Servicing Opportunities Fund

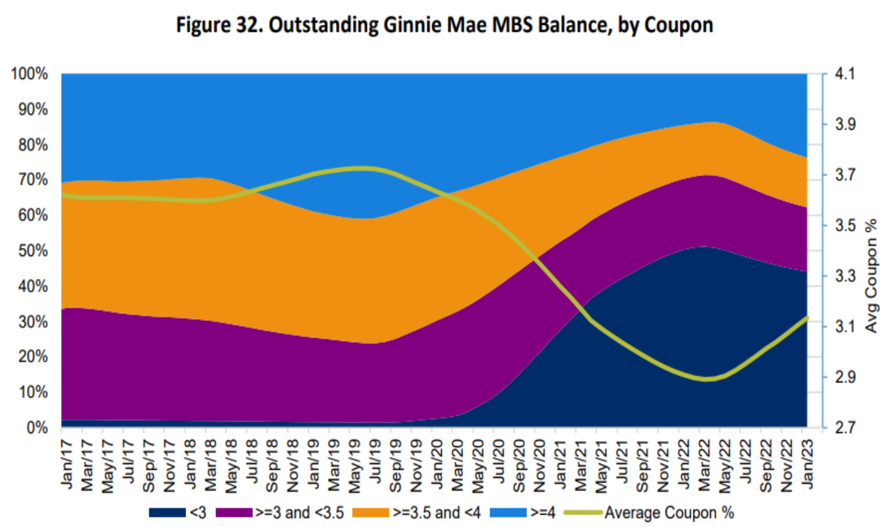


Mortgage Servicing Rights (MSRs)

- **U.S. Mortgage Market and Mortgage Servicing Rights (MSRs)**
  - Agency Mortgage-Backed Securities (MBS)
  - Servicing Fees
- **Investment Opportunity Today**
  - Historically Low Refinancing / Prepayment Environment
  - Supply / Demand Imbalance
- **Prophet Capital Asset Management**
  - Organizational Profile
  - MSR Investing Edges

The U.S. Mortgage-Backed Securities Market





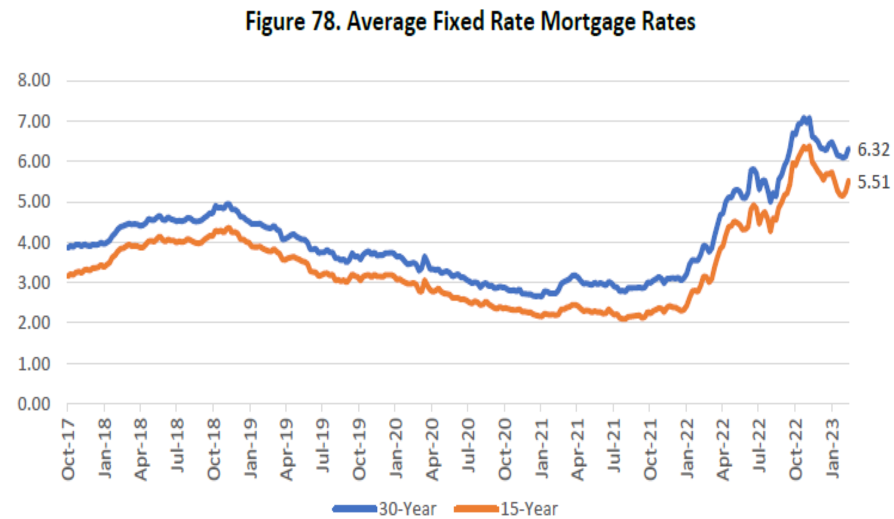
- The U.S. agency mortgage market totals $8.7T
  - o The housing market is an estimated $44 trillion
    - – $31 trillion of equity
    - – $13 trillion of debt ($4T non-agency)

- The vast majority of outstanding MBS were issued with coupon payments below 4.0%
  - o Mortgage rates fell to all-time lows in the Covid-19 era
    - ➢ *<u>Huge</u>* amount of new origination and refinancing activity followed

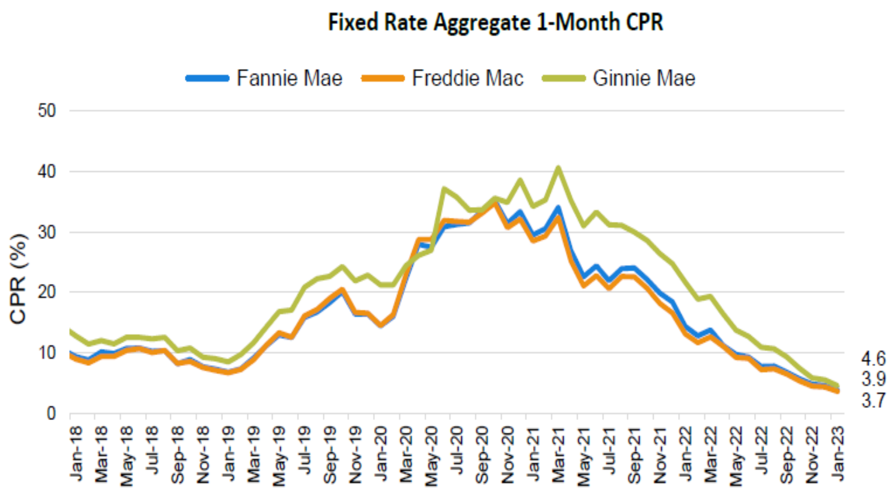
Source: "Housing Finance at a Glance – a Monthly Chartbook." February 2023. www.urban.org (top chart)
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov (bottom chart)

Mortgage Market Dynamics

Sharp rise in interest rates since 2021 => Historically Low Refinance Activity



Sources: FRED data as of January 2023



Source: Recursion. Note: Data as of January 2023.

- Interest rates on outstanding MBS pools are ***FAR*** below the current mortgage interest run rate
  - Mortgage rates jumped at the fastest pace in history from 2H 2021 to 2H 2022

- This has led to historically low levels of CPR (conditional prepayment rate)
  - A lack of prepayments means a longer life of cash flow streams from monthly mortgage payments
  - As a result, the value of an MSR increases

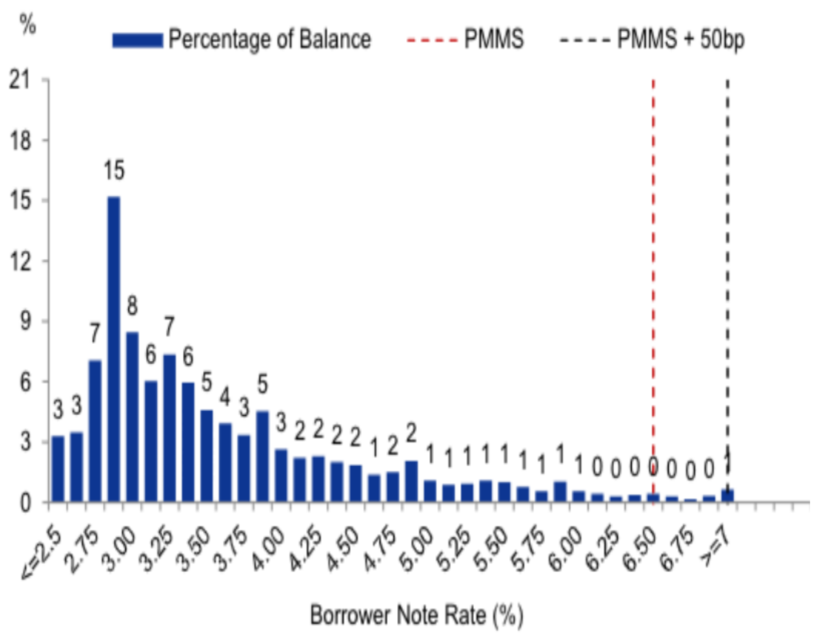
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

Mortgage Market Dynamics

There is very little incentive to refinance

99% of outstanding mortgages have interest rates below PMMS

Distribution of outstanding 30-year conventional mortgage borrower interest rates



Source: eMBS, Goldman Sachs Global Investment Research

- The share of outstanding mortgages with low interest rates

  +

- The relatively high levels of current market rates

  =

- *Refinancing is uneconomical for an estimated 99% of mortgage loans*
  - Most refis are at least 3% out-of-the-money
  - As a result, borrowers are incentivized to:
    - Remain in their current homes
    - Keep their low interest mortgage loans
    - And stay current on payments
      - This increases the expected longevity of MSR cash flows

Mortgage Servicing Fees

Base Fee + Excess Servicing Fee

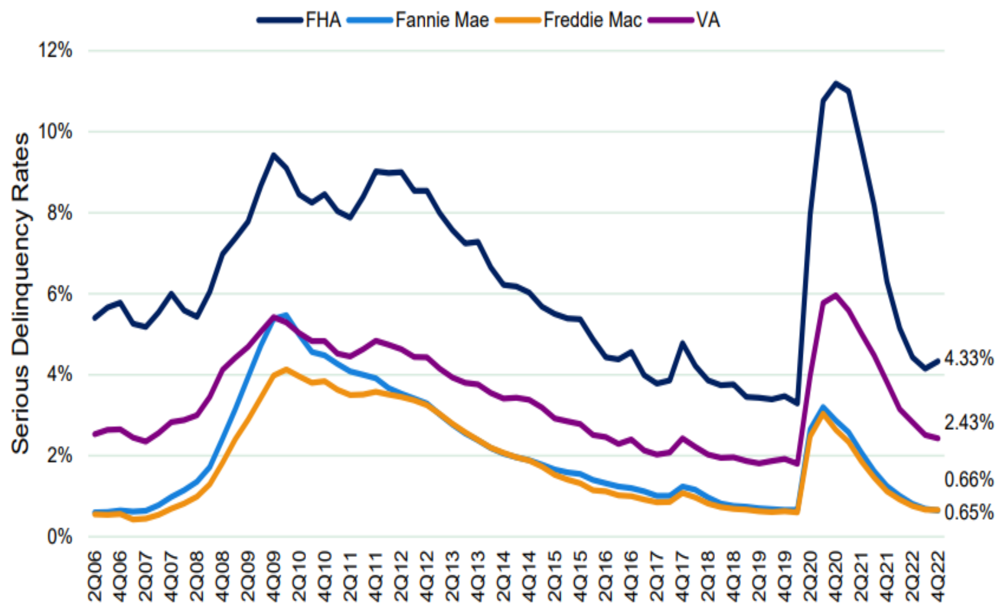
- Mortgage interest rate: 5.00%
- GNMA guarantee fee: 0.06%
- Servicing Fee: 0.44%
  - *Base servicing fee: 0.08%*
  - *Excess servicing fee: 0.36%*
- MBS Coupon: 4.50%

- Once a mortgage loan is originated, the lender can:
  - Retain the loan and the servicing
  - Sell either the loan or servicing, or sell both
- An MSR is created when the right to service the loan is monetized and sold as a separate asset from the loan itself
  - This occurs during the MBS securitization process
- By transferring MSRs to companies that specialize in this business, banks and other mortgage originators free up their books and resource capacity to originate more loans.
- The government agencies require servicing fees
  - For FNMA + FHLMC, a range of 25 – 50 bps
  - For GNMA, is a range of 25 – 75 bps
    - The guarantee fee to the agencies
    - Servicing fee that overcompensates for the cost of servicing in order to make servicing a worthwhile and attractive business
  - This comes out of the interest portion of the monthly payment before it goes to the MBS investor

Mortgage Market Dynamics

Delinquencies are near historic lows

Figure 44. Serious Delinquency Rates: Single-Family Loans



Sources:

1. *Fannie Mae and Freddie Mac Monthly Summary Reports*
2. *MBA Delinquency Survey*

Note: Serious delinquency is defined as 90 days or more past due or in the foreclosure process. Data as of Q3 2022.

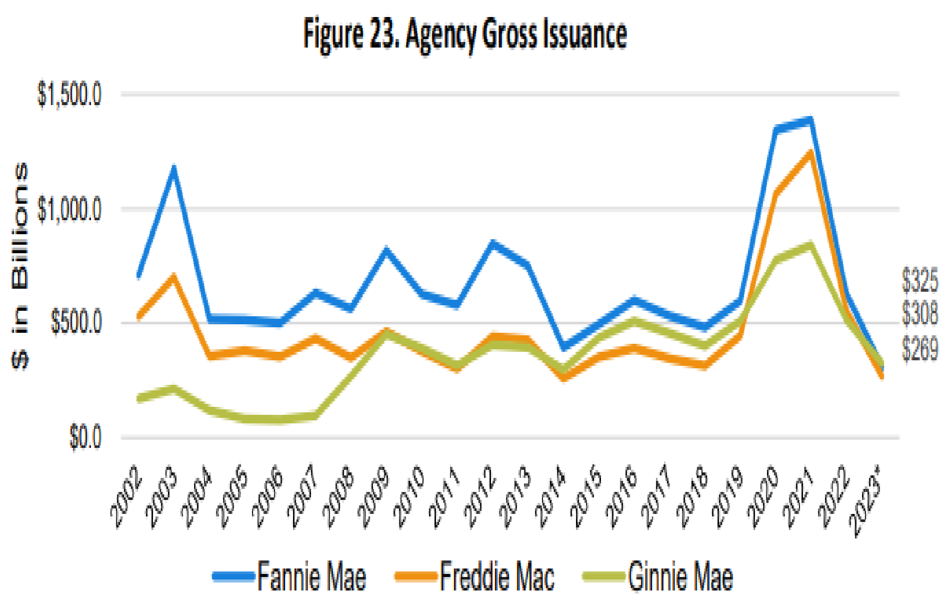
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

- Despite the challenges presented in 2022, delinquency rates remained very low
  - The rate is almost always higher for GNMA loans (represented in the chart by FHA and VA) vs. Fannie Mae and Freddie Mac loans
- While mortgage delinquency rates should be expected to rise under deteriorating economic conditions, there are several mitigating factors
  - Unlike pre-GFC
    - Consumers are in relatively good shape financially vs. high debt burdens in 2000s
    - There is much less adjustable-rate exposure
    - Home equity levels are high

MSR Supply / Demand Imbalance

Weak Mortgage Origination Revenue and Bank Regulations Pressure Supply

Mortgage Origination is Down Significantly



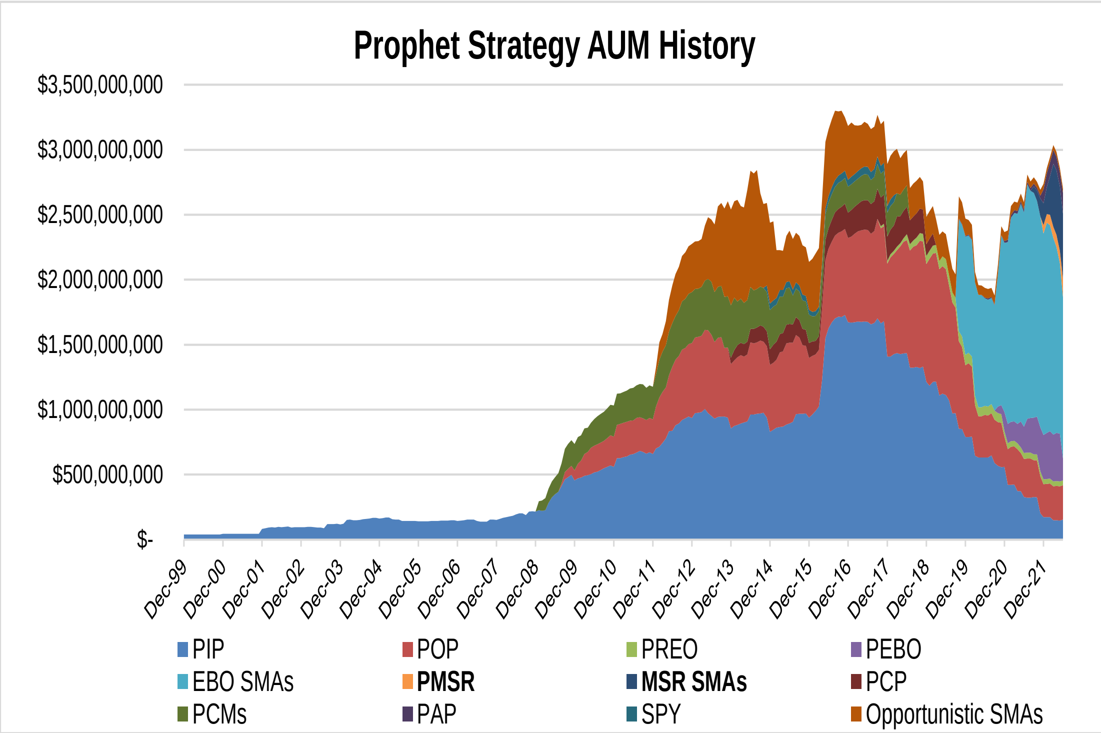
Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

- With mortgage rates exceeding 6.0 – 7.0%, mortgage origination has been falling dramatically
  - To fill the revenue void, mortgage originators have been under pressure to sell MSRs
- The supply overhang has not only continued into 2023, *but strengthened*
  - Wells Fargo has announced a plan to sell a massive share of its MSR portfolio
  - Other MSR holders have front-run this telegraphed supply
    - ➢ MSR packages have traded at discounts
- On the demand side
  - Regulatory issues and capital requirements have limited demand from banks
  - Barriers to establish MSR investment capabilities
    - – License requirements from agencies
    - – Fixed operational costs
      - ➢ Need for servicing partners

Prophet Capital Asset Management

Culture of Opportunistic Investing in Alternative Fixed Income Markets

Firm AUM by Strategy Over Time



- Prophet has a long history of capitalizing on uniquely compelling alternative fixed income market opportunities
- Demonstrated patience to enter and discipline to exit over multiple decades and market cycles
- Experienced team led by CIO David Rosenblum
  - He has spent his entire career on all sides of the mortgage investment industry and is an expert in the field
    - Sell side at Goldman Sachs
    - Government implementation of the Fed's $1.25 trillion post-GFC agency MBS program
    - Buy side at GSAM and Prophet
- Strategic Partnership with Carrington
- Strong network in an OTC relationship market

Source: Manager

Mortgage Servicing Partner: Carrington Mortgage Services

An Important GNMA Mortgage Servicer

Table 23. Top 30 Holders of Ginnie Mae Mortgage Servicing Rights (MSRs), by UPB

MSR Holder	Rank Current	Rank Year prior	Rank Change	UPB ($ millions)	Share	Cumulative Share	CPR	CDR
LAKEVIEW LOAN SERVIC	1	3	↑	$272,273,475,120	12.7%	12.66%	4.39%	0.41%
DBA FREEDOM HOME MOR	2	1	↓	$261,756,100,219	12.2%	24.83%	5.33%	1.04%
PENNYMAC LOAN SERVIC	3	2	↓	$248,558,123,865	11.6%	36.39%	4.19%	0.65%
NATIONSTAR MORTGAGE,	4	6	↑	$127,821,916,064	5.9%	42.33%	4.74%	0.67%
NEWREZ LLC	5	7	↑	$119,144,048,732	5.5%	47.87%	4.14%	0.57%
WELLS FARGO BANK, NA	6	4	↓	$111,837,413,124	5.2%	53.07%	5.10%	0.50%
ROCKET MORTGAGE, LLC	7	5	↓	$104,302,473,215	4.8%	57.92%	5.75%	0.48%
CARRINGTON MORTGAGE	8	10	↑	$89,263,741,507	4.2%	62.07%	4.78%	0.76%
U. S. BANK, NA	9	9	↔	$51,662,773,973	2.4%	64.47%	4.25%	0.87%
UNITED WHOLESALE MOR	10	11	↑	$45,951,106,614	2.1%	66.61%	2.33%	0.50%
PLANET HOME LENDING,	11	15	↑	$43,936,379,389	2.0%	68.65%	2.97%	0.21%
LOANDEPOT.COM,LLC	12	12	↔	$36,852,218,454	1.7%	70.36%	4.83%	0.41%
MORTGAGE RESEARCH CE	13	14	↑	$33,963,436,769	1.6%	71.94%	3.02%	0.23%
AMERIHOME MORTGAGE C	14	22	↑	$31,712,229,854	1.5%	73.42%	2.43%	0.25%
NAVY FEDERAL CREDIT	15	16	↑	$29,217,152,269	1.4%	74.77%	4.37%	0.31%
GUILD MORTGAGE COMPA	16	19	↑	$22,404,410,154	1.0%	75.82%	3.80%	0.50%
THE MONEY SOURCE INC	17	18	↑	$20,906,874,348	1.0%	76.79%	5.05%	0.80%
TRUIST BANK	18	17	↓	$20,304,845,519	0.9%	77.73%	4.31%	0.39%
CROSSCOUNTRY MORTGAG	19	20	↓	$18,259,278,838	0.8%	78.58%	3.62%	0.51%
NEW AMERICAN FUNDING	20	21	↑	$17,852,279,406	0.8%	79.41%	4.07%	0.53%
VILLAGE CAPITAL & IN	21	23	↑	$16,682,006,041	0.8%	80.19%	6.33%	0.58%
MOVEMENT MORTGAGE,LL	22	N/A	↑	$16,528,613,618	0.8%	80.95%	2.75%	0.50%
CMG MORTGAGE, INC.	23	27	↑	$15,671,593,426	0.7%	81.68%	3.71%	0.62%
IDAHO HOUSING AND FI	24	26	↑	$14,618,867,326	0.7%	82.36%	3.58%	1.06%
CITIZENS BANK N.A.	25	25	↔	$13,895,196,614	0.6%	83.01%	3.46%	0.40%
PHH MORTGAGE CORPORA	26	29	↑	$12,949,689,031	0.6%	83.61%	4.91%	0.82%
FLAGSTAR BANK, FSB	27	N/A	↑	$11,737,519,785	0.5%	84.16%	3.54%	0.23%
MIDFIRST BANK	28	N/A	↑	$11,443,548,148	0.5%	84.69%	6.24%	1.99%
JP MORGAN CHASE BANK	29	30	↑	$10,276,190,079	0.5%	85.17%	5.71%	1.71%
SUN WEST MORTGAGE CO	30	N/A	↑	$10,123,926,030	0.5%	85.64%	4.52%	0.30%

Source: Deloitte. Data as of January 2023

- Carrington is a GNMA specialist servicer
- It is one of two Ginnie Mae servicers (the other is quite small) with the MSS designation from Ginnie Mae as a master subservicer of last resort
  - This allows Ginnie Mae to transfer servicing from other servicers that run into trouble
  - Carrington has been vetted by the gov't (upfront RFP process, onsite due diligence, regular auditing, renegotiations subsequently)
  - As an MSS, Carrington needs to be prepared to take on up to hundreds of thousands of new mortgage loan accounts at any time
    - Personnel and systems resources are in place to comfortably take on over $100 billion more in UPB

Source: "The Ginnie Mae Global Markets Analysis Report." February 2023. www.ginniemae.gov

Prophet Mortgage Servicing Opportunities Fund (PMSO)

Recommendation: Commit $40M to Prophet Mortgage Servicing Opportunities Fund – Class A

- Prophet has a rich history of patiently waiting for compelling entries into alternative fixed income markets over the course of decades (several market cycles)
- The team has significant experience and a strong network in the mortgage investment industry, which is very much an OTC relationship business
- Alignment of interest is strong with 100% internal ownership and co-investments from key employees
- Relationship-driven investor base that has been loyal across successive strategies
- Prophet has crafted a strategy that is expected to deliver double-digit returns for a multi-year period given current market conditions
- Key Differentiators:
  - Pure-play focus on GNMA MSR excess servicing fees
  - Partnership and overall close relationship with Carrington Mortgage Services, a significant GNMA loan servicer, which provides Prophet with an open-ended supply of servicing for the MSRs that Prophet seeks to purchase as well as recapture loans that it refinances

Fund	Prophet PMSO Fund – Class A
Fund Inception	2023 (Closed-end strategy: 2021)
Management Fee	1.5%*
Performance Fee	20% over 8% preferred return
Redemption Terms	Semi-annual liquidity on 90 days notice • 2.00% coupon per quarter (optional) • 3.75% per quarter total distribution • Remaining balance available Year 5
Lock-up/Gate	1-year lockup option available*
Target return	High single % / double-digit IRR%

**Lower management fee in exchange for a 1-year lockup*

Appendix

Legal Disclosures and Disclaimers

Disclosures

Certain information contained herein concerning economic trends and/or data is (may be) based on or derived from information provided by independent third-party sources. AIUSA believes that the sources from which such information has been obtained are reliable; however, it cannot guarantee the accuracy of such information and has not independently verified the accuracy or completeness of such information of the assumptions on which such information is based.

Certain information contained in this presentation constitutes “forward-looking statements”, which can be identified by the use of forward-looking terminology such as “may”, “will”, “should”, “expect”, “target”, “project”, “estimate”, “believe”, or other variations or comparable terminology. Due to various risks and uncertainties, actual events or results or the actual performance of any investment may differ from those reflected or contemplated in such forward-looking statements. Forward-looking statements should not be relied upon when making an investment decision.

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Aon Investments USA Inc.
200 E. Randolph Street
Suite 700
Chicago, IL 60601
ATTN: Aon Investments Compliance Officer

ARKANSAS TEACHER RETIREMENT SYSTEM
1400 West Third Street
Little Rock, Arkansas 72201

R E S O L U T I O N
No. 2023-14

Approving Investment in Prophet Mortgage Servicing Opportunities Fund – Class A with Imminent Need

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its private equity consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Prophet Mortgage Servicing Opportunities Fund – Class A,** a closed-ended fund that invests in mortgage servicing rights; and

WHEREAS, the ATRS Board approves an investment of up to **$40 million dollars ($40,000,000.00)** in **Prophet Mortgage Servicing Opportunities Fund – Class A,** and the Board, after its review of the timing in which the closing of the investment in **Prophet Mortgage Servicing Opportunities Fund – Class A** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **$40 million dollars ($40,000,000.00)** in **Prophet Mortgage Servicing Opportunities Fund – Class A** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Prophet Mortgage Servicing Opportunities Fund – Class A.** The total investment amount is to be determined by the general investment consultant and ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board**;** and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

Adopted this 3rd day of April 2023

____

Mr. Danny Knight, *Chair*
Arkansas Teacher Retirement System

950 Main Avenue
Suite 1600
Cleveland, OH 44113

Memorandum

To: Arkansas Teacher Retirement System ("ATRS")

From: Chae Hong, Jack Dowd

CC: PJ Kelly; Matthew Hooker

Date: April 3, 2023

Re: Lone Star Real Estate Fund VII – $50 million Commitment Recommendation

---

Background and Recommendation

Lone Star Funds ("Lone Star" or "the Sponsor") is establishing Lone Star Real Estate Fund VII ("LSREF VII" or "the Fund"), to continue its global, opportunistic strategy of acquiring distressed commercial real estate debt and equity positions through discounted bulk purchases and resolving the investments. The Fund's return objective is 16% net IRR over its eight year term. The primary strategy is deep value, opportunistic acquisition and workout of large scale (i) commercial real estate NPL portfolios from financial institutions, (ii) bank-held commercial REO, (iii) distressed real estate heavy companies, and (iv) direct real estate equity opportunities from developers with troubled projects, asset managers, and REITs forced to sell assets for liquidity reasons including re-financing shortfalls.

Aon Investments, USA is satisfied with the strategy of the Fund and its appropriateness for ATRS. Additionally, we believe that the merits of this offering outweigh its risks. A Fund VII Investment Summary is attached as **Exhibit A**. We recommend that ATRS invest $50 million in the Fund to fulfill ATRS' 2023 real estate allocation, in accordance with the previously approved 2023 ATRS Real Asset Pacing Schedule. Additionally, Fund VII may provide investors with various investment vehicles. Townsend recommends ATRS consult with its tax and legal counsel to determine the most appropriate vehicle for the Plan.

Exhibit A

TOWNSEND® GROUP
an Aon company

Real Estate Investment Summary

Lone Star real Estate Fund VII

A Global Distress Opportunity Fund

October 2022

EXECUTIVE SUMMARY

OVERVIEW

Date	Rating	Prior Fund Rating
October 2022	**Buy**	Buy

Lone Star Funds ("Lone Star" or "the Sponsor") is establishing Lone Star Real Estate Fund VII ("LSREF VII" or "the Fund"), to continue its global, opportunistic strategy of acquiring distressed commercial real estate debt and equity positions through discounted bulk purchases and resolving the investments. The Fund's return objective is 16% net IRR over its eight year term.

The Townsend Group, an Aon Company ("Townsend") has reviewed and performed an in-depth analysis of the above categories which includes, but is not limited to:

- Retention of Limited Partners
- Institutional Investor Representation
- Management Company Ownership
- Consistency/ Volatility of Returns
- Write-offs
- Transaction Experience in Strategy
- Organization Expenses
- Management Fee
- Incentive Fees/ Waterfall Distribution
- Fund Size
- Sponsor Commitment
- Ability to Create Value in Deals
- Valuation Discipline
- Reporting Transparency
- Back-Office Resources
- Investment Period
- Fund Term
- Key Person Provision
- Turnover/Tenure
- GP Attribution Concentration
- Fault Provisions
- Advisory Board
- Priority of Distributions
- Alignment of Partner Interest
- Firm Leadership

In addition, Aon Investments, USA's Operational Due Diligence team has reviewed the Firm from an operating perspective and has given Lone Star a Pass rating.

RECOMMENDATION

Aon Investments, USA is satisfied with the strategy of the Fund and its appropriateness for ATRS. Additionally, we believe that the merits of this offering outweigh its risks. We recommend that ATRS invest $50 million in the Fund to fulfill ATRS' 2023 non-core real estate allocation, in accordance with the previously approved 2023 ATRS Real Asset Pacing Schedule.

Sponsor:

HQ Location	Dallas, TX	**Founded**	1995
Ownership	Privately owned by founder	**Employees**	90 (Employees at Lone Star)
AUM	$49.1 Billion	**SEC Registered**	Yes
Organization	Lone Star Funds is the legal name for the private equity investment firm doing business as Lone Star. Lone Star wholly-owns a global asset management company called Hudson Advisers. Hudson is dedicated to the support of the funds that Lone Star sponsors; together referred to as the 'Manager."		

Portfolio Characteristics:

Structure	Closed-end Commingled Fund	**Risk Segment**	High Return/ Opportunistic
Targeted Size	$6 Billion	**Sponsor Commitment**	$60M from GP, plus $300M from owner, plus $120M from employees.
Target Return	16% Net IRR	**Leverage**	3x Total Commitments during the Commitment Period
Term	8 Years from the Final Close	**Investment Period**	4 years from the Final Close
Avg Transaction	Ranging from $750M to $1 Billion GAV	**Typical Business Plan**	2-5 year holds

Fees:

Management Fee	1.45% on Committed, then 0.60% on Invested; *Discounted for size, timing, and loyalty*	**Incentive Fee**	8% preferred return (or higher for size); 50%/50% catch-up; 80% LP/ 20% GP thereafter.

Status/Timing: First close period starts in mid to late December and extends through January 2023.

Primary Strategy: Deep value, opportunistic acquisition and workout of large scale (i) commercial real estate NPL portfolios from financial institutions, (ii) bank-held commercial REO, (iii) distressed real estate heavy companies, and (iv) direct real estate equity opportunities from developers with troubled projects, asset managers, and REITs forced to sell assets for liquidity reasons including re-financing shortfalls.

STRATEGY

OVERVIEW

The Fund strategy is to opportunistically acquire commercial real estate at a discount to liquidation value, execute short term plans for increasing that value, and dispose of assets within a relatively short timeframe.

Such acquisitions typically involve a motivated seller in a credit distress situation, such as NPL and REO dispositions of neglected assets by financial institutions, corporate restructurings of stressed real estate-heavy companies, and direct real estate equity opportunities from developers with troubled projects, asset managers, and REITs forced to sell assets for liquidity reasons including re-financing shortfalls. The Manager has also capitalized on end-of-fund-life wholesale dispositions and carve-outs from public-to-private transactions. To limit competition in acquisitions, the Manager targets very large transactions/portfolio investments.

The post-acquisition plans are typically to achieve an initial fundamental value-driver where a basic fix exists, and not necessarily to hold and operate the asset for multi-year NOI growth. Typical plans involve capital structure optimization, transformative bolt-on acquisitions, or portfolio reconfigurations, putting joint ventures with operating partners in place, certain initial cost efficiency measures and revenue-enhancing investments, and wholesale-to-retail dispositions. Business plans most often assume the majority of profit is realized within a 2-3 year hold, and few deals are underwritten to a hold over 5 years.

Cumulatively over 330+ investments since 1995 totaling $109 billion in purchase price, the fund series exposures have been as follows:

For this vintage, the Manager expects over-weights to more distressed property types, Retail and Hotels, and to operationally intensive sectors, Hotels and Senior Housing, where the Manager sees long term structural demand interrupted by short term factors. Regional weights are preliminarily expected to be major market UK/Europe (~35%-55%), North America (30%-50%), and Japan (25%-40%).

INVESTMENT GUIDELINES

Based on Total Commitments.

- No more than 70% in Europe (of which no more than 20% outside of the UK/EEA), 70% in Japan, 70% in North America, 15% in Other Markets.
- No more than 35% of commitments in one portfolio transaction.
- No more than 25% of commitments in one asset

LEVERAGE

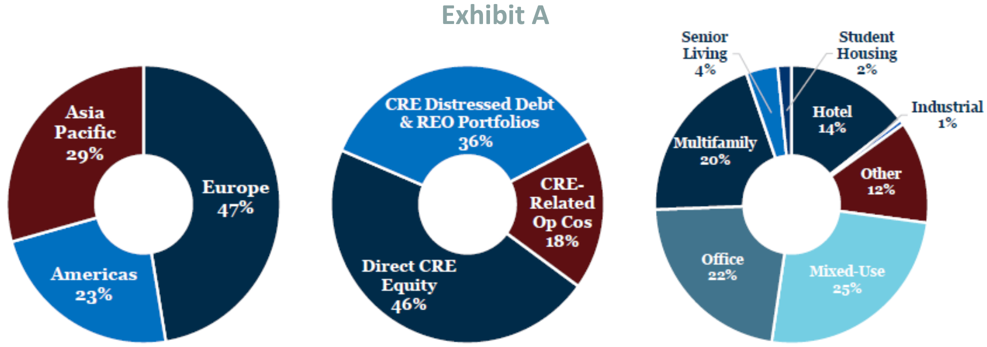
The Sponsor utilizes a variety of sources and structures to lever its investments depending on the investment type; expected to roll up to an overall usage near the 75% cap after the commitment period. As described more fully in the governing documents, there is a higher leverage limitation during the fundraise period from the First Close to the Final Close, reducing to three times the Cumulative Capital Contributions of the partners at a point thereafter.

- Excluding use of a Subscription Facility; inclusive of the expected use of a general Working Capital facility, which may be used up to 10% of the Total Commitment size, and is typically a recourse facility, not secured by unfunded commitments.
- Any recourse in addition to a Working Capital facility is limited to 6% of Total Commitments (excluding customary carve-outs, and any recourse required to maintain rate and FX hedges.
- The Manager does not expect to utilize cross collateralization *at the line-item level*, or make completion guarantees.

Hudson oversees negotiation and implementation of all credit facilities as part of its liquidity and cash management mandate for any fund, which includes debt covenant monitoring and provisioning for cash/liquidity adequacy.

- Credit facilities are typically hyper-amortizing with proceeds from underlying asset sales required to pay down outstanding balances, continuously/incrementally de-risking an LP's initial position over time. This syncs up well with typical NPL portfolio workouts where easy/quick resolutions occur upfront and serve to pay down the leverage exposure by the time only problematic and uncertain workouts remain.
- Because of Lone Star's long and strong relationship with many major financial institutions, it is able to negotiate more borrower-friendly structures on its debt relative to many competitors.

Exhibit A



About Townsend Group – An Aon Company

Founded in 1983, The Townsend Group provides custom real asset solutions that help clients worldwide achieve their unique investment goals. As an Aon company, The Townsend Group is now part of one of the top three outsourced chief investment officer (OCIO) providers in the world measured by global assets under management. Aon's Investment organization, including Townsend, manages more than $130 billion of worldwide assets under management and has advised on more than $240 billion of real estate assets.

ARKANSAS TEACHER RETIREMENT SYSTEM
1400 West Third Street
Little Rock, Arkansas 72201

R E S O L U T I O N
No. 2023-15

Approving Investment in Lone Star Real Estate Fund VII, L.P. with Imminent Need

WHEREAS, the Board of Trustees (Board) of the Arkansas Teacher Retirement System (ATRS) is authorized to invest and manage trust assets for the benefits of its plan participants; and

WHEREAS, the ATRS Board has reviewed the recommendation of its private equity consultant, Aon Hewitt Investment Consulting, Inc., along with the recommendation of the Investment Committee and ATRS staff regarding a potential investment in **Lone Star Real Estate Fund VII, L.P.,** a closed-end opportunistic fund which pursues a strategy of investing in distressed real estate debt and equity; and

WHEREAS, the ATRS Board approves an investment of up to **$50 million dollars ($50,000,000.00)** in **Lone Star Real Estate Fund VII, L.P.,** and the Board, after its review of the timing in which the closing of the investment in **Lone Star Real Estate Fund VII, L.P.** may need to occur, has determined that there is an imminent need to immediately enter into the partial equity ownership agreement prior to the next scheduled meeting of the Arkansas Legislative Council. The Board also deems it financially appropriate to enter into the partial equity ownership agreement and concludes that to forego the opportunity to promptly implement its investment directives under the prudent investor rule would be inconsistent with its fiduciary duty of care to the members and annuitants.

NOW, THEREFORE, BE IT RESOLVED, that the ATRS Board approves an investment of up to **$50 million dollars ($50,000,000.00)** in **Lone Star Real Estate Fund VII, L.P.** and agrees to immediately move to close and subscribe the approved ATRS limited partnership interest in **Lone Star Real Estate Fund VII, L.P.** The total investment amount is to be determined by the real assets consultant and ATRS staff based upon the allocation available to ATRS and the overall investment objectives set by the Board**;** and

FURTHER, BE IT RESOLVED, that the ATRS staff is hereby authorized to take all necessary and proper steps to implement this investment using the Imminent Need process, if acceptable terms are reached.

Adopted this 3rd day of April 2023

____

Mr. Danny Knight, *Chair*
Arkansas Teacher Retirement System