- 06C COAERS Compliance Dashboard 2022-Q1.pdf
- 06D COAERS Status of Delegated Authority 2022-Q1.pdf
- 06E RVK Summary Report of Fund Performance 2022-Q1.pdf
- 06F Cash Activity Detail for IC 2022-Q1.pdf

10:50 AM 7. Review investment performance including strategy, compliance, and reporting

Presented by David Stafford and RVK

- 07A Item Summary.docx
- 07B IRF Insights 2022-04 Confidential.pptx
- 07C Summary IRF Dashboard 2022-05-06 Confidential.pdf
- 07D Confidential Manager Strategy 2022-Q1 Confidential.docx
- 11:20 AM 8. Receive presentation on fixed income asset class and diversification of the Strategic Asset Allocation
 - 08A Item Summary.docx
 - 08B RVK Fixed Income Education.pdf
 - 08C Assessing the Diversification Benefits of Fixed Income .pptx
 - Evaluation Form.docx
- 12:20 PM 9. Discuss and consider investment implementation including:
 - A. Premier List for Fixed Income
 - B. Premier List for Cash and Equivalents

Presented by Ty Sorrel

- 09A Item Summary.docx
- 09B Confidential Implementation Update 2022-Q1.docx
- 09C Confidential Manager Monitoring Report 2022-Q1.docx
- 09C RVK Summary of Manager Performance 2022-Q1.pdf
- 09d COAERS Implementation Dashboard 2022-Q1.pdf
- Ø 09E Manager Fees by Quarter 2022-Q1.pdf
- 09g Confidential Current Premier List 2022-Q1.pdf
- 09H Confidential Annual Review of Cash & Equivalents Portfolio.pptx
- 09I Confidential Annual Review of Fixed Income Portfolio.pptx
- 09J \$\$\$ Confidential Proposed Premier List 2022-Q1.pdf

1:05 PM 10. Discuss and consider investment beliefs, goals, and strategy Presented by Christopher Hanson

10A Item Summary.docx

10B Refreshing the System's Investment Beliefs.pptx

10C Investment Beliefs Survey Summary Results.pdf

1:35 PM 11. Discuss and consider Investment Consultant including annual review and contracting

Presented by David Stafford

11A Item Summary.docx

11B Staff Review of Investment Consultant Services.docx

11C Staff Review of RVK Documents.docx

11D RVK Retainer Agreement Amendment 3.docx

11E Proposed Update to IC 2022 Budget.pdf

1:55 PM 12. Receive key meeting takeaways and call for future agenda items
Presented by Committee Chair Benson

Item #12 Summary.docx

1. Call meeting to order

Presented by Committee Chair Benson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 1: Call meeting to order

AGENDA ITEM OBJECTIVE

The objective of the agenda item is to formally begin the Committee meeting.

2. Receive update on Chief Investment Officer position

Presented by Christopher Hanson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 2: Receive update on Chief Investment Officer position

AGENDA ITEM OBJECTIVE

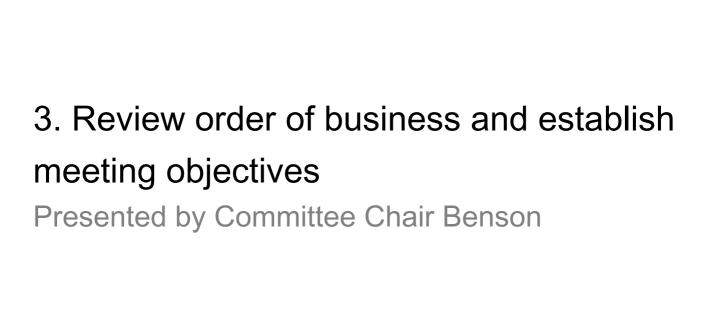
This agenda item provides the Committee with an update from the Executive Director on efforts to fill the Chief Investment Officer position.

RECOMMENDATION FOR COMMITTEE ACTION

For informational purposes only; no action required.

BACKGROUND

In September 2021, COAERS launched its search for a new Chief Investment Officer to replace outgoing CIO David Veal, who stepped down from the position last summer to assume the CIO role at Texas ERS.





COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 3:

Review order of business and establish meeting objectives

AGENDA ITEM OBJECTIVE

This agenda item provides Trustees the opportunity to review the order of business and to express a desire to take an agenda item out of order, and to discuss the key objectives of the meeting. The time frames on the agenda are for informational purposes only.

RELEVANCE TO STRATEGIC PLAN

This agenda item meets **COAERS Strategic Plan Goal 4: Identify and implement leading practices in board governance, pension administration, and investment management.** It is an industry best practice to establish meeting objectives and review them at the outset of each meeting.

MEETING OBJECTIVES

- 1. As part of its **oversight** responsibility, the Committee will:
 - Receive an update on efforts to fill the Chief Investment Officer position (Agenda Item #2).
 - Receive reports on the Fund's performance relative to investment policy goals and objectives as well as the use of delegated authority in the pursuit of those goals (Agenda Item #6).
 - Receive reports on employment of the Fund's investment strategy including the Investment Risk Framework (Agenda Item #7).
 - Receive reports on the Fund's implementation approach including the status of COAERS Investment Manager Premier Lists (Agenda Item #9).
- 2. As part of its **review** responsibility, the Committee will:
 - Review changes in the investable fixed income landscape and possible impacts to the diversification of the COAERS Fund (Agenda Item #8)
 - Review the System's adopted investment beliefs (Agenda Item #10)
 - Review the investment consulting services received by the System (Agenda Item #11)
- 3. As part of its **approval** responsibility, the Committee will:
 - Consider the Premier Lists for Cash & Equivalents and Fixed Income (Agenda Item #9)
 - Consider an amendment to the investment consulting agreement and investment budget (Agenda Item #11)



COMMITTEE MEETING Agenda Item Information Sheet

ATTACHMENT

1. Proposed timeline of agenda items with potential time frames

Agenda Timeframes

May 20, 2022

Committee:

Investment Committee

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Agenda Number	Agenda Item	Duration	Start	End
1	Call meeting to order – Committee Chair Benson		10:00 AM	10:00 AM
2	Receive update on Chief Investment Officer position – Christopher Hanson	0:05	10:00 AM	10:05 AM
3	Review order of business and establish meeting objectives – Committee Chair Benson	0:05	10:05 AM	10:10 AM
4	Receive public comments – Committee Chair Benson	0:05	10:10 AM	10:15 AM
5	Consider approval of the February 18, 2022 Investment Committee minutes – Committee Chair Benson	0:05	10:15 AM	10:20 AM
6	Discuss and consider investment strategy including Investment Risk Framework – David Stafford	0:30	10:20 AM	10:50 AM
7	Review investment performance including strategy, compliance, and reporting - David Stafford and RVK	0:30	10:50 AM	11:20 AM
8	Receive presentation on fixed income asset class and diversification of the SAA - RVK and David Stafford	1:00	11:20 AM	12:20 PM
9	Discuss and consider investment implementation including A. Premier Lists for Cash & Equivalents and B. Fixed Income - Ty Sorrel	0:45	12:20 PM	1:05 PM
10	Discuss and consider the System's investment beliefs, goals, and strategy – David Stafford	0:30	1:05 PM	1:35 PM
11	Discuss and consider the investment consultant including review and contracting - David Stafford	0:20	1:35 PM	1:55 PM
12	Review key meeting takeaways and call for future agenda items – Committee Chair Benson	0:05	1:55 PM	2:00 PM
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4. Receive public comments

Presented by Committee Chair Benson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 4: Receive public comments

AGENDA ITEM OBJECTIVE

This standing agenda item allows System members and members of the public the opportunity to provide comments to the Board.

RELEVANCE TO STRATEGIC PLAN/CORE COMPETENCIES

This agenda item meets the core competency established in the **COAERS Strategic Plan** "*Transparency: Complying with open meeting and public information laws to ensure the decision-making process is clear to members and the public."*

The Chair will recognize any person who wishes to comment for up to three minutes per person.



Presented by Committee Chair Benson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 5:

Consider approval of the February 18, 2022 Investment Committee minutes

AGENDA ITEM OBJECTIVE

This standing agenda item seeks approval of the minutes from the prior quarterly Investment Committee meeting. The charter for the Investment Committee requires the Committee to keep minutes of its meetings.

RELEVANCE TO STRATEGIC PLAN

This agenda item meets the core competency established in the **COAERS Strategic Plan** "Transparency: Complying with open meeting and public information laws to ensure the decision-making process is clear to members and the public."

RECOMMENDATION FOR COMMITTEE ACTION

Staff recommends approval of the minutes of the February 18, 2022 Investment Committee meeting.

<u>ATTACHMENT</u>

1. Draft minutes of February 18, 2022 Investment Committee meeting



MINUTES

INVESTMENT COMMITTEE

Public Meeting held in person and videoconference

on February 18, 2022 at 10:00 a.m. CT Pursuant to Texas Govt. Code 551.127 – COVID-19 circumstances

Committee Members Present/(Absent)

Michael Benson, Committee Chair Michael Granof Amy Hunter† Dick Lavine† Chris Noak †

Guests:

lan Bray*, RVK
Spencer Hunter*, RVK
Paige Saenz*, General
Counsel
Diana Maldonado*
Joe Ebisa WithIntelligence*

- * present telephonically
- † present via videoconference

Other Board Trustees Present/(Absent)

(Kelly Crook)
Yuejiao Liu†
(Leslie Pool)
(Anthony B. Ross, Sr.)
(Brad Sinclair)
(Diana Thomas)

Others Present

Staff:
Christopher Hanson†
David Stafford
Sarah McCleary
Ty Sorrel
Kelly Doggett*
Yun Quintanilla*
Mehrin Rahman

Jenni Bonds*

1 Call meeting to order

Chair Benson called the meeting to order at 10:01 a.m. The following Committee members were present in person: Mr. Benson and Dr. Granof. The following Committee members were in virtual attendance: Ms. Hunter, Mr. Lavine and Mr. Noak.

2 Review order of business and establish meeting objectives

Chair Benson reviewed the order of business and meeting objectives with the Committee. No changes were made to the order of business.

3 Receive public comments

Chair Benson asked if any members of the public wished to speak, either now or during an agenda item. There were no comments.

4 Consider approval of the November 19, 2021 Investment Committee minutes

Chair Benson asked the Committee to review the Investment Committee minutes. Mr. Chris Noak moved approval of the November 19, 2021 Investment Committee minutes. Ms. Amy Hunter seconded, and the motion passed 4-0, with Mr. Lavine abstaining.

5 Discuss and consider 2022 Investment Committee work plan

The Committee reviewed the proposed Committee work plan and suggested to Staff that the work plan was reasonable as presented.

6 Review investment performance including strategy, compliance, and delegation of authority

The Committee reviewed investment performance and market data from RVK through December 31, 2021. Fund investments gained 5.20% net of fees during the quarter and gained 12.99% during the trailing one-year period.

Mr. David Stafford reviewed the investment strategy dashboard and noted that net returns were very high over a 3-, 5-, and 10-year horizon and exceeded the assumed actuarial rate of return for the system. Mr. Stafford also noted that risk-adjusted returns were high over the trailing 10-year period with a Sharpe ratio of 1.01.

Mr. Stafford also reviewed the compliance report, the delegation of authority report, and the investment cash activity report.

7 Discuss and consider investment strategy including Investment Risk Framework

As required annually by policy, Mr. Stafford reviewed with the Committee the Investment Risk Framework process, including key concepts and philosophy. Mr. Stafford noted that after an internal review of the policy, staff did not recommend any proposed updates.

Additionally, Mr. Stafford reviewed the risk/return outlook for the Fund via the IRF. He noted that markets imply volatility for the Fund of 13.5% in the near-term, slightly above the long-term risk budget of 10-12% set forth in the Investment Policy Statement. He also noted that the equity earnings yield remains in line with its longer-term average and that correlations between US Treasuries and Global Equities have been challenged over shorter time horizons, though not enough to suggest a regime shift.

Mr. Stafford noted that Fund positioning near neutral at the asset class level remained appropriate and that this process had produced better risk-adjusted returns than the Policy Benchmark.

Trustees took a break from 11:22 to 11:28 a.m. Mr. Noak returned to the meeting at 11:31 a.m.

8 Discuss and consider investment implementation including Premier List for Multi-Asset

Mr. Ty Sorrel presented an update on implementation activities during the fourth quarter, reviewed the manager monitoring report, and discussed investment manager fees by quarter.

Mr. Stafford outlined the evolution of Multi-Asset allocation for the COAERS fund, noting the lessons learned along the way. He discussed some of the organizational challenges faced by the System over time and the ways in which these challenges have been successfully addressed. Mr. Stafford suggested that Staff views the continuing evolution of this asset class as important in informing investment strategy, and noted that it may be prudent to consider proposed restructuring into new asset classes or approaches in the future.

Mr. Sorrel reviewed the performances of both sub-asset classes in Multi-Asset, including individual manager performance. Mr. Sorrel noted certain challenges with current mandates including timeliness of market commentary and strategy adherence. Mr. Sorrel also discussed the key takeaways from implementing multi-asset allocations such as strategy, mandate sizing, and fees. He then proposed several changes to the Premier Lists for Multi-Asset.

Ms. Amy Hunter left the meeting at 12:00 p.m.

Mr. Chris Noak moved to recommend to the Board the proposed changes to the Multi-Asset Premier Lists and to direct Staff to develop a funding implementation plan to present at the March Board meeting. Dr. Granof seconded, and the motion passed 4-0.

9 Discuss and consider strategic goals and policies of the investment program including:

A. Capital markets assumptions, program goals, and guidelines

Mr. Spencer Hunter reviewed the capital market assumptions for 2022 and noted expected returns were slightly lower compared to 2021 capital market assumptions. When modeling inputs for the neutral Strategic Asset Allocation, he noted that projections for implied returns were 5.03%, which is less than the assumed rate of return of 7.00%. Considering the distribution of expected outcomes, he shared Monte Carlo data that suggested the probability of exceeding 7.00% was 33% over a 10-year horizon, absent any implementation gains. He stated that naively increasing the long-term expected compound return would imply a significant increase in expected risk.

Mr. Stafford reviewed how these capital market assumptions and other measures fit into the overall goals for the investment program. He presented data suggesting that RVK capital market assumptions are in line with other providers and that the risk premium for earned by the System was the highest it has been in over 25 years. Using RVK capital market assumptions, Mr. Stafford suggested that the strategic asset allocation was appropriate to achieve risk budgets prescribed in policy. He also reported that these risk budgets provided a way to bridge the gap between expected passive market returns and the actuarially assumed rate of return, though with little room for error. Mr. Stafford and Mr. Hanson recommended that the Committee thoughtfully consider ways to improve the likelihood of success for the Investment Program over a multi-quarter process. Staff proposed that the Committee first refresh the investment beliefs adopted in policy through a survey process and discussed other steps to be completed over the next six to twelve months.

B. Proposed revisions to the Investment Policy Statement and Investment Implementation Policy

As required annually by policy, Mr. Stafford reviewed current policies regarding the investment program and reported the current policies are remain appropriate. Mr. Stafford proposed changes to the Investment Policy Statement which included rank ordering in terms of importance the adopted return goals, clarifying the risk budget for the program, delegating authority to the Executive Director and General Counsel in the securities litigation process, and tweaking sub-asset class weights within Global Equities.

Mr. Noak moved to recommend that the Board adopt proposed changes to the Investment Policy Statement and the Investment Implementation Plan. Dr. Granof seconded, and the motion passed 4-0.

10 Receive update on Chief Investment Officer position

Mr. Christopher Hanson updated the Committee on the process to fill the Chief Investment Officer position. He noted that he had completed two rounds of interviews and would schedule the third round of in-person interviews soon.

11 Review key meeting takeaways and call for future agenda items

Committee Chair Benson summarized the actions taken and information discussed at the meeting and provided an opportunity to add future agenda items.

6. Discuss and consider investment strategy including Investment Risk Framework

Presented by David Stafford

COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 6:

Review investment performance including strategy, compliance, and delegation of authority

AGENDA ITEM OBJECTIVE

This agenda item is for the Committee to review the Fund's performance through March 31, 2022, as well as receive reports on the investment program related to strategy, compliance, delegation of authority, and cash management.

RELEVANCE TO STRATEGIC PLAN

This item allows the Committee to review Fund performance and assess the extent to which the System is meeting COAERS Strategic Plan Goal 1: Achieve and maintain a funding level that ensures the long-term sustainability of the retirement system since long-term investment performance consistent with the investment program's goals is central to long-term system sustainability. Additionally, the agenda item allows the Committee to review the approved risk parameters and compliance requirements to ensure the System is fulfilling COAERS Strategic Plan Goal 2: Responsibly Manage the Risks of the System.

BACKGROUND

Staff and Consultant will review the performance of the Fund and major asset classes through the most recent quarter, which is summarized below for the period ended March 31, 2022:

	QTD	1Y	3Y	5Y	10Y
Fund return - gross of fees		5.55	9.75	8.68	8.10
Percentile Rank vs. all peers (1=highest)	73	44	73	67	65
Percentile Rank vs. small peers (1=highest)	85	<i>57</i>	<i>75</i>	64	60
Fund return - net of fees		5.29	9.46	8.38	7.75
Policy Index - gross return	-4.76	5.56	10.02	8.68	7.81
Passive Index - gross return	-5.64	1.72	8.67	7.82	6.53
Realized risk – standard deviation	N/A	8.67	11.81	10.34	8.85
Percentile Rank vs. all peers (1=highest)	N/A	N/A	24	25	21



COMMITTEE MEETING Agenda Item Information Sheet

ATTACHMENTS

- 1. COAERS Investment Strategy Dashboard as of 2022-Q1
- 2. COAERS Investment Compliance Dashboard as of 2022-Q1
- 3. COAERS Staff Report on Status of Delegated Authority as of 2022-Q1
- 4. RVK Summary of Fund Performance for 2022-Q1
- 5. COAERS Investment Operations Cash Activity Detail for 2022-Q1

SUPPLEMENTAL MATERIALS PROVIDED VIA CONVENE APP

- 1. RVK Quarterly Investment Performance Analysis for 2022-Q1
- 2. RVK Capital Markets Review for 2022-Q1
- 3. Callan Periodic Tables of Investment Returns for March 2022

INVESTMENT GOALS

1. Achieve long-term, annualized nominal rate of return net of fees that:

• Meets or exceeds the assumed actuarial rate of return for the System

	3Y	5Y	10Y
COAERS Fund - Net Return	9.47%	8.38%	7.75%
COAERS Actuarially Assumed Rate of Return	6.75%	6.75%	6.75%
Difference	2.72%	1.63%	1.00%
Status	ABOVE	ABOVE	ABOVE

Ranks in the top quartile of peer comparisons consistently
 Versus <u>all plans</u> and incorporating fee levels equal to the CEM Benchmarking median of 80 bps

	3Y	5Y	10Y
COAERS Fund - Net Return	9.47%	8.38%	7.75%
Top Quartile Net Return - All Peers	10.71%	9.15%	8.23%
Difference	-1.24%	-0.77%	-0.48%
Status	BELOW	BELOW	BELOW

Versus <u>small plans</u> and incorporating fee levels equal to the CEM Benchmarking median of 99 bps

	3Y	5Y	10Y
COAERS Fund - Net Return	9.47%	8.38%	7.75%
Top Quartile Net Return - Small Peers	10.35%	8.89%	8.12%
Difference	-0.88%	-0.51%	-0.37%
Status	BELOW	BELOW	BELOW

2. Achieve a long-term, risk-adjusted relative rate of return net of fees that:

Meets or exceeds the Passive Index (i.e. the Reference Portfolio)
 Passive Index: 60% MSCI ACWI Net USD Unhedged/40% Bloomberg Global Agg USD Unhedged

	3Y	5Y	10Y
COAERS Fund - Net Return	9.47%	8.38%	7.75%
COAERS Passive Index - Gross Return	8.67%	7.82%	6.53%
Difference	0.80%	0.56%	1.22%
Status	ABOVE	ABOVE	ABOVE

Incorporating fee levels for the Passive Index that are consistent with best COAERS Premier List fees (11 bps)

COAERS Passive Index - Net Return	8.56%	7.71%	6.42%
Difference	0.91%	0.67%	1.33%
Status	ABOVE	ABOVE	ABOVE

• Meets or exceeds the Policy Index (i.e. the Strategic Benchmark)

Policy Index: Target weighted composite of the benchmarks for the major asset classes in the SAA

	3Y	5Y	10Y
COAERS Fund - Net Return	9.47%	8.38%	7.75%
COAERS Policy Index - Gross Return	10.02%	8.68%	7.81%
Difference	-0.55%	-0.30%	-0.06%
Status	BELOW	BELOW	BELOW

Assuming fee levels for the Policy Index that are consistent with best COAERS Premier List fees (11 bps)

COAERS Policy Index - Net Return	9.91%	8.57%	7.70%
Difference	-0.44%	-0.19%	0.05%
Status	BELOW	BELOW	ABOVE

Investment returns are presented in an annualized net basis unless otherwise noted

INVESTMENT GOALS (continued)

- 3. Achieve these strategic objectives via fiduciary best practices that:
 - Ensure proper diversification of asset classes and factor exposures
 - Fund is well-diversified across global markets, asset types, and implementation styles
 - Diversification is being enhanced further by adding potential hedges against adverse regimes
 - Maintain appropriate long-term risk and return expectations
 - CMAs reviewed each year with IC/Board to assess outlook and market conditions
 - Key Investment Manager views and asset allocation strategies analyzed to inform outlook
 - Adapt the asset allocation to changing market conditions
 - Asset/Liability Study completed in 2018, SAA parameters updated to reflect conclusions
 - Delegated authority to implement strategy within SAA parameters approved by Board
 - Investment Risk Framework approved by Board, regular reporting provided to IC

RISK BUDGET

ABSOLUTE RISK (aka VOLATILITY)						
		POLICY			REALIZED	
	MIN	TARGET	MAX	3Y	5Y	10Y
COAERS Fund - Volatility	10%	-	12%	11.8%	10.3%	8.9%
Status				WITHIN	WITHIN	BELOW
	MIN	TARGET	MAX	3Y	5Y	10Y
COAERS Fund - Sharpe Ratio	-	0.50	-	0.78	0.75	0.85
Status				ABOVE	ABOVE	ABOVE
RELATIVE RISK (aka TRACKING ERROR)						
		POLICY			REALIZED	
	MIN	NEUTRAL	MAX	3Y	5Y	10Y
COAERS Fund - Tracking Error	-	150	300	174	166	169
Status				WITHIN	WITHIN	WITHIN
	MIN	TARGET	MAX	3Y	5Y	10Y
COAERS Fund - Information Ratio	-	0.50	-	0.62	0.52	0.88
Status				ABOVE	ABOVE	ABOVE

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		STRATEGIC GUIDELINES as of Mar-2021				ACTUAI	FUND POSIT	TONING
	MIN ^S	MIN^{T}	TARGET	MAX^{T}	MAX ^S	CURRENT	STATUS ^T	STATUS ^S
Major Asset Class Policy Weight	s & Rebalancing	Ranges						
Global Equity	46.0%	51.0%	56.0%	61.0%	66.0%	56.1%	WITHIN	WITHIN
Real Assets	10.0%	11.0%	15.0%	19.0%	20.0%	17.3%	WITHIN	WITHIN
Fixed Income	16.0%	18.0%	21.0%	27.0%	33.0%	20.9%	WITHIN	WITHIN
Multi-Asset	2.5%	4.5%	7.0%	12.5%	15.0%	5.2%	WITHIN	WITHIN
Cash	-10.0%	-5.0%	1.0%	5.0%	10.0%	0.6%	WITHIN	WITHIN
Sub-Asset Class Policy Weights 8	& Rebalancing Ra	anges						
US Equity	21.0%	28.0%	33.0%	38.0%	46.0%	34.5%	WITHIN	WITHIN
Developed Market Equity	10.0%	12.5%	15.0%	17.5%	19.0%	14.2%	WITHIN	WITHIN
Emerging Market Equity	3.0%	5.5%	8.0%	12.5%	15.0%	7.4%	WITHIN	WITHIN
Real Estate	5.0%	7.0%	10.0%	13.0%	15.0%	11.8%	WITHIN	WITHIN
Infrastructure & Other	0.0%	1.0%	5.0%	7.0%	10.0%	5.5%	WITHIN	WITHIN
US Treasuries	9.0%	11.0%	13.0%	21.0%	25.0%	14.2%	WITHIN	WITHIN
US Mortgages	2.0%	3.0%	4.0%	6.0%	8.0%	3.2%	WITHIN	WITHIN
US Credit	1.0%	2.5%	4.0%	7.0%	10.0%	3.5%	WITHIN	WITHIN
Asset Allocation	2.5%	3.5%	5.0%	7.5%	10.0%	4.0%	WITHIN	WITHIN
Commodities & Other	0.0%	1.0%	2.0%	5.0%	10.0%	1.2%	WITHIN	WITHIN
Cash & Equivalents (USD)	-10.0%	-5.0%	1.0%	5.0%	10.0%	0.5%	WITHIN	WITHIN
Other Currencies	0.0%	0.0%	0.0%	1.0%	2.0%	0.1%	WITHIN	WITHIN



INVESTMENT STRATEGY

Pursue a superior investment strategy by conducting:

• Formal Asset/Liability Study every 5 years or upon major changes to contributions, benefits, or capital markets.

Asset/Liability Study: May 2018 As of Date Service Provider

December 2017 RVK

• Formal Asset Allocation Study every 3 years.

<u>Completion Date</u> <u>As of Date</u> <u>Service Provider</u>

Strategic Asset Allocation Study: February 2021 December 2020 RVK

• Review of Strategic Asset Allocation parameters at least every 1 year.

Strategic Asset Allocation Review:

<u>Completion Date</u> <u>As of Date</u> **February 2022 December 2021**

Review of IPS and IIP at least annually or upon major changes in capital markets or industry practices.

Last Review Date Last Revision Date

cy Statement: March 30, 2022 March 30, 2022

Investment Policy Statement: March 30, 2022 March 30, 2022 Investment Implementation Policy: March 30, 2022 March 30, 2022

ASSET DIVERSIFICATION

Maintain proper diversification of assets by:

• Reviewing investment concentration levels in any single public corporation.

Largest Concentration

Individual Holding Concentration Limits: Company Name Level Status
3% of the Fund in the securities of any one company: EQUINIX INC 0.6% OK
5% of the Fund of any class of voting security of any one company: EQUINIX INC 0.6% OK

• Reviewing investment concentration levels in any single investment manager or investment vehicle.

Largest Concentration

	3		
Investment Manager Concentration Limits:	Manager/Vehicle	Level	<u>Status</u>
≤15% of Fund assets with any active manager:	Newton IM	8.4%	ОК
≤30% of Fund assets with any passive manager:	Legal & General	12.8%	ОК
≤20% of firm assets for any manager:	Agincourt	5.3%	ОК
≤20% of vehicle assets unless a seed investment:	LGIMA MSCI USA	11.3%	ОК
Board approved Seed Investments:	PGIM IG Credit	45.6%	Seed
	Baillie Gifford MultiAsset	44.6%	Seed

FUND LIQUIDITY

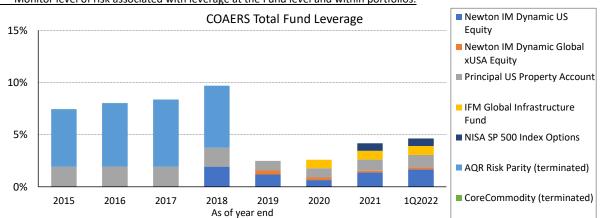
- 3. Ensure sufficient liquidity to meet benefit payment and other obligations by:
 - · Review allocation to highly liquid investments quarterly.

Liquidity:	\$ millions	% of Fund	Accounts Included
0 - 5 Days	2,508	75%	All except those listed below
5-30 Days	562	17%	1607, PGIM, DoubleLine, Fidelity, Agincourt
30+ Days	272	8%	Principal, IFM



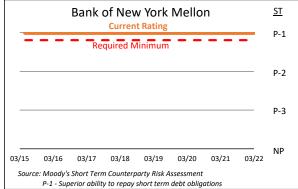
FUND LEVERAGE

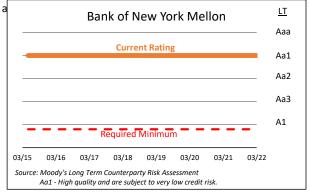




COUNTERPARTY MANAGEMENT

5. Monitor risk of loss from counterparty default and/or insolvency





Futures Commission Merchant: Must be at least A+ (Moody's Short Term Rating P-1 and Long Term Rating A1)





Status of Authority Delegated To COAERS Staff

Source	Nature of Delegated Authority	Status during 2022-Q1
IPS Section I	Executive Director may approve	Unused
	variances to further compliance	
IPS Section I	Executive Director may update policies	Unused
	for administrative items	
IPS Section II	Executive Director may act to protect	Unused
	System assets	
IPS Section IV	Fund positioning may be rebalanced due	Unused
	to market drift	
IPS Section IV	Fund positioning may be rebalanced for	Unused
	risk management	
IPS Section IV	Fund positioning may be rebalanced due	Unused
	to phased transition	
IPS Section IV	Staff may move between lending and	Unused
	non-lending shares to manage risk	
IIP Section I	Executive Director may update policies	Unused
	for administrative items	
IIP Section IV	Staff may transition between approved	Unused
	Premier List managers	
IIP Section V	Emergency termination of managers by	Unused
	Executive Director	
IIP Section VIII	Staff may select Money Market	Used . Staff selected Dreyfus
	Funds for cash investments	Treasury Securities Cash Management
		for cash management purposes



Capital Markets Review

- Global capital markets faced existing and emerging headwinds, including the Russian invasion of Ukraine.
- US labor market conditions continued to improve as unemployment fell to 3.6% in Q1 from its level above 14% early in the pandemic.
- Inflationary pressures have led most major central banks to tighten their monetary policies, including the Federal Open Market Committee, which raised interest rates to a range between 0.25% to 0.50%.

Market Performance										
	QTD	1 Year	3 Years	5 Years	10 Years					
S&P 500 (Mkt Cap Wtd)	-4.6	15.6	18.9	16.0	14.6					
Russell 2000	-7.5	-5.8	11.7	9.7	11.0					
MSCI EAFE (Net)	-5.9	1.2	7.8	6.7	6.3					
MSCI Emg Mkts (Net)	-7.0	-11.4	4.9	6.0	3.4					
Bbrg US Agg Bond	-5.9	-4.2	1.7	2.1	2.2					
Bbrg Cmdty (TR)	25.5	49.3	16.1	9.0	-0.7					
NCREIF ODCE (Net)	7.2	27.3	10.3	8.9	9.9					

	Total Fund Performance											
	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Total Fund	-5.1	-5.1	5.3	9.5	8.4	7.2	7.7	13.0	10.8	20.7	-5.9	16.6
Policy Benchmark	-4.8	-4.8	5.6	10.0	8.7	7.3	7.8	14.4	10.9	21.6	-6.8	16.0
Excess Return	-0.3	-0.3	-0.3	-0.5	-0.3	-0.1	-0.1	-1.4	-0.1	-0.9	0.9	0.6

Total Fund Risk Metrics										
	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
Sharpe Ratio	0.6	0.8	0.7	0.7	0.8	1.9	0.6	2.3	-0.9	7.8
Standard Deviation	8.7	11.8	9.7	10.3	8.8	6.7	17.4	7.3	8.3	1.8
Tracking Error	1.5	1.7	1.7	1.7	1.7	1.2	2.0	1.0	1.8	1.0

Asset Class Performance 1 3 Since Inception QTD CYTD Year Years Incep **Total Fund** 5.3 9.5 9.8 06/01/1982 Policy Benchmark -4.8 -4.8 5.6 10.0 N/A Excess Return -0.3 -0.3 N/A -0.3 -0.5 **US Equity** -5.2 -5.2 11.6 15.7 11.1 06/01/1988 **US Equity Benchmark** -5.3 13.6 18.4 11.1 Excess Return 0.1 0.1 -2.0 -2.7 0.0 **Developed Markets Equity** -9.5 -9.5 -0.3 9.7 5.4 01/01/2008 Developed Market Equity Benchmark -48 -48 3.0 8.6 27 -4.7 -4.7 -3.3 Excess Return 1.1 2.7 **Emerging Markets Equity** -10.5 -10.5 -17.6 2.4 1.5 03/01/2008 **Emerging Market Equity Benchmark** -7.0 -11.4 4.9 Excess Return -3.5 -3.5 -6.2 -2.5 -0.7**Real Estate Equity** 1.2 1.2 24.6 11.0 09/01/2004 8.0 Real Estate Equity Benchmark -3.9 **-3.9** 26.4 11.1 9.5 Excess Return 5.1 -0.1 5.1 -1.8 -1.5 Infrastructure Equity 3.0 3.0 17.9 1.7 2.3 01/01/2020 Infrastructure Equity Benchmark 7.3 7.3 15.9 72 49 **-4.3** 2.0 -4.3 Excess Return -5.5 -2.6 **Global Fixed Income** -6.1 -2.0 -6.1 1.4 5.4 02/01/1991 Global Fixed Income Benchmark -6.2 -6.2 -6.4 0.7 5.2 Excess Return 0.1 0.1 4.4 0.7 0.2 -5.2 Asset Allocation **-5.2** 1.2 N/A 11.6 05/01/2020 Multi-Asset Benchmark -5.6 -5.6 1.7 8.5 15.4 Excess Return 0.4 0.4 -0.5 N/A -3.8 Commodities & Other 7.3 7.3 15.5 N/A N/A 07/01/2017 Commodities & Other Benchmark 25.5 49.3 16.1 Excess Return -18.2 -18.2 -33.8 N/A N/A

Performance Commentary

- The Total Fund returned -5.1% net of fees in the first quarter, underperforming the Policy Benchmark which returned -4.8%.
- Commodities & Other was the best performing asset class on an absolute net of fees returning 3.0%. Real Estate Equity had strong relative returns, outpacing its benchmark in Q1.

Asset Alloc	ation vs. Targe	et Allocation	
	Market Value (\$000)	Allocation (%)	Target (%)
US Equity	1,151,397	34.5	33.0
DM Equity	474,601	14.2	15.0
EM Equity	246,560	7.4	8.0
Real Estate Equity	394,750	11.8	10.0
Infrastructure Equity	183,622	5.5	5.0
Global Fixed Income	697,961	20.9	21.0
Asset Allocation	132,722	4.0	5.0
Commodities & Other	40,612	1.2	2.0
Cash & Equivalents	19,410	0.6	1.0
Total Fund	3,341,636	100.0	100.0

	Schedule of Investable Assets						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return		
CYTD	3,538,734,335	-15,066,852	-182,031,797	3,341,635,687	-5.15		



Capital Markets Review As of March 31, 2022

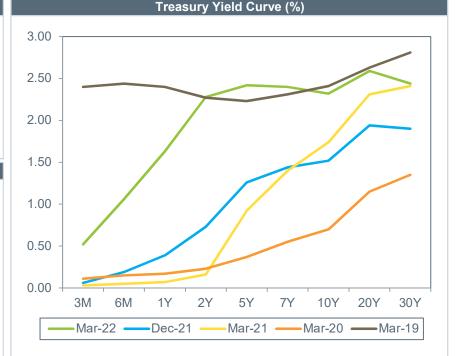
First Quarter Economic Environment

During Q1, investors were left with few options for capital preservation as public equity and fixed income markets fell sharply amid increasing volatility, declining global economic growth forecasts, and rising interest rates. Global capital markets faced existing and emerging headwinds, including the Russian invasion of Ukraine, which was met with condemnation from much of the international community. Existing factors—such as persistent inflation, supply chain disruption, and other issues stemming from the ongoing pandemic—were exacerbated by soaring energy costs and commodity shortages caused by the war. US labor market conditions continued to improve as unemployment fell to 3.6% in Q1 from its level above 14% early in the pandemic. Inflationary pressures have led most major central banks to tighten their monetary policies, including action by the Federal Open Market Committee (FOMC), which raised interest rates to a range between 0.25% to 0.50% during its March meeting in addition to its announced tapering of its bond purchasing program. The FOMC also suggested it will raise interest rates 11 times with a forecasted Fed funds rate of 2.75% by 2023. Even as monetary policies shift, there are factors driving inflation higher that are beyond central bank control, which limits their ability to achieve reduced inflation, including component shortages, transportation disruption, and the inflationary pressures stemming from the war in Ukraine.

ı		Key I	Economic Indi	cators	
	16]	30]	120]	70]	160]
	14 -	25 - 20 -	100 -	60	140 -
	12 -	15 -		50 -	120 -
	10 -	10 -	80 -	40 -	100 -
	8 -	5 - 0 -	60 -	30 -	80 -
	4 -	- 5 -	40	20 -	60 -
	2 -	-10 - -15 -	40 -	10 -	40 -
	0	-20	20	0	20
	Unemployment		US Govt Debt	VIX Index	Consumer
	Rate (%) Since 1948	Year (% change) Since 1914	(% of GDP) Since 1940	(Volatility) Since 1990	Confidence Since 1967
-					

Economic Indicators	Mar-22	Dec-21	Mar-21	Mar-19	20 Yr
Federal Funds Rate (%)	0.33	0.07	0.06	2.43	1.30
Breakeven Infl 5 Yr (%)	3.43	2.91	2.60	1.79	1.86
Breakeven Infl 10 Yr (%)	2.83	2.59	2.37	1.87	2.04
CPI YoY (Headline) (%)	8.5	7.0	2.6	1.9	2.2
Unemployment Rate (%)	3.6 ▼	3.9	6.0	3.8	6.1
Real GDP YoY (%)	3.6 ▼	5.5	0.5	2.2	1.9
PMI - Manufacturing	57.1 ▼	58.8	63.7	54.9	53.5
USD Total Wtd ldx	115.35	115.32	113.86	115.13	103.10
WTI Crude Oil per Barrel (\$)	100.3	75.2	59.2	60.1	64.4
Gold Spot per Oz (\$)	1,937 ▲	1,829	1,708	1,292	1,086
	0.77				

σοια σροι ροι σε (φ)	1,507	1,020	1,700	1,202	1,000
Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	-4.60	-4.60	15.65	15.99	14.64
Russell 2000	-7.53	-7.53	-5.79	9.74	11.04
MSCI EAFE (Net)	-5.91	-5.91	1.16	6.72	6.27
MSCI EAFE SC (Net)	-8.53	-8.53	-3.63	7.42	8.30
MSCI Emg Mkts (Net)	-6.97	-6.97	-11.37	5.98	3.36
Bloomberg US Agg Bond	-5.93	-5.93	-4.15	2.14	2.24
ICE BofAML 3 Mo US T-Bill	0.04	0.04	0.06	1.13	0.63
NCREIF ODCE (Gross)	7.36	7.36	28.45	9.88	10.93
FTSE NAREIT Eq REIT (TR)	-3.89	-3.89	26.45	9.62	9.81
HFRI FOF Comp	-2.72	-2.72	1.24	4.63	3.92
Bloomberg Cmdty (TR)	25.55	25.55	49.25	9.00	-0.70





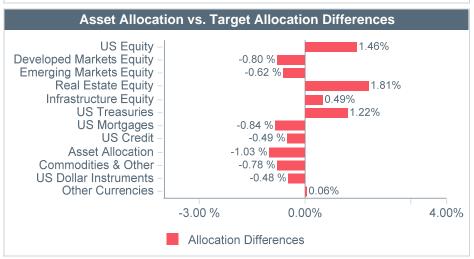
City of Austin Employees' Retirement System

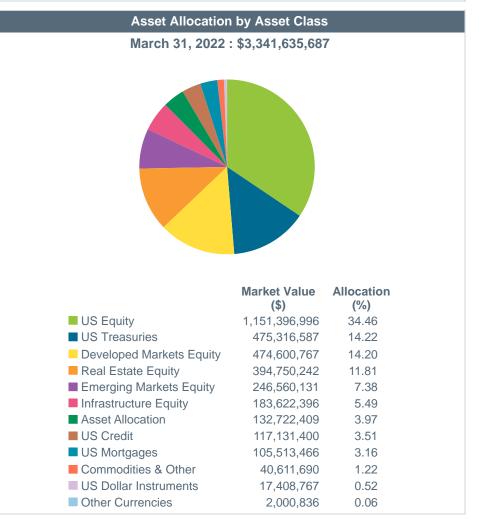
Composite: Total Fund

Asset Alloc. by Asset Class, Asset Alloc. vs. Target, and Schedule of Investable Assets

		Schedule of Inves	table Assets		
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
CYTD	3,538,734,335	-15,066,852	-182,031,797	3,341,635,687	-5.15
1 Year	3,227,606,952	-57,329,021	171,357,756	3,341,635,687	5.29
3 Years	2,661,693,292	-133,810,130	813,752,525	3,341,635,687	9.46

Asset Allocation vs. Target Allocation								
	Market Value (\$)	Allocation (%)	Neutral (%)	Min. (%)	Max. (%)			
Total Fund	3,341,635,687	100.00	100.00	-	-			
US Equity	1,151,396,996	34.46	33.00	28.00	38.00			
Developed Markets Equity	474,600,767	14.20	15.00	12.50	17.50			
Emerging Markets Equity	246,560,131	7.38	8.00	5.50	12.50			
Real Estate Equity	394,750,242	11.81	10.00	7.00	13.00			
Infrastructure Equity	183,622,396	5.49	5.00	1.00	7.00			
US Treasuries	475,316,587	14.22	13.00	11.00	21.00			
US Mortgages	105,513,466	3.16	4.00	3.00	6.00			
US Credit	117,131,400	3.51	4.00	2.50	7.00			
Asset Allocation	132,722,409	3.97	5.00	3.50	7.50			
Commodities & Other	40,611,690	1.22	2.00	1.00	5.00			
US Dollar Instruments	17,408,767	0.52	1.00	0.00	5.00			
Other Currencies	2,000,836	0.06	0.00	0.00	1.00			





Performance shown is net of fees. Allocations shown may not sum up to 100% exactly due to rounding. Performance is annualized for periods greater than one year. Total Fund market value does not include \$868,109.37 in assets remaining at Northern Trust - representing accruals, cash, tax reclaims, and some assets that were restricted from being delivered due to a liquidation or pending corporate action.



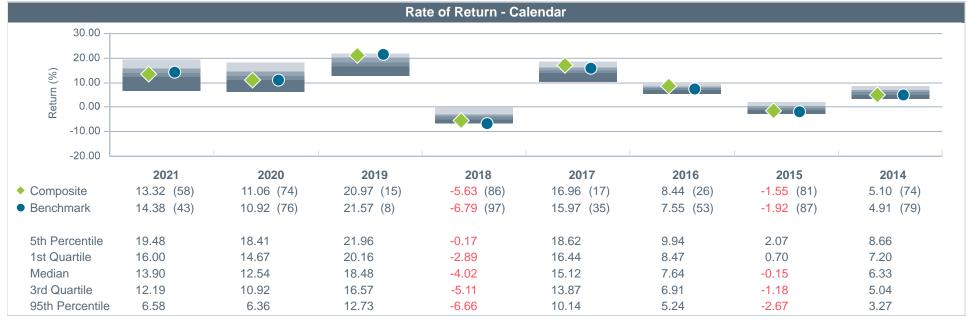
Composite: Total Fund

As of March 31, 2022

Benchmark: Policy Benchmark

Peer Group: All Public Plans - Total Fund



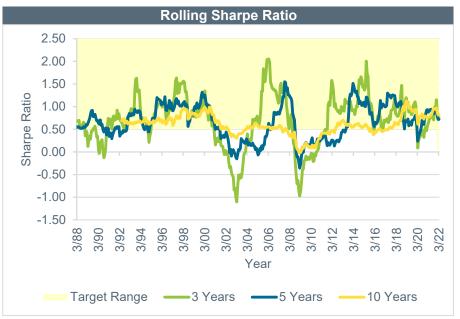


Performance shown is gross of fees and is annualized for periods greater than one year. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.



Composite: Total Fund Rolling Risk Statistics (Net of Fees)









Performance shown is net of fees. Tracking Error and Info Ratio shown are relative to the Passive Benchmark.



Asset Allocation & Performance - Net of Fees

	Allocation					Rate of	Return (%)			
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Total Fund	3,341,635,687	100.00	-5.15	-5.15	5.29	9.46	8.38	7.75	9.78	06/01/1982
Policy Benchmark			-4.76	-4.76	5.56	10.02	8.68	7.81	N/A	
Excess Return			-0.39	-0.39	-0.27	-0.56	-0.30	-0.06	N/A	
Passive Benchmark			-5.64	-5.64	1.72	8.67	7.82	6.53	N/A	
Excess Return			0.49	0.49	3.57	0.79	0.56	1.22	N/A	
Global Equity	1,872,557,894	56.04	-7.06	-7.06	3.74	12.11	10.77	9.73	9.30	06/01/1988
Global Equity Benchmark			-5.47	-5.47	6.30	13.49	11.37	9.95	N/A	
Excess Return			-1.59	-1.59	-2.56	-1.38	-0.60	-0.22	N/A	
US Equity	1,151,396,996	34.46	-5.22	-5.22	11.61	15.73	13.56	12.92	11.07	06/01/1988
US Equity Benchmark			-5.31	-5.31	13.64	18.42	15.50	14.34	11.13	
Excess Return			0.09	0.09	-2.03	-2.69	-1.94	-1.42	-0.06	
Developed Markets Equity	474,600,767	14.20	-9.50	-9.50	-0.32	9.70	8.53	7.41	5.40	01/01/2008
Developed Market Equity Benchmark			-4.81	-4.81	3.04	8.55	7.14	6.25	2.70	
Excess Return			-4.69	-4.69	-3.36	1.15	1.39	1.16	2.70	
Emerging Markets Equity	246,560,131	7.38	-10.51	-10.51	-17.64	2.37	4.40	2.67	1.49	03/01/2008
Emerging Market Equity Benchmark			-6.97	-6.97	-11.37	4.94	5.98	3.36	2.23	
Excess Return			-3.54	-3.54	-6.27	-2.57	-1.58	-0.69	-0.74	
Real Assets	578,372,638	17.31	1.77	1.77	22.40	9.20	7.59	8.93	6.82	09/01/2004
Real Assets Benchmark			-0.16	-0.16	22.99	9.88	8.77	8.94	8.91	
Excess Return			1.93	1.93	-0.59	-0.68	-1.18	-0.01	-2.09	
Real Estate Equity	394,750,242	11.81	1.21	1.21	24.62	11.04	9.87	11.00	7.97	09/01/2004
Real Estate Equity Benchmark			-3.89	-3.89	26.45	11.11	10.50	10.60	9.53	
Excess Return			5.10	5.10	-1.83	-0.07	-0.63	0.40	-1.56	
Infrastructure Equity	183,622,396	5.49	3.01	3.01	17.89	1.74	-1.40	N/A	2.33	01/01/2020
Infrastructure Equity Benchmark			7.27	7.27	15.86	7.16	6.76	6.87	4.91	
Excess Return			-4.26	-4.26	2.03	-5.42	-8.16	N/A	-2.58	



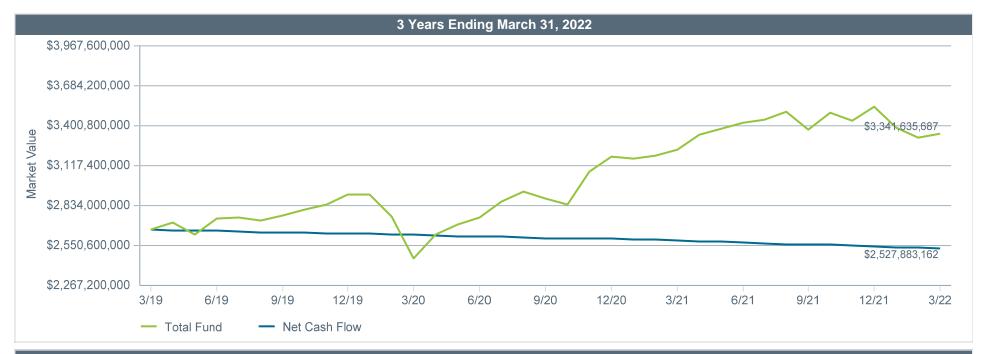
Asset Allocation & Performance - Net of Fees

	Allocatio	Rate of Return (%)								
	Market	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since	Inception Date
Global Fixed Income	Value (\$) 697,961,453	20.89	-6.12	-6.12	-2.00	1.43	2.03	2.26	Incep. 5.40	02/01/1991
Global Fixed Income Benchmark	097,901,433	20.03	-6.16	-6.16	-6.40	0.69	1.43	1.88	5.22	02/01/1991
Excess Return			0.04	0.04	4.40	0.09	0.60	0.38	0.18	
Excess Retuin			0.04	0.04	4.40	0.74	0.00	0.50	0.10	
US Treasuries	475,316,587	14.22	-5.97	-5.97	-0.55	N/A	N/A	N/A	2.68	05/01/2019
US Treasuries Benchmark			-5.58	-5.58	-3.67	1.39	1.76	1.68	1.53	
Excess Return			-0.39	-0.39	3.12	N/A	N/A	N/A	1.15	
US Mortgages	105,513,466	3.16	-4.85	-4.85	-5.44	N/A	N/A	N/A	-0.34	08/01/2019
US Mortgages Benchmark			-4.97	-4.97	-4.92	0.56	1.36	1.70	-0.25	
Excess Return			0.12	0.12	-0.52	N/A	N/A	N/A	-0.09	
US Credit	117,131,400	3.51	-7.83	-7.83	-4.01	N/A	N/A	N/A	2.03	08/01/2019
US Credit Benchmark			-7.42	-7.42	-4.16	2.81	3.18	3.44	1.36	
Excess Return			-0.41	-0.41	0.15	N/A	N/A	N/A	0.67	
Multi-Asset	173,334,098	5.19	-2.53	-2.53	4.82	9.52	8.13	N/A	5.95	02/01/2014
Multi-Asset Benchmark			-5.64	-5.64	1.72	8.51	7.73	6.48	6.27	
Excess Return			3.11	3.11	3.10	1.01	0.40	N/A	-0.32	
Asset Allocation	132,722,409	3.97	-5.19	-5.19	1.15	N/A	N/A	N/A	11.61	05/01/2020
Multi-Asset Benchmark			-5.64	-5.64	1.72	8.51	7.73	6.48	15.43	
Excess Return			0.45	0.45	-0.57	N/A	N/A	N/A	-3.82	
Commodities & Other	40,611,690	1.22	7.31	7.31	15.46	N/A	N/A	N/A	15.46	04/01/2021
Commodities & Other Benchmark			25.55	25.55	49.25	16.12	9.00	-0.70	49.25	
Excess Return			-18.24	-18.24	-33.79	N/A	N/A	N/A	-33.79	
Cash & Equivalents	19,409,603	0.58	0.01	0.01	0.00	0.68	0.99	N/A	1.00	07/01/2017
Cash & Equivalents Benchmark			0.03	0.03	0.06	0.74	1.07	0.59	1.08	
Excess Return			-0.02	-0.02	-0.06	-0.06	-0.08	N/A	-0.08	
US Dollar Instruments	17,408,767	0.52	0.01	0.01	0.00	0.68	0.99	N/A	0.81	09/01/2015
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.87	
Excess Return			-0.02	-0.02	-0.06	-0.06	-0.08	N/A	-0.06	
Other Currencies	2,000,836	0.06	0.04	0.04	N/A	N/A	N/A	N/A	0.04	12/01/2021
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.04	
Excess Return			0.01	0.01	N/A	N/A	N/A	N/A	0.00	

Performance shown is net of fees and is annualized for periods greater than one year. Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark.



Composite: Total Fund Total Fund Asset Growth Summary



	Schedule of Investable Assets - Quarter To Date							
Periods Ending	Beginning Market Value (\$)	Contributions (\$)	Withdrawals (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)		
QTD	3,538,734,335	15,779,389	30,846,240	-15,066,852	-182,031,797	3,341,635,687		

	Schedule of Investable Assets - Year To Date							
Periods Ending	Beginning Market Value (\$)	Contributions (\$)	Withdrawals (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)		
CYTD	3,538,734,335	15,779,389	30,846,240	-15,066,852	-182,031,797	3,341,635,687		

Schedule of Investable Assets - 1 Year							
Periods Ending	Beginning Market Value (\$)	Contributions (\$)	Withdrawals (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	
1 Year	3,227,606,952	882,037,169	939,366,191	-57,329,021	171,357,756	3,341,635,687	

	Schedule of Investable Assets - 3 Years							
Periods Ending	Beginning Market Value (\$)	Contributions (\$)	Withdrawals (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)		
3 Years	2,661,693,292	5,469,600,287	5,603,410,417	-133,810,130	813,752,525	3,341,635,687		

Cash flows shown are net of fees. Net cash flow shown in the line chart represents the beginning market value, adjusted for cash flows. Contributions and withdrawals detail shown includes intra-portfolio cash flows.



Cash Activity - Investment Operations 01 January 2022 - 31 March 2022

DATE	FROM	то	PURPOSE	AMOUNT
BENEFIT PA				T .
	AGINCOURT 1-3M US TREASURIES	COAERS CASH	WITHDRAW TO FUND BENEFITS	\$5,000,000.0
	COAERS CASH	CHASE OPERATING ACCOUNT	TRANSFER TO FUND BENEFITS	(\$5,000,000.0
	AGINCOURT 1-3M US TREASURIES	COAERS CASH	WITHDRAW TO FUND BENEFITS	\$5,000,000.0
02/23/22	COAERS CASH	CHASE OPERATING ACCOUNT	TRANSFER TO FUND BENEFITS	(\$5,000,000.0
03/25/22	AGINCOURT 1-3M US TREASURIES	COAERS CASH	WITHDRAW TO FUND BENEFITS	\$5,000,000.0
03/25/22	COAERS CASH	CHASE OPERATING ACCOUNT	TRANSFER TO FUND BENEFITS	(\$5,000,000.0
SUBTOTA	AL			\$0.00
MANAGEN	MENT FEES			
01/31/22	AGINCOURT 10 YR UST	AGINCOURT 10 YR UST	MANAGEMENT FEE	(\$5,684.8
01/31/22	AGINCOURT 1-3 YR UST	AGINCOURT 1-3 YR UST	MANAGEMENT FEE	(\$12,907.00
01/31/22	AGINCOURT 1-3M US TB	AGINCOURT 1-3M US TB	MANAGEMENT FEE	(\$3,613.54
01/31/22	AGINCOURT 1-5YR USTP	AGINCOURT 1-5YR USTP	MANAGEMENT FEE	(\$6,461.43
01/31/22	AGINCOURT FTSENAREIT	AGINCOURT FTSENAREIT	MANAGEMENT FEE	(\$2,544.12
01/31/22	AGINCOURT PASSIV IND	AGINCOURT PASSIV IND	MANAGEMENT FEE	(\$11,451.13
01/31/22	HOISINGTON MACROECON	HOISINGTON MACROECON	MANAGEMENT FEE	(\$85,788.3
01/31/22	COAERS CASH	NTAM INTL SMALL CAP	MANAGEMENT FEE	(\$7,556.8
02/08/22	PGIM US IG CORP BOND	PGIM US IG CORP BOND	MANAGEMENT FEE	(\$72,082.82
02/28/22	1607 CAPITAL EAFE EQ	1607 CAPITAL EAFE EQ	MANAGEMENT FEE	(\$482,562.00
	DOUBLELINE MBS	DOUBLELINE MBS	MANAGEMENT FEE	(\$55,521.34
	NEWTON IM (DUSE)	MELLON DYNAMIC US EQ	MANAGEMENT FEE	(\$233,169.1
02/28/22	COAERS CASH	MELLON DYNAMIC XUSEQ	MANAGEMENT FEE	(\$27,840.1
	MELLON SCIBETA US DC	MELLON SCIBETA US DC	MANAGEMENT FEE	(\$46,363.4)
	NISA 10 YR UST FUTUR	NISA 10 YR UST FUTUR	MANAGEMENT FEE	(\$5,886.6
02/28/22	NISA 30 YR UST FUTUR	NISA 30 YR UST FUTUR	MANAGEMENT FEE	(\$7,173.30
	NISA FX HEDGED EAFE	NISA FX HEDGED EAFE	MANAGEMENT FEE	(\$1,470.19
	NISA GOLD FUTURES	NISA GOLD FUTURES	MANAGEMENT FEE	(\$5,221.38
	NISA MSCI EAFE FUTUR	NISA MSCI EAFE FUTUR	MANAGEMENT FEE	(\$5,114.4)
	NISA MSCI EM FUTURES	NISA MSCI EM FUTURES	MANAGEMENT FEE	(\$5,012.5
	NISA S&P 500 FUTURES	NISA S&P 500 FUTURES	MANAGEMENT FEE	(\$11,196.6)
	NISA SP 500 INDEX OP	NISA SP 500 INDEX OP	MANAGEMENT FEE	(\$6,065.4)
	SSGA MSCI USA EW IND	SSGA MSCI USA EW IND	MANAGEMENT FEE	(\$11,251.4
02/28/22	COAERS CASH	SSGA MSCI USA SC IND	MANAGEMENT FEE	(\$4,998.54
02/28/22	WALTER SCOTT EAFE EQ	WALTER SCOTT EAFE EQ	MANAGEMENT FEE	(\$241,362.33
	TOBAM MAXDIV USA	TOBAM MAXDIV USA	MANAGEMENT FEE	(\$83,343.0
03/02/22	FIDELITY DJBKF GLINF	FIDELITY DJBKF GLINF	MANAGEMENT FEE MANAGEMENT FEE	(\$21,069.60
03/31/22	FIDELITY US REITS	FIDELITY US REITS	MANAGEMENT FEE MANAGEMENT FEE	(\$31,269.38
03/31/22	LGIMA 5 15 YR US TIP	LGIMA 5 15 YR US TIP	MANAGEMENT FEE	(\$1,735.54
03/31/22	LGIMA INFLATION PLUS	LGIMA INFLATION PLUS	MANAGEMENT FEE MANAGEMENT FEE	(\$19,633.18
03/31/22	COAERS CASH	LGIMA MSCI EM INDEX	MANAGEMENT FEE MANAGEMENT FEE	(\$22,365.20
			MANAGEMENT FEE MANAGEMENT FEE	
	COAERS CASH COAERS CASH	LGIMA MSCI USA INDEX LGIMA S&P 500 INDEX	MANAGEMENT FEE	(\$16,627.79
SUBTOTA	•	EGIMA 3&P 300 INDEX	IVIANAGEIVIENT FEE	(\$1,596.23 (\$1,555,939.10
3051017	**************************************			(91,555,555.10
ALLOCATIO	ON CHANGES			
	COAERS CASH	NISA SP 500 INDEX OP	INCREASE ALLOCATION TO ACCOUNT	(\$700,000.00
SUBTOTA	AL	•		(\$700,000.00
TOTAL EVE	TERNAL TRANSFERS			
BENEFIT PA				(\$15,000,000.00
	MENT FEES			(\$1,555,939.10
TOTAL	-			(\$16,555,939.10

7. Review investment performance including strategy, compliance, and reporting

Presented by David Stafford and RVK

COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 7:

Discuss investment strategy including Investment Risk Framework

AGENDA ITEM OBJECTIVE

The Committee will receive a report from Staff on insights from the IRF related to the Fund's investment strategy.

RELEVANCE TO STRATEGIC PLAN

This item meets **COAERS Strategic Goal 2: Responsibly Manage the Risks of the System**. Maintaining appropriate risk and return expectations is critical to meeting both strategic goals, and failure to do so raises the risk of large drawdowns and the risk of subpar long-term returns for the Fund.

RECOMMENDATION FOR COMMITTEE ACTION

For discussion and informational purposes only, no action required.

BACKGROUND

The Investment Policy Statement (IPS) requires Staff to develop and maintain the Investment Risk Framework (IRF) to determine when deviations from neutral policy weights are expected to be advantageous to the Fund. The IPS requires that the outputs be reported at regular meetings of the IC and more frequently if needed. The IPS empowers Staff to act upon the outputs of the IRF to rebalance the Fund to further the Board's strategic goals. Any such rebalancing is required to be (1) approved by the Executive Director, (2) reported to the Board within one business day, and (3) reviewed with the IC at its next regular meeting.

Staff will review insights from the current Investment Risk Framework (IRF) dashboard to help inform Fund positioning for the current market environment. This review will include discussion of key questions facing the Fund such as strategic positioning, expected returns, and the potential for regime changes.

ATTACHMENTS

- 1. Staff Presentation "Investment Risk Framework Insights" (CONFIDENTIAL)
- 2. IRF Summary Dashboard 2022-05-06 (CONFIDENTIAL)
- 3. Investment Manager Strategy Update (CONFIDENTIAL)

SUPPLEMENTAL MATERIALS PROVIDED VIA CONVENE APP

1. IRF Detailed Dashboard 2022-02 (CONFIDENTIAL)

8. Receive presentation on fixed income asset class and diversification of the Strategic Asset Allocation



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 8:

Receive presentations on fixed income asset class and diversification of the Strategic Asset Allocation

**This agenda item is considered in-house training provided by COAERS, an accredited sponsor of Minimum Educational Training (MET) for purposes of fulfilling the Pension Review Board's MET Program requirements.

AGENDA ITEM OBJECTIVE

The Committee will receive presentations discussing the characteristics of the fixed income universe, including expected portfolio role and risk/return dynamics.

RELEVANCE TO STRATEGIC PLAN

This agenda item in central to **COAERS Strategic Plan Goal 2: Responsibly Manage the Risks of the System**. Pursuing a highly diversified portfolio is a central tenet of the Strategic Asset Allocation process and fixed income securities play a vital role in controlling the expected risk and return levels of the Fund.

RECOMMENDATION FOR COMMITTEE ACTION

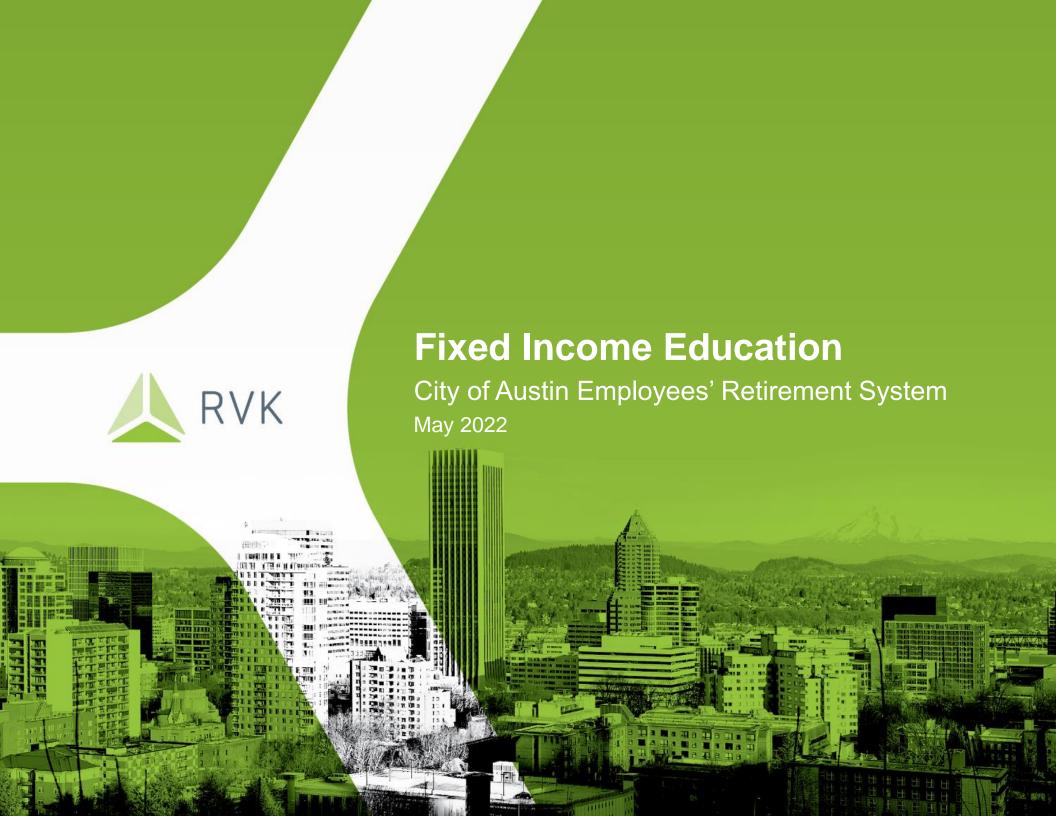
For discussion and informational purposes only, no action required.

BACKGROUND

RVK and Staff will lead a review of the implications of the wide range of fixed income securities which the Fund could invest in. In this discussion, RVK will provide an educational overview of the different types of fixed income securities as well as the current market environment for these strategies. Staff will then present on the effects that current and possible future fixed allocations could have on the level of diversification provided by the Strategic Asset Allocation.

ATTACHMENTS

- 1. RVK Presentation: "Fixed Income Education"
- 2. Staff Presentation: "Diversification of the Strategic Asset Allocation"
- 3. Course evaluation form for continuing education



Fixed Income Education



Fixed Income – Purpose

- The size and structure of a fixed income allocation is closely tied to each investor's goals.
- The primary goals of a traditional fixed income allocation for institutional investors include:



The provision of a predictable and consistent source of **income**, typically at a set targeted level



A reliable source of **liquidity** from which to meet expected near-term and intermediate-term cash needs



Helps **diversify** other portfolio risks (typically equity risk and deflation risk) due to expected **low correlation** with equity-oriented asset classes

The mitigation of concrete losses from asset sales during periods when market or economic stress causes assets with high sensitivity to growth or future earnings levels to depreciate in value

 Metrics such as yield, correlation, and rate of default are often used to measure the likely ability of a fixed income portfolio to meet these goals.



Fixed Income – Challenges

Traditional fixed income portfolios—particularly those more heavily reliant on U.S. Treasury, agency and non-agency MBS, and investment grade corporate exposures—currently face a number of important challenges in accomplishing the traditional goals as outlined on the previous slide.

Key challenges presented by the current market include:

- A low yield environment, which negatively impacts the level of income that traditional portfolios are able to generate
- The expectation of a continued **rise in interest rates**, which is likely to cause ongoing losses across fixed income assets with high levels of interest rate sensitivity, impacting their ability to act as a less volatile source of cash
- The possibility of stagflation, in which a higher correlation between losses in traditional fixed income portfolios and losses in economically sensitive asset classes such as equities could impair fixed income's ability to act as a "shelter" during periods of market and economic volatility



Fixed Income – Solutions

The solutions pursued by institutional investors will depend on the relative priorities of the many respective goals their fixed income allocations are intended to meet.

- Investors prioritizing long-term income may explore the addition of allocations to fixed income assets with higher yields and higher risk of loss from default, such as bank loans, CLOs, high yield bonds or emerging markets debt
- Investors concerned with interest rate sensitivity may consider investments in shorter-duration assets such as securitized credit, or the reallocation of some of their fixed income allocation to other asset types
- Investors with few near-term cash needs and high tolerance for illiquidity may allocate a portion of their fixed income portfolio to private credit assets, in order to both boost income and limit rate sensitivity simultaneously
- Although high quality fixed income is expected to remain a generally effective "safe haven" asset, investors seeking a source of cash during a stagflationary downturn may consider the use of derivatives as a portfolio-level "hedge"



A Review of Fixed Income Risks

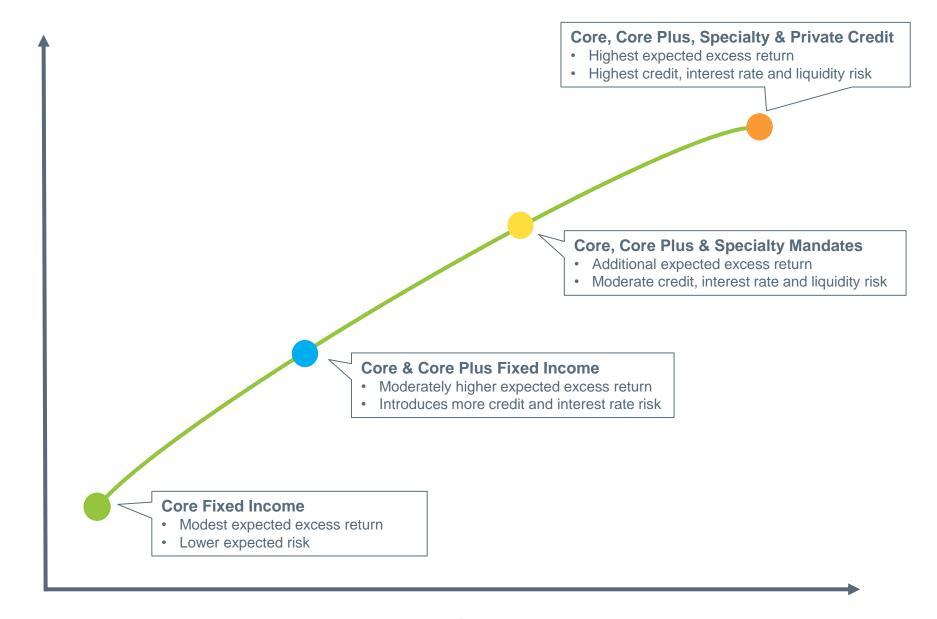
- Interest Rate Risk: How sensitive is the portfolio to interest rate movements?
 - Prices and interest rates are inversely related
 - Duration: measures sensitivity to interest rates, stated in years
 - For example, a fixed income security with a 6 year duration implies that a 1% simultaneous *increase* in interest rates will result in a 6% *decrease* in price
 - All else equal, longer maturity bonds and lower coupon bonds will be more sensitive to interest rates
- Credit Risk: How likely am I to be paid back?
 - Credit risk is assessed based on the borrowers' ability to repay
 - Credit rating agencies evaluate and publish ratings for thousands of corporate and government bond issuers

S&P Ratings					
AAA					
AA Inves	tment				
A gra	ıde				
BBB					
BB					
B	on-				
CCC	tment				
CC					
C gra	ide				
D					

- Liquidity Risk: Can I sell quickly, at an attractive price?
 - Unlike stocks, most bonds do not trade daily
 - Regulations introduced following the 2008 Great Financial Crisis have reduced corporate bond trading activity of large commercial banks



Spectrum of Fixed Income Portfolio Approaches







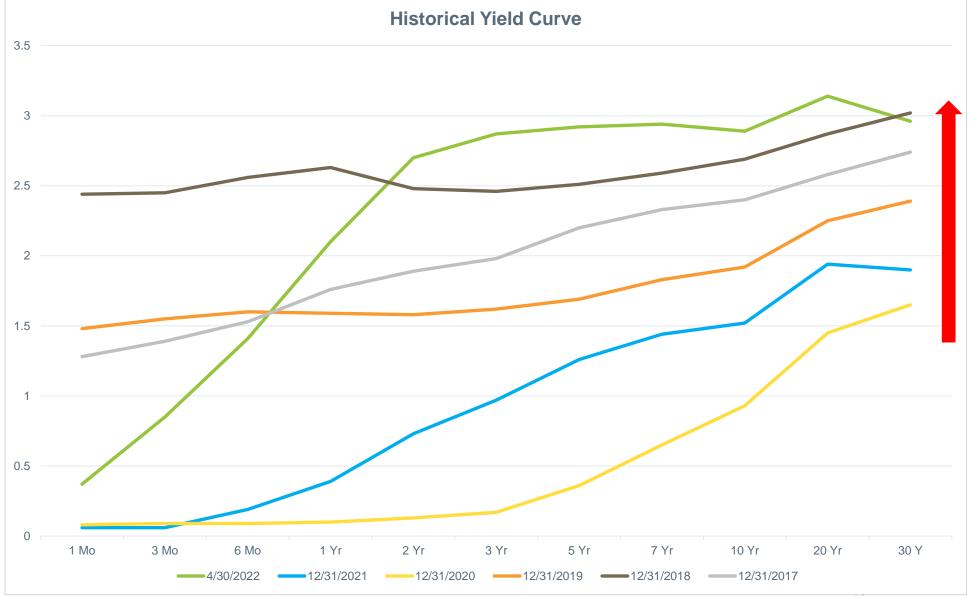
Current State of the Fixed Income Market



Current Fixed Income Environment

Yields

• After years of falling yields, treasury yields have risen in 2022



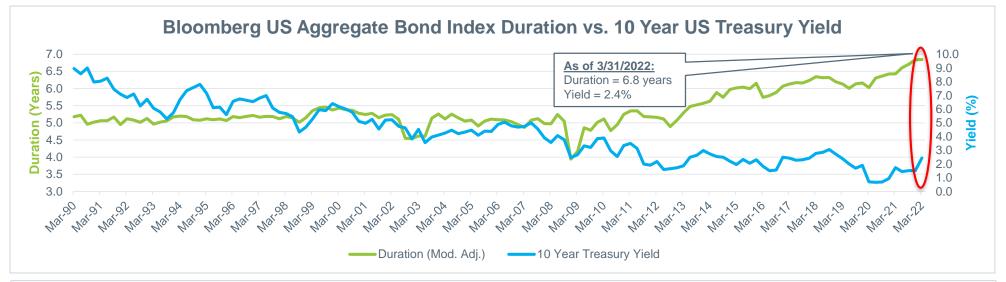
Source: US Dept. of the Treasury.

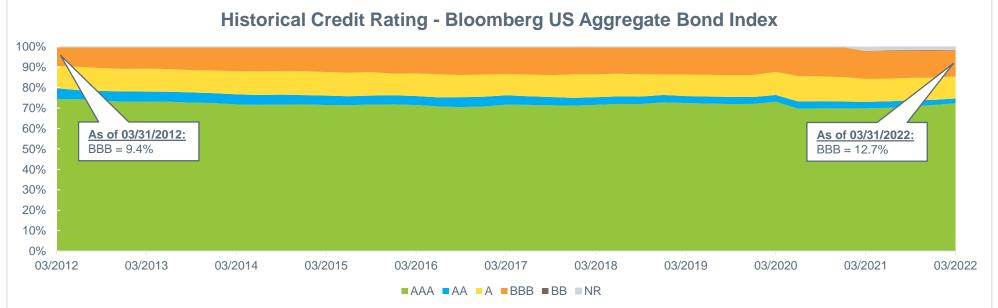


Current Fixed Income Environment

Duration and Quality

Duration has increased, yields have fallen, and the BBB component increased



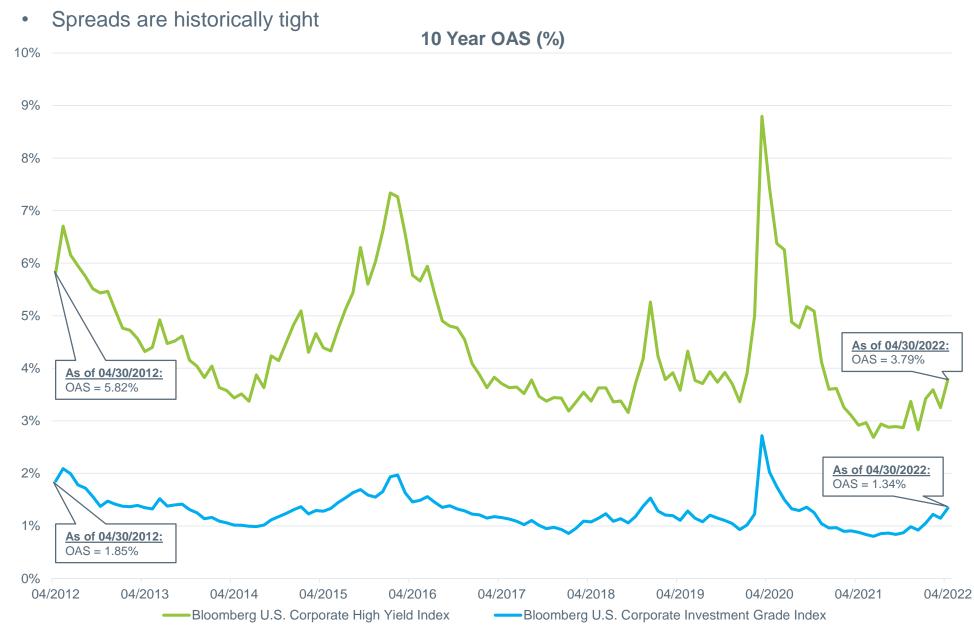


Source: Bloomberg Barclays and US Dept. of the Treasury. All data as of March 31, 2022.



Current Fixed Income Environment

Spreads



Source: Bloomberg Barclays. All data as of April 30, 2022.



Fixed Income Universe – Publicly Traded



The Public Bond Market In Context

The Fixed Income Opportunity Set



U.S. Bond Market Sectors

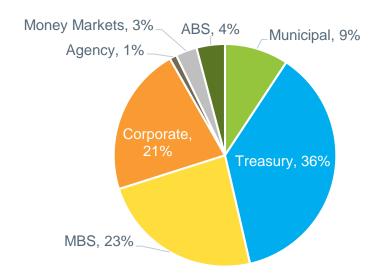


Chart Source: PIMCO



Sectors/Strategies Overview

Core Sectors

Strategy	Strategy Overview/Characteristics	Strategy Benefits	Risks for Consideration
Treasuries	 Issued by the US government Maturities ranging from 1 month to 30 years Referred to as "risk-free" given support from US government Typically issued as fixed-rate instruments Can be issued as TIPS which are linked to inflation 	 Capital preservation Highly liquid Safe haven asset with little to no risk of default Lower correlation to equity markets than many other fixed income asset classes Diversification of equity risk 	 Primary risk is interest rate risk Low current expected return due to depressed yield environment and potential for future rate increases
Agency MBS	 Issues consist of a group of home loans purchased from banks supported by government-sponsored entities (Ginnie Mae, Fannie Mae, Freddie Mac) Fixed rate 	 Backed by US government with extremely low default risk (only Ginnie Mae fully backed by US government) Higher yielding than Treasuries Low volatility Diversification of equity risk Liquid 	Interest rate riskDuration riskPrepayment risk
Investment Grade Corporate	 Issued by corporations (e.g. to fund ongoing capital projects) Typically fixed-rate Some may be issued with covenants which can be recalled by the issuer or converted to common stock 	 Higher yielding than Treasuries Diversification of equity risk Liquid Riskier than Treasuries but still considered lower risk than many other fixed income sectors 	 Default risk Interest rate risk Credit risk Higher correlation to equity markets than some fixed income sectors



Sectors/Strategies Overview

Plus Sectors

Strategy	Strategy Overview/Characteristics	Strategy Benefits	Risks for Consideration
Emerging Market (EM) Debt	 Issued by developing foreign countries and corporations, many of which are denominated in the country's local currency Fixed or floating rate coupons often characterized by unique features Primarily issued by sovereign entities with corporate borrowing directly from banks 	 Fixed Income portfolio diversification Relatively strong long-term economic growth prospects Attractive yields 	 Currency exchange rate fluctuations Geopolitical risks Credit worthiness Liquidity Rising US Treasury yields
High Yield	 Debt issued by sub-investment grade companies Below investment grade bond ratings 	 Fixed Income portfolio diversification Higher expected income relative to core fixed income Less interest rate risk 	DurationHigher volatilityRelatively higher risk of defaultGreater credit risk
Bank Loans	 Short-term loans extended by banks to non investment-grade companies Considered senior secured debt in the borrower's capital structure Credit spread component reflects credit quality and liquidity 	 Fixed Income portfolio diversification Minimal correlation to Barclays Aggregate Index Protect against rising interest rates Floating rate structure provides rate protection 	 Credit risk Shocks to financial markets and loan issuance Call risk
Global Multi-Sector Fixed Income	Ability to invest in various types of fixed income, including global bonds	 Fixed Income portfolio diversification May shield against rising interest rates Additional return opportunities with relatively lower volatility 	 Underlying holdings may exhibit higher correlation with equities Exposed to risks of underlying strategies Greater reliance on manager's skills, resources, and abilities



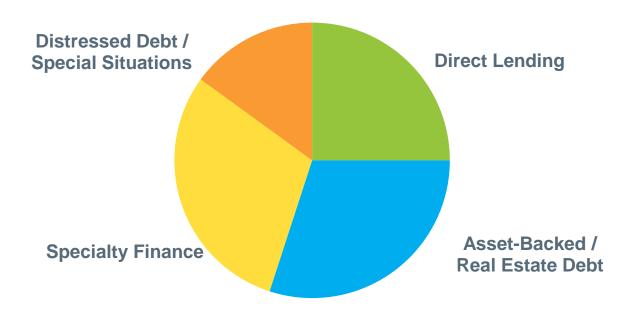
Fixed Income Universe – Private Credit



Private Credit

Introduction

- Since the Global Financial Crisis, the private credit opportunity set has greatly expanded in size, breadth, and complexity.
- Opportunities exist across the private credit landscape, including a variety of sub-strategies and collateral types with additional diversification across return targets, geographies, and use of fund-level leverage.
- For illustrative purposes, the sample allocation below represents one "typical" diversified institutional investor allocation to private credit:





Recent Changes to Regulatory Environment

Dodd-Frank Act:

- Enacted in 2010, the Dodd-Frank act targets banks, mortgage lenders, and credit rating agencies and was enacted as a direct response to the Global Financial Crisis in 2007 & 2008, establishing widespread financial system reforms.
- Primary provisions include limits on banks' speculative and proprietary trading, enhanced monitoring of financial institutions, prevention of predatory mortgage lending, and establishing reliable credit ratings. Congress rolled back some provisions in 2018, but most provisions remain in place today.

US Basel III:

- Originally scheduled to be introduced in 2013 but delayed to 2023, the Basel Accords focus on ensuring that banks have an adequate cushion of capital to support their operations in the event of an unexpected or severe market downturn.
- The key provision of Basel III indicates that banks must have an equal or greater percentage of regulatory capital than risk-weighted assets and is comprised of the three pillars below:
 - Pillar I: Quantifying risk (operational and market related) and minimum capital requirements
 - Pillar II: Supervisory review to address risks not covered in the first pillar (legal, liquidity, concentration, systemic, strategic, and reputational risk)
 - Pillar III: Encourages market discipline by setting minimum disclosure standards

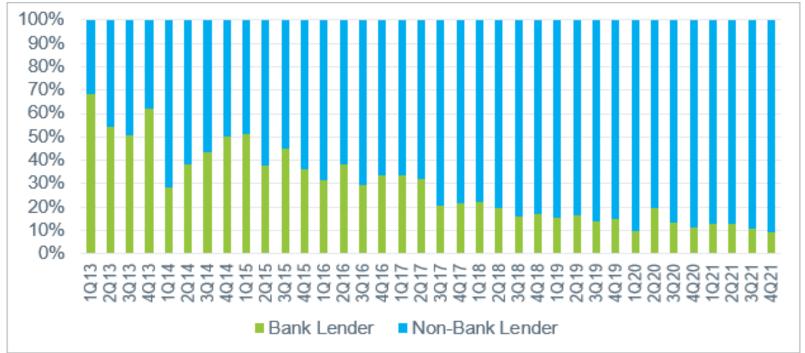


Current Regulatory Environment

Outcomes on Lending:

- Recent regulation has primarily served to limit client-facing financing institutions from lending capital at rates seen prior to the Global Financial Crisis.
- As illustrated below, banks have lost significant market share relating to middle market lending.
 As of 12/31/2021, Non-bank lenders (Private Credit) accounted for approximately 90% of all middle market lending.





Source: Refinitiv LPC, RVK. Data derived from private data submissions to LPC's private database from 1/1/2013 to 12/31/2021 and represents sponsor-backed deals.



Private Credit Education

Definition and Characteristics

Private credit refers to debt financing provided by non-bank institutions that are not traded on the public market.

Characteristics

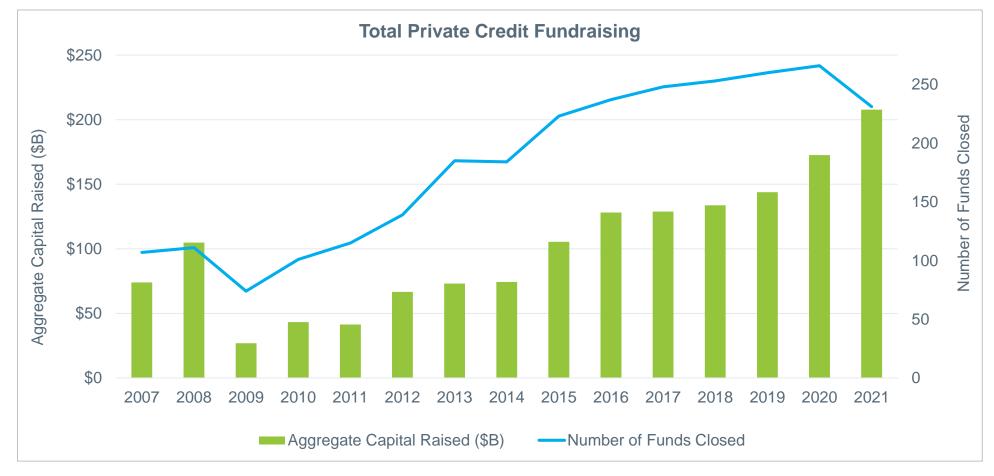
- Investments span a wide range of substrategies and collateral types
- > High current income component
- Limited dependence on capital gains through price appreciation
- Limited liquidity
- Less efficient, more complex opportunity set than public fixed income

- More defensive profile than public fixed income driven by stronger lender protections
- Bespoke investment structures are typical
- Lower levels of risk and return than private equity
- ➤ Higher fees than public fixed income, lower fees than private equity

Sub-strategies include direct lending, asset-backed debt, real estate debt, specialty finance, special situations, and distressed debt, among several other private credit sub-strategies.



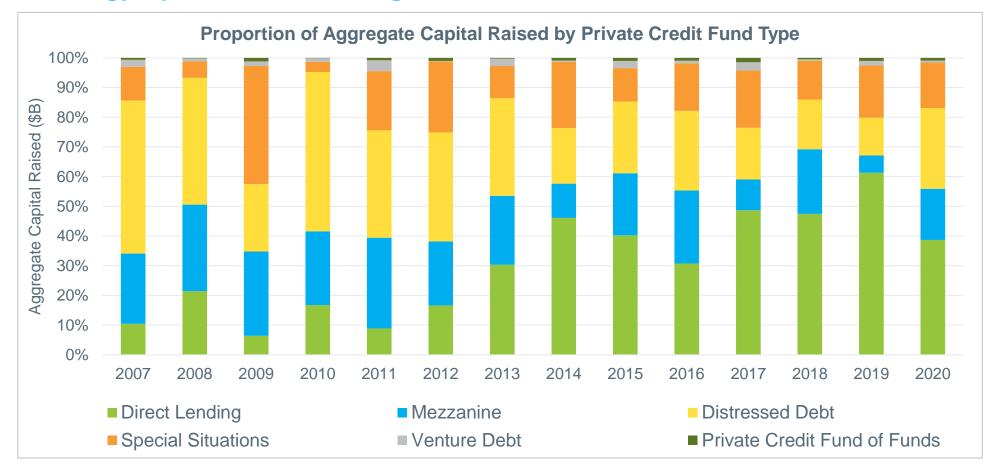
Fundraising



- The size of the private credit asset class has enjoyed consistent growth in recent years as a
 greater number of investors seek the benefits found in private credit, such as high risk-adjusted
 yield, low market sensitivity, and meaningful portfolio diversification.
- Since the Global Financial Crisis, fundraising has been robust, leading to overcrowding, compressed yields, and lower investor protections within many private credit strategies.



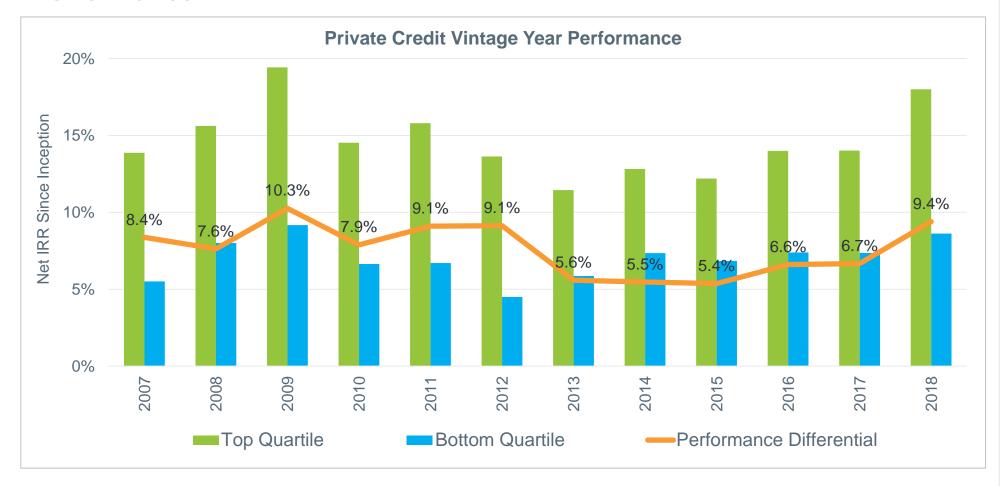
Strategy Specific Fundraising



• Direct Lending continues to be the dominant strategy within Private Credit, as approximately half of the capital raised since 2017 has been committed to Direct Lending managers.



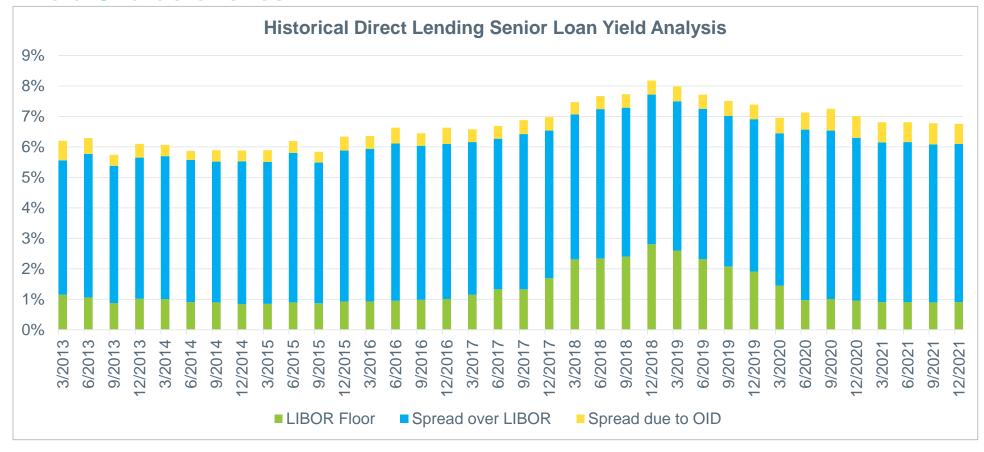
Performance



- Private credit median performance has been approximately 9% to 11% net IRR since 2007.
- Manager selection within private credit is essential, as the spread between the top and bottom performing private credit funds is significant, with an average differential of approximately 7.6% since 2007.



Yield Characteristics



- Investors in private credit can generally expect an increased yield compared to their public fixed income portfolios, as private middle-market loans often provide a yield premium of 1% to 3% over securities of comparable credit quality in public fixed income markets.
- Senior loans in the direct lending market have historically offered lenders consistent all-in yields of between 6% and 8%, with an average yield of 6.7% since 2013.



Private Credit Education

Benefits and Risks

Benefits

- High and stable cash yields
- Superior risk-adjusted returns vs public fixed income
- Defensive profile with greater lender protections compared to public fixed income
- Bespoke investments are typical
- Low to moderate correlation to other asset classes
- Wide variety of sub-strategies and collateral types
- Diversification available across risk and return targets, geographies, and use of fund-level leverage
- Portfolios can be tailored to meet investors' specific risk/return needs and objectives

Risks

- Long-term, illiquid fund structures
- Lower return potential than some other alternative strategies like private equity
- Occasional use of fund-level leverage
- Higher fees than public fixed income
- Recent record fundraising has driven increased competition
- Managers within over-crowded substrategies have recently become "pricetakers"
- In some congested markets, lender protections have weakened

Private Credit offers investors portfolio-level diversification and a high risk-adjusted yield with limited dependence on asset price appreciation.



Private Credit Education

Asset Class Comparison

Benefits of Private Credit:

- ✓ Superior risk-adjusted returns due to a less efficient investment space than more liquid, widely traded, and well-understood asset classes, such as public fixed income.
- ✓ Features a heavy income component with limited dependence on asset price appreciation.
- ✓ Typically includes greater lender protections, indicating a more defensive profile.

Drawbacks of Private Credit:

- Illiquid fund structures with investor's capital locked-up for 4-8 years.
- Higher fees than public fixed income as a result of added asset class complexity.
- Lower levels of long-term return vs. higher-risk asset classes, such as private equity.

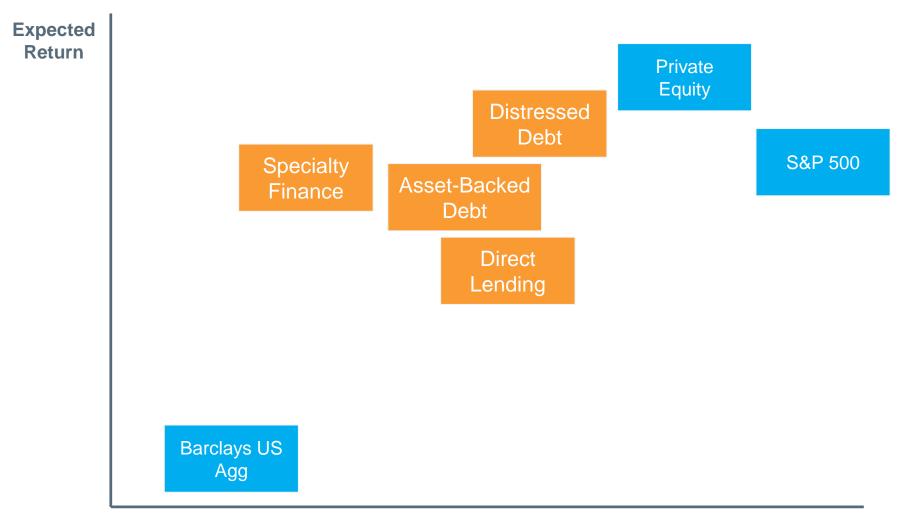
	Public Fixed Income	Private Credit	Private Equity	
Target Net Return	3-6%	6-14%	10-18%	
Fund Life	Evergreen	4-8 Years	10-12 Years	
Liquidity	Daily	None	None	
Income Distributions	Monthly	Quarterly	None	
Management Fee	0.25% - 0.75%	0.75% - 1.75%	2%	
Incentive Fee	None	15% - 20% over a 6% - 8% Hurdle	20% over an 8% Hurdle	
J-Curve	None	Moderate	Drastic	



Spectrum of Private Credit

Sub-Asset Class Return & Correlation Spectrum

Private Credit offers a variety of risk, return, and correlation profiles depending on the sub-strategy and collateral type.



Correlation to Public Equity Markets



Appendix: Differentiated Approaches to Fixed Income



Securitized Credit

Securitized credit strategies are strategies that invest in tradeable credit securities collateralized by large and diverse pools of loans. Collateral packages may include residential and commercial mortgages, credit card receivables and other asset-backed securities, and often tilt toward consumer loans of various types.

- <u>Strengths</u> of this asset class include a generally low duration, diverse sources of risk relative to most fixed income portfolios (consumer risk vs. corporate risk), higher yield, and less efficient pricing than is generally seen in core bonds, allowing for more value to be added by skilled managers.
- <u>Weaknesses</u> include a higher overall risk of loss from default relative to core bonds, a higher level of volatility, and periods of lower liquidity such as March of 2020, when technical market forces froze parts of the securitized credit space.

Sample Metrics - Securitized Credit Offering

Yield to

	Quartiles	Maturity	Current Yield	Annualized Return	Deviation	Duration		
	5 th	7.17%	5.30%	7.32	1.55	5.59		
Peer Group: eV	25 th	4.66%	3.79%	5.27	3.53	2.99		
Securitized Non-Traditional	Median	3.34%	3.17%	4.54	5.29	1.95		
	75 th	2.49%	2.48%	3.85	7.06	0.78		
	95th	1.36%	1.68%	2.86	10.65	0.11		
Comple Strategies	Manager	Yield to Maturity	Current Yield	5Y Annualized Return	5Y Standard Deviation	Effective Duration	5Y Correlatio n to S&P 500	Average Credit Quality
Sample Strategies	Strategy 1	5.30%	1.69%	5.55	5.18	0.44	0.51	BB
	Strategy 2	3.27%	1.27%	5.17	3.49	1.08	0.44	BBB

5Y Standard

Effective

A RVK

Emerging Markets Debt

- Emerging markets debt strategies invest in bonds issued by countries with developing economies such as Latin America, Eastern Europe, Middle East, Africa, and certain regions in Asia. The type of issuers can include sovereign, quasi-sovereign, or corporate entities. Although many bonds are issued in the "local" currency of the country of domicile, others may be issued in US dollars or other "hard" currencies of developed countries.
- <u>Strengths</u> of this asset class include diversification to US markets and many traditional asset classes, and a yield advantage over developed markets, often without sacrificing quality.
- <u>Weaknesses</u> include risk due to political or economic instability, lower liquidity, weaker corporate governance, and higher default rates compared to otherwise equivalent developed markets securities. Investing in local currency debt also has foreign exchange rate risk due to currency fluctuations.

Sample Metrics - Emerging Markets Debt Offering

Yield to	5Y Annualized	5Y Standard	5Y Correlation	Effective	Average Credit
Maturity	Return	Deviation	to S&P 500	Duration	Quality
6.64	1.95	9.33	0.62	7.52	BB+

Source: JPMorgan EMBI Global Diversified Index as of February 28, 2022.



Leveraged Loans

Also known as "senior secured loans" or "bank loans," leveraged loans are debt obligations of below investment-grade companies with a floating interest rate that resets every 30 to 90 days. They are normally secured by assets such as inventories, real estate, equipment, etc.

- <u>Strengths</u> of this asset class include very low duration (~0.25 years) as the yield resets periodically, higher yield, and seniority to bonds and equity in the capital structure, which can lead to higher recoveries in the event of default. They may also contain covenants which require an issuer to maintain certain financial ratios or control cash flows.
- <u>Weaknesses</u> include a higher risk of loss from default, higher volatility, lower liquidity, and longer settlement times. In addition, leveraged loans have limited potential for appreciation as most are callable at par, allowing borrowers to retire or refinance loans at virtually any time.

Sample Metrics – Leveraged Loan Offering

Current Yield	5Y Annualized	5Y Standard	5Y Correlation	Effective	Average Credit
	Return	Deviation	to S&P 500	Duration	Quality
4.17	4.06	6.73	0.65	0.25	B+

Source: Credit Suisse Leveraged Loan Index as of February 28, 2022.



High Yield Bonds

High yield (or "junk") bonds are debt obligations issued by companies rated below investment grade (i.e., BB+ or lower). The lower rating is indicative of the increased risk of default and consequently commands higher yields by investors. Issuers tend to include startup companies or firms with high debt ratios.

- <u>Strengths</u> of this asset class include a lower duration than core bonds, yield advantage over investment grade credit, and less efficient pricing, allowing for more value to be added by skilled managers. High yield bonds can potentially be upgraded to investment grade by rating agencies ("rising stars"), creating an opportunity for significant price appreciation.
- <u>Weaknesses</u> include a higher risk of loss from default, higher volatility, periods of significant illiquidity, and higher correlation to equity markets which can lead to substantial losses during market downturns.

Sample Metrics – High Yield Bond Offering

Yield to Worst	5Y Annualized	5Y Standard	5Y Correlation	Effective	Average Credit
	Return	Deviation	to S&P 500	Duration	Quality
5.62	4.88	7.45	0.79	4.03	B+

Source: Bloomberg US High Yield Index as of February 28, 2022.



Opportunistic Credit

Opportunistic credit strategies have high latitude to invest across credit sectors and can vary greatly in their opportunity set, allowing for investments such as high yield, leveraged loans, structured products, and emerging markets debt, among others. Some strategies may even allow for a limited allocation to private credit.

- <u>Strengths</u> of this asset class include diverse sources of risk among various types of credit, higher yield, and lower correlation to other fixed income strategies. The added flexibility also allows a skilled manager to capitalize on market dislocations or take advantage of mispriced or misunderstood credit types.
- <u>Weaknesses</u> include higher risk of loss from default, higher volatility, and lower liquidity. In addition, because managers have flexibility to shift between credit types, there is a risk of allocating to underperforming sectors or failing to capture superior market opportunities.

Sample Metrics – Opportunistic Credit

Annualized

3.77%

Current Yield

2.41%

Maturity Deviation Return 5th 7.55% 6.35% 8.16% 4.46 Peer Group: eV 25th 5.21% 4.98% 6.29% 6.10 **Multi-Asset** Median 4.26% 4.30% 5.73% 7.32 Credit 75th 3.46% 3.55% 4.82% 7.94

Yield to

2.00%

Sample Strategy

Manager	Yield to Maturity	Current Yield	5Y Annualized Return	5Y Standard Deviation	Effective Duration	5Y Correlatio n to S&P 500	Average Credit Quality
Strategy 1	3.87%	4.15%	6.53%	5.94	3.49	0.71	BB

5Y Standard

10.98

Effective

Duration

5.55

3.55

2.41

1.56

0.35



Quartiles

95th

Private Credit

- Private Credit strategies are strategies focused on non-tradeable credit instruments, such as directly originated private loans.
- <u>Strengths</u> of this asset class include high income levels due to the presence of an illiquidity premium in most private credit markets, a lower level of default compared to below investment grade public fixed income options such as high yield bonds, reduced volatility due to a lack of sensitivity to technical or trading-driven price movements, and the presence of stronger lender protections due to high and growing levels of borrower demand.
- <u>Weaknesses</u> include an extremely low level of liquidity, potential volatility from an evolving regulatory system, and lower overall levels of capital efficiency for highly regulated investors such as insurance institutions.



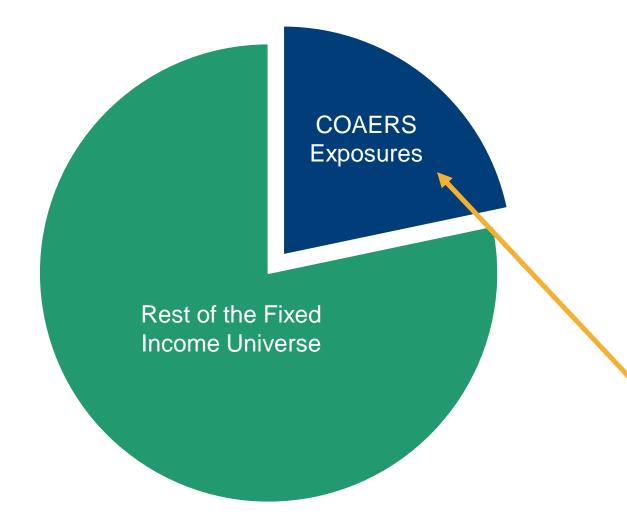
PORTLAND BOISE CHICAGO NEW YORK

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COAERS Fixed Income Structure

Estimated Bond Market Breakdown



- The Strategic Asset Allocation currently has fixed income implemented within three subasset classes – US Treasuries, US Mortgage-Backed Securities (MBS), and US Investment Grade Credit
- Implementation is currently all through public markets and investment grade securities, a small sliver of the total investable universe

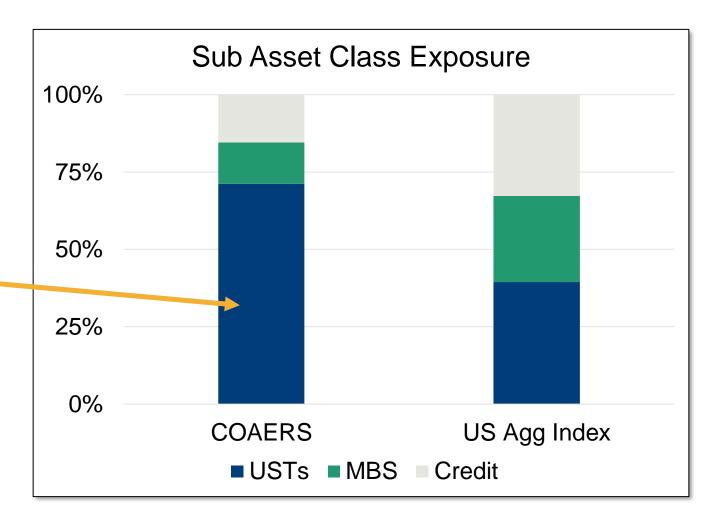
Of the estimated \$100 trillion+ bond market, the Fund only has exposure to approximately **22%** of the available universe through these sub-asset classes

COMERS

Portfolio Role for Fixed Income

- As currently constructed, primary roles for the fixed income portfolio include a hedge against equity risk (i.e. negative correlations) through larger allocations to US Treasuries and a source of liquidity
- Smaller exposure to corporate credit risk is picked up through allocations to public markets investment grade credit, though spreads are small

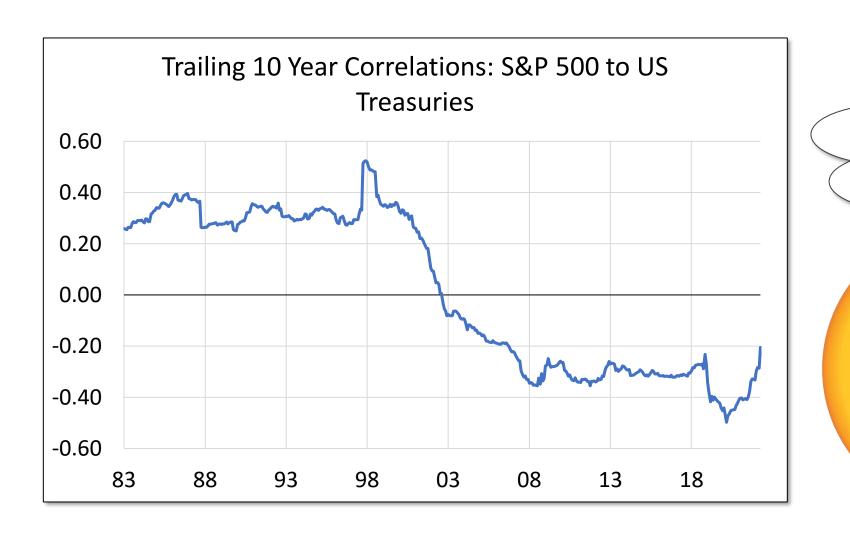
On top of having a larger allocation to USTs, the Fund also owns longer duration USTs which provide a better crisis hedge during deflationary shocks





Risks of the COAERS Fixed Income Portfolio

- Given the size of Fixed Income as a dedicated asset class, the portfolio has been constructed to be very "hedgy" to equities which involves incurring more interest rate risk
- A key assumption of this approach is that correlations between stocks and bonds stay negative, which hasn't always been the case as seen over long periods of time prior to the year 2002



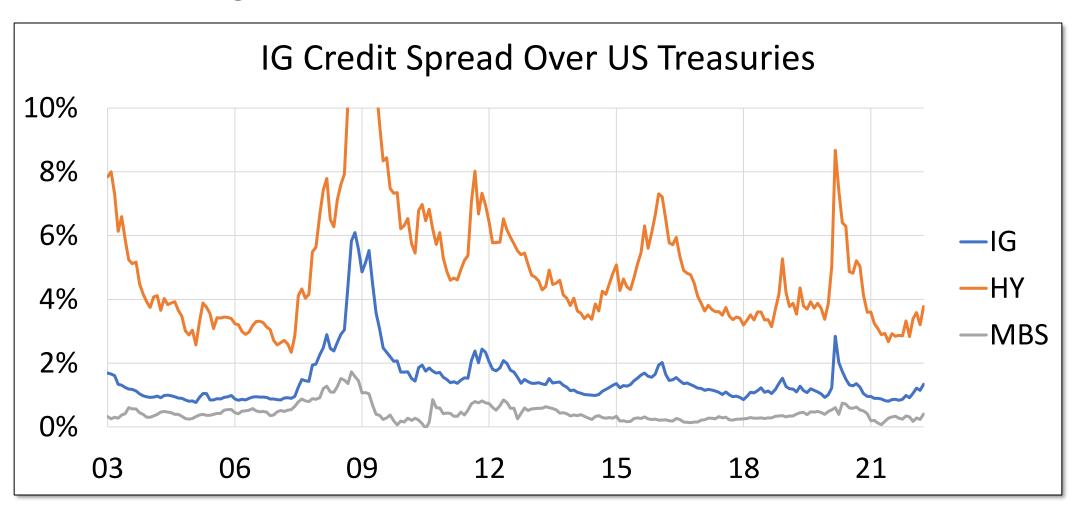
What might be some other ways to diversify the risk/return profile of the Fund?



Talking Spreads

- Public market spreads to USTs represent the additional yield for taking on credit risk and currently provide only marginal incremental returns for investment grade bonds
- These credit spreads are largely priced based on corporate credit risk and the Fund has much less exposure to other types of credit risk including consumer credit and asset backed securities

Gaining exposure to differentiated credit risk would likely require allocations to below investment grade bonds or private credit





Other Ways to Diversify the Fund using Fixed Income

- In addition to an outright hedge against equity risk, it may be prudent to consider broadening the range of allowable fixed income securities which could provide a diversified source of returns for the Fund
- Most capital market assumptions (CMAs) suggest that many of the higher returning fixed income strategies are expected to have strong risk adjusted returns, particularly relative to public equities

Select RVK 2022 CMAs	Return	Risk	Return/Risk
Global Equity	7.1%	16.6%	0.42
US Equity	6.1%	16.1%	0.38
DM Equity	7.5%	17.0%	0.44
EM Equity	10.0%	25.0%	0.40
US Agg Fixed Income	2.0%	5.0%	0.40
High Yield	4.8%	10.0%	0.48
Bank Loans	4.8%	8.0%	0.59
Private Credit	6.8%	13.0%	0.52

Filling a different portfolio role, these strategies could serve as a complement to the "growth-oriented" equity exposures of the Fund



Expectations in Private Markets

- Private credit strategies should be expected to exhibit positive correlations to equity markets and may be a way to more steadily increase asset values as most returns are income driven
- Carefully constructing a portfolio of these investments could provide a wide array of favorable outcomes for the Fund as suggested by the range of expected returns of 5-20%

Fund Strategy	Description	Target Return (Net IRR)
Direct Lending	Private loans to stable corporate borrowers which are backed by borrower cash flows	5 – 13%
Asset-Backed / Real Estate Debt	Private loans to established borrowers which are backed by assets such as pools of receivables, royalty streams, inventory, or real estate	8 – 13%
Specialty Finance	Niche investments where targeted borrowers, loan structures, or collateral packages have atypical features.	10 – 15%
Distressed Debt / Special Situations	Debt investments in unstable borrowers, where companies may not be expected to persist as going concerns or expect an upcoming event	12 – 20%



Considering Total Fund Liquidity

- Fixed income as currently constructed provides excellent source of liquidity for the Fund, though overall the Fund may have excess liquidity
- It may be prudent to increase levels of illiquidity elsewhere in the Fund should higher levels of returns or better diversification be available

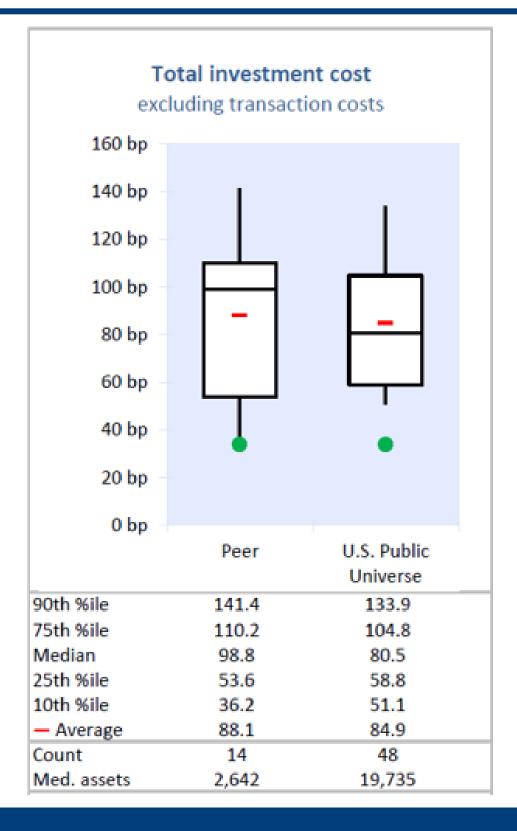
Liquidity:	\$ millions	% of Fund	Accounts Included
0 - 5 Days	2,508	75%	All except those listed below
5-30 Days	562	17%	1607, PGIM, DoubleLine, Fidelity, Agincourt
30+ Days	272	8%	Principal, IFM
			-

As reported in the compliance dashboard, the Fund is highly liquid and could bear additional illiquidity if managed prudently and intentionally with possible updates to policy regarding appropriate levels



Prudently Controlling Investment Manager Fees

- These differentiated strategies tend to have higher costs that should be weighed against diversification and returns benefits to the Fund on a net of fees basis
- Overall, the Fund is very low-cost and recent benchmarking data suggest that even a 2X increase in costs for the Fund would still place it below the peer median alongside best-in-class transparency





Strategic Asset Allocation Defined by Asset Classes

- As currently constructed, clearly defined asset classes and portfolio roles for fixed income are appropriate alongside other diversifying strategies
- Shifting the SAA process towards a "functionally focused portfolio" could result in less focus on asset classes and a larger focus on role in the total portfolio context
- As such, possible inclusion these types of strategies could fit in well alongside other growth-oriented assets or even in multi-asset

		Asset Class/Sub-Ass	set Class I	Policy We	eights & R	ebalancin	g Ranges
		Asset Class	Min ^S	Min ^T	Neutral	Max ^T	Max ^S
-	GI	obal Equity	46.0%	51.0%	56.0%	61.0%	66.0%
Growth-Oriented Assets		US Equity	22.0 %	29.0 %	34.0 %	39.0 %	47.0 %
rier ts	DM Equity		11.0 %	13.5 %	16.0 %	18.5 %	20.0 %
vth-Orie Assets		EM Equity	2.0 %	4.0 %	6.0 %	10.5 %	13.0 %
Mth As	Real Assets		10.0%	11.0%	15.0%	19.0%	20.0%
ō.		Real Estate Equity	5.0%	7.0%	10.0%	13.0%	15.0%
O		Infrastructure Equity	0.0%	1.0%	5.0%	7.0%	10.0%
Ø	Fi	xed Income	16.0%	18.0%	21.0%	27.0%	33.0%
Assets	US Treasuries		9.0%	11.0%	13.0%	21.0%	25.0%
As		US Mortgages	2.0%	3.0%	4.0%	6.0%	8.0%
		US Credit	1.0%	2.5%	4.0%	7.0%	10.0%
į	M	ulti-Asset	2.5%	4.5%	7.0%	12.5%	15.0%
S.		Asset Allocation	2.5%	3.5%	5.0%	7.5%	10.0%
& Diversifying		Commodities & Other	0.0%	1.0%	2.0%	5.0%	10.0%
	Ca	ash & Equivalents	-10.0%	-5.0%	1.0%	5.0%	10.0%
Liquidity	US Dollar instruments		-10.0%	-5.0%	1.0%	5.0%	10.0%
		Other currencies	0.0%	0.0%	0.0%	1.0%	2.0%

T: Tactical Rebalancing Range S: Strategic R

S: Strategic Rebalancing Range



Broadening the Range of Fixed Income Instruments

- Currently, the IIP is very prescriptive on the types of allowable fixed income securities to include those that are likely to be effective equity hedges and doesn't contemplate well a more nuanced approach
- Using a principles-based approach to fixed income portfolio guidelines which is less prescriptive could be an effective approach to successfully managing to desired portfolio roles

Fixed income securities shall not be rated lower than investment grade (Baa3 by Moody's or BBB- by Standard & Poor's or Fitch) by any of the three designated rating agencies unless authorization is granted to a Manager by the Board or the mandate provided to a Manager specifies otherwise. Split-rated securities in which the middle rating is below investment grade shall not comprise more than 5% of the market value of any Manager's Portfolio unless specific authority has been granted.

The issues of individual entities rated AAA to Aa3 (Moody's) or AA- (S&P, Fitch) may have a 7% position at market value. Issues of individual entities rated below Aa3 (Moody's) or AA- (S&P, Fitch) may have a 3% position at market value.

COMERS

Next Steps

- As Trustees consider the role of the investment program in contributing to the overall funding equation for the System, Staff will plan to incorporate these and other concepts into their analysis:
 - Functionally focused portfolio in the Strategic Asset Allocation process
 - Appropriate range of fixed income securities
 - Total Fund liquidity guidelines
 - Principles based portfolio guidelines
 - Additional diligence within these differentiated strategies to avoid pitfalls of traditional programs







Minimum Required Educational Training (MET)

Course Name: Fixed Income asset class and diversification of the SAA

You have completed a Minimum Educational Training (MET) program offered by the City of Austin Employees' Retirement System (COAERS), a Pension Review Board accredited sponsor. All accredited sponsors must provide participants a process for evaluating the quality of the course.

Course Objectives:

The objective of this course was to examine a wide range of fixed income sub asset classes and their expected risk and return profiles.

Evaluation:

Please take some time to provide a rating on the items below. You may also leave any additional comments that you think may be helpful for future courses.

Please provide a rating on these items	l strongly agree	l agre e	I disagre e	I strongly disagree
1. These course objectives were met.	0	0	0	0
2. The facilities and technology were satisfactory.	0	0	0	0
3. The instructor was effective.	0	0	0	0
4. The program content was relevant and up-to-date.	0	0	0	0

Additional Comments:

Thank you for your feedback.

- 9. Discuss and consider investment implementation including:
- A. Premier List for Fixed Income
- B. Premier List for Cash and Equivalents

Presented by Ty Sorrel



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 9:

Discuss and consider investment implementation including

- A. Premier List for Fixed Income
- B. Premier List for Cash & Equivalents

AGENDA ITEM OBJECTIVE

The Committee will conduct the required quarterly review of the implementation of the System's investment strategies and the status of System's funded investment managers.

RELEVANCE TO STRATEGIC PLAN

This agenda item is part of the core competency set forth in the **COAERS Strategic Plan** "Prudent Investment Management: Fulfilling fiduciary duty through monitoring performance within adopted process and stated goals." Committee review of the implementation of the investment program ensures that Trustees monitor the performance of the portfolio.

RECOMMENDATION FOR COMMITTEE ACTION

Staff recommends that the Committee refer to the Board for approval proposed changes to the Fixed Income and Cash & Equivalents Premier Lists.

BACKGROUND

The Investment Implementation Policy (IIP) requires Staff to develop and maintain a Premier List of viable managers for potential inclusion within each allocation of the Fund. The IIP also requires the Premier List for each asset class to be reviewed with the Board via the Investment Committee on an annual basis.

Staff will lead the required annual review of the current construction and composition of the Fixed Income and Cash & Equivalents allocations, including the associated Premier Lists.

ATTACHMENTS

- 1. Investment Implementation Update 2022-Q1 [CONFIDENTIAL]
- 2. Investment Manager Monitoring Report 2022-Q1 [CONFIDENTIAL]
- 3. Investment Implementation Dashboard 2022-Q1
- 4. Investment Manager Fees by Quarter 2022-Q1
- 5. RVK Summary of Manager Performance 2022-Q1
- 6. Current COAERS Premier Lists 2022-Q1 [CONFIDENTIAL]
- 7. Staff Presentation "Annual Review of Cash & Equivalents" [CONFIDENTIAL]
- 8. Staff Presentation "Annual Review of Fixed Income" [CONFIDENTIAL]



COMMITTEE MEETING Agenda Item Information Sheet

9. Proposed COAERS Premier List [CONFIDENTIAL]

SUPPLEMENTAL INFORMATION PROVIDED VIA CONVENE APP

- 1. RVK COAERS Investment Manager Compliance Reports
- 2. COAERS Funded Investment Manager Strategy Summaries

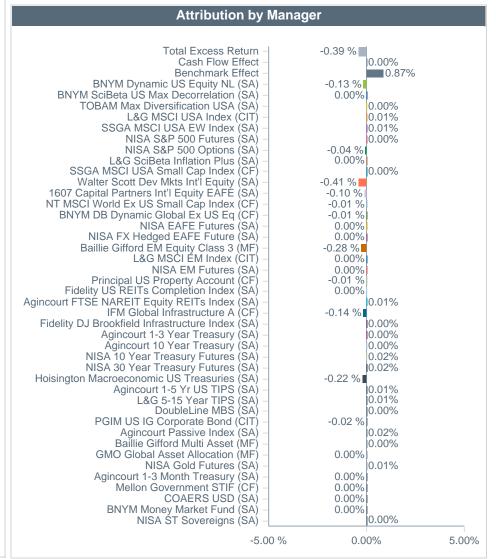


Composite: Total Fund

Benchmark: Policy Benchmark

	Market Value (\$)	Allocation (%)
BNYM Dynamic US Equity NL (SA)	249,760,616	7.47
L&G MSCI USA Index (CIT)	215,125,041	6.44
SSGA MSCI USA EW Index (SA)	202,392,912	6.06
Walter Scott Dev Mkts Int'l Equity (SA)	196,281,362	5.87
Principal US Property Account (CF)	189,735,729	5.68
Fidelity US REITs Completion Index (SA)	180,582,965	5.40
BNYM SciBeta US Max Decorrelation (SA)	140,333,074	4.20
1607 Capital Partners Int'l Equity EAFE (SA)	134,072,123	4.01
Baillie Gifford EM Equity Class 3 (MF)	133,532,101	4.00
Agincourt 1-3 Year Treasury (SA)	125,950,022	3.77
TOBAM Max Diversification USA (SA)	124,550,809	3.73
PGIM US IG Corporate Bond (CIT)	117,131,400	3.51
Agincourt Passive Index (SA)	108,647,501	3.25
Hoisington Macroeconomic US Treasuries (SA)	107,552,052	3.22
DoubleLine MBS (SA)	105,513,466	3.16
Fidelity DJ Brookfield Infrastructure Index (SA)	100,994,810	3.02
L&G SciBeta Inflation Plus (SA)	98,428,822	2.95
IFM Global Infrastructure A (CF)	82,627,587	2.47
L&G MSCI EM Index (CIT)	81,425,759	2.44
NISA S&P 500 Futures (SA)	69,661,681	2.08
Agincourt 1-5 Yr US TIPS (SA)	64,628,579	1.93
Agincourt 10 Year Treasury (SA)	52,985,124	1.59
SSGA MSCI USA Small Cap Index (CF)	46,851,047	1.40
NT MSCI World Ex US Small Cap Index (CF)	46,711,454	1.40
NISA 30 Year Treasury Futures (SA)	45,848,851	1.37
NISA 10 Year Treasury Futures (SA)	44,580,736	1.33
NISA Gold Futures (SA)	40,611,690	1.22
NISA FX Hedged EAFE Future (SA)	34,627,803	1.04
L&G 5-15 Year TIPS (SA)	33,771,223	1.01
NISA EAFE Futures (SA)	33,537,745	1.00
NISA EM Futures (SA)	31,602,272	0.95
BNYM DB Dynamic Global Ex US Eq (CF)	29,370,279	0.88
Agincourt FTSE NAREIT Equity REITs Index (SA)	24,431,548	0.73
Agincourt 1-3 Month Treasury (SA)	12,135,915	0.36
GMO Global Asset Allocation (MF)	12,120,543	0.36
Baillie Gifford Multi Asset (MF)	11,954,365	0.36
NISA S&P 500 Options (SA)	4,292,995	0.13
Mellon Government STIF (CF)	2,272,678	0.07
NISA ST Sovereigns (SA)	2,000,836	0.06
BNYM Money Market Fund (SA)	2,000,082	0.06
COAERS USD (SA)	1,000,092	0.03

	Rate of Return	
	QTD	
Composite	-5.15	
Benchmark	-4.76	
Excess Return	-0.39	



Performance shown is net of fees. Calculation is based on monthly periodicity. Allocations shown may not sum up to 100% exactly due to rounding. See glossary for calculation definitions.



	Allocatio	n				Rate of	Return (%)		
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
US Equity										
BNYM Dynamic US Equity NL (SA)	249,760,616	7.47	-6.35	-6.35	16.44	20.02	N/A	N/A	17.73	05/01/2018
S&P 500 Index (Cap Wtd)			-4.60	-4.60	15.65	18.92	15.99	14.64	16.76	
Excess Return			-1.75	-1.75	0.79	1.10	N/A	N/A	0.97	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	15.01	
Rank			74	74	10	10	N/A	N/A	7	
BNYM SciBeta US Max Decorrelation (SA)	140,333,074	4.20	-3.19	-3.19	11.07	N/A	N/A	N/A	25.26	10/01/2020
SciBeta Max Decorrelation Index			-3.15	-3.15	11.22	16.74	13.79	13.92	25.47	
Excess Return			-0.04	-0.04	-0.15	N/A	N/A	N/A	-0.21	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	21.87	
Rank			23	23	68	N/A	N/A	N/A	14	
TOBAM Max Diversification USA (SA)	124,550,809	3.73	-6.70	-6.70	0.80	N/A	N/A	N/A	11.29	10/01/2020
TOBAM Max Diversification Index			-6.71	-6.71	0.98	12.62	11.87	13.70	11.54	
Excess Return			0.01	0.01	-0.18	N/A	N/A	N/A	-0.25	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	21.87	
Rank			81	81	97	N/A	N/A	N/A	96	
L&G MSCI USA Index (CIT)	215,125,041	6.44	-5.21	-5.21	14.60	N/A	N/A	N/A	23.20	10/01/2020
MSCI USA Index (Net)			-5.31	-5.31	13.64	18.49	15.47	13.97	22.34	
Excess Return			0.10	0.10	0.96	N/A	N/A	N/A	0.86	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	21.87	
Rank			50	50	28	N/A	N/A	N/A	34	
SSGA MSCI USA EW Index (SA)	202,392,912	6.06	-4.94	-4.94	9.83	N/A	N/A	N/A	28.21	11/01/2020
MSCI USA Equal Weighted Index (Net)			-5.05	-5.05	9.40	15.26	12.62	12.72	27.69	
Excess Return			0.11	0.11	0.43	N/A	N/A	N/A	0.52	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	25.92	
Rank			46	46	79	N/A	N/A	N/A	23	
SSGA MSCI USA Small Cap Index (CF)	46,851,047	1.40	-5.90	-5.90	-0.35	N/A	N/A	N/A	27.73	11/01/2020
MSCI US Sm Cap Index (USD) (Net)			-6.01	-6.01	-0.70	13.17	11.14	11.85	27.24	
Excess Return			0.11	0.11	0.35	N/A	N/A	N/A	0.49	
IM U.S. Small Cap Equity (MF) Median			-6.59	-6.59	0.66	12.72	9.74	10.83	29.07	
Rank			46	46	57	N/A	N/A	N/A	56	



	Allocatio	n				Rate of	Return (%)		
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
NISA S&P 500 Futures (SA)	69,661,681	2.08	-4.44	-4.44	15.58	N/A	N/A	N/A	18.41	02/01/2020
S&P 500 Index (Cap Wtd)			-4.60	-4.60	15.65	18.92	15.99	14.64	18.87	
Excess Return			0.16	0.16	-0.07	N/A	N/A	N/A	-0.46	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	16.92	
Rank			36	36	20	N/A	N/A	N/A	31	
NISA S&P 500 Options (SA)	4,292,995	0.13	-31.12	-31.12	N/A	N/A	N/A	N/A	17.95	07/01/2021
S&P 500 Index (Cap Wtd)			-4.60	-4.60	15.65	18.92	15.99	14.64	6.54	
Excess Return			-26.52	-26.52	N/A	N/A	N/A	N/A	11.41	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	4.38	
Rank			100	100	N/A	N/A	N/A	N/A	1	
L&G SciBeta Inflation Plus (SA)	98,428,822	2.95	-2.77	-2.77	N/A	N/A	N/A	N/A	1.14	12/01/2021
SciBeta Inflation Plus Index			-2.74	-2.74	N/A	N/A	N/A	N/A	1.17	
Excess Return			-0.03	-0.03	N/A	N/A	N/A	N/A	-0.03	
IM U.S. Large Cap Core Equity (MF) Median			-5.24	-5.24	12.83	17.06	14.43	13.24	-0.81	
Rank			20	20	N/A	N/A	N/A	N/A	28	
Developed Markets Equity										
Walter Scott Dev Mkts Int'l Equity (SA)	196,281,362	5.87	-12.29	-12.29	-0.06	11.18	11.06	8.58	8.63	10/01/1992
MSCI EAFE Index (USD) (Net)			-5.91	-5.91	1.16	7.78	6.72	6.27	5.91	
Excess Return			-6.38	-6.38	-1.22	3.40	4.34	2.31	2.72	
IM All EAFE (MF) Median			-7.09	-7.09	-1.20	7.37	6.08	5.79	7.00	
Rank			86	86	33	7	2	6	5	
1607 Capital Partners Int'l Equity EAFE (SA)	134,072,123	4.01	-8.45	-8.45	-0.58	10.12	8.69	7.98	8.22	08/01/2010
90% MSCI EAFE/10% MSCI EM Index			-6.01	-6.01	-0.12	7.55	6.69	6.02	6.04	
Excess Return			-2.44	-2.44	-0.46	2.57	2.00	1.96	2.18	
IM International Core Equity (MF) Median			-6.57	-6.57	-0.87	7.22	6.03	5.78	5.77	
Rank			79	79	46	7	4	7	6	
BNYM DB Dynamic Global Ex US Eq (CF)	29,370,279	0.88	-7.02	-7.02	-1.55	N/A	N/A	N/A	8.75	09/01/2019
MSCI ACW Ex US Index (USD) (Net)			-5.44	-5.44	-1.48	7.51	6.76	5.55	9.37	
Excess Return			-1.58	-1.58	-0.07	N/A	N/A	N/A	-0.62	
IM ACWI Ex US Core (MF) Median			-8.18	-8.18	-3.90	7.72	6.71	5.74	9.29	
Rank			45	45	20	N/A	N/A	N/A	60	



	Allocatio	n				Rate of	Return (%)			
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
NISA EAFE Futures (SA)	33,537,745	1.00	-6.34	-6.34	0.17	N/A	N/A	N/A	6.12	02/01/2020
MSCI EAFE Index (USD) (Net)			-5.91	-5.91	1.16	7.78	6.72	6.27	6.78	
Excess Return			-0.43	-0.43	-0.99	N/A	N/A	N/A	-0.66	
IM All EAFE (MF) Median			-7.09	-7.09	-1.20	7.37	6.08	5.79	6.65	
Rank			34	34	29	N/A	N/A	N/A	64	
NT MSCI World Ex US Small Cap Index (CF)	46,711,454	1.40	-7.97	-7.97	-2.32	9.55	N/A	N/A	5.27	08/01/2018
MSCI Wrld Ex US Sm Cap Index (USD) (Net)			-7.23	-7.23	-1.69	9.55	7.79	7.78	5.22	
Excess Return			-0.74	-0.74	-0.63	0.00	N/A	N/A	0.05	
IM International SMID Cap Equity (MF) Median			-10.56	-10.56	-3.51	8.50	6.99	7.20	4.02	
Rank			36	36	37	30	N/A	N/A	29	
NISA FX Hedged EAFE Future (SA)	34,627,803	1.04	-3.88	-3.88	N/A	N/A	N/A	N/A	-3.88	01/01/2022
MSCI EAFE Index (USD) (Net) (Hedged)			-3.51	-3.51	7.08	9.79	8.32	9.56	-3.51	
Excess Return			-0.37	-0.37	N/A	N/A	N/A	N/A	-0.37	
IM All EAFE (MF) Median			-7.09	-7.09	-1.20	7.37	6.08	5.79	-7.09	
Rank			16	16	N/A	N/A	N/A	N/A	16	
Emerging Markets Equity										
Baillie Gifford EM Equity Class 3 (MF)	133,532,101	4.00	-13.20	-13.20	-21.95	4.56	7.97	N/A	8.70	10/01/2016
MSCI Emerging Markets Index (USD) (Net)			-6.97	-6.97	-11.37	4.94	5.98	3.36	6.69	
Excess Return			-6.23	-6.23	-10.58	-0.38	1.99	N/A	2.01	
IM Emerging Markets Equity (MF) Median			-9.77	-9.77	-13.74	4.85	5.33	3.06	5.93	
Rank			72	72	87	56	16	N/A	13	
L&G MSCI EM Index (CIT)	81,425,759	2.44	-6.99	-6.99	-11.48	N/A	N/A	N/A	5.46	10/01/2020
MSCI Emerging Markets Index (USD) (Net)			-6.97	-6.97	-11.37	4.94	5.98	3.36	5.60	
Excess Return			-0.02	-0.02	-0.11	N/A	N/A	N/A	-0.14	
IM Emerging Markets Equity (MF) Median			-9.77	-9.77	-13.74	4.85	5.33	3.06	3.27	
Rank			29	29	38	N/A	N/A	N/A	39	
NISA EM Futures (SA)	31,602,272	0.95	-7.41	-7.41	-12.96	N/A	N/A	N/A	5.32	02/01/2020
MSCI Emerging Markets Index (USD) (Net)			-6.97	-6.97	-11.37	4.94	5.98	3.36	5.59	
Excess Return			-0.44	-0.44	-1.59	N/A	N/A	N/A	-0.27	
IM Emerging Markets Equity (MF) Median			-9.77	-9.77	-13.74	4.85	5.33	3.06	5.00	
Rank			33	33	45	N/A	N/A	N/A	47	



	Allocatio	n		Rate of Return (%)						
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Real Estate Equity										
Principal US Property Account (CF)	189,735,729	5.68	7.33	7.33	28.63	11.50	10.14	11.14	8.05	09/01/2004
NCREIF ODCE Index (AWA) (Net)			7.17	7.17	27.29	10.31	8.91	9.92	7.69	
Excess Return			0.16	0.16	1.34	1.19	1.23	1.22	0.36	
Fidelity US REITs Completion Index (SA)	180,582,965	5.40	-3.85	-3.85	20.24	N/A	N/A	N/A	10.03	01/01/2020
Fidelity REITs Completion Index			-3.85	-3.85	20.32	N/A	N/A	N/A	10.11	
Excess Return			0.00	0.00	-0.08	N/A	N/A	N/A	-0.08	
Agincourt FTSE NAREIT Equity REITs Index (SA)	24,431,548	0.73	-3.97	-3.97	N/A	N/A	N/A	N/A	16.77	05/01/2021
FTSE NAREIT All Eq REITs Index (TR)			-5.29	-5.29	23.54	11.71	10.68	10.50	14.27	
Excess Return			1.32	1.32	N/A	N/A	N/A	N/A	2.50	
Infrastructure Equity										
IFM Global Infrastructure A (CF)	82,627,587	2.47	1.22	1.22	16.73	N/A	N/A	N/A	12.75	04/01/2020
S&P Gbl Infrastructure Index (Net)			7.27	7.27	15.86	7.16	6.76	6.87	25.52	
Excess Return			-6.05	-6.05	0.87	N/A	N/A	N/A	-12.77	
Fidelity DJ Brookfield Infrastructure Index (SA)	100,994,810	3.02	4.53	4.53	18.89	N/A	N/A	N/A	6.54	01/01/2020
DJ Brookfield Gbl Infrastructure Comp Idx			4.36	4.36	18.21	7.60	6.79	7.85	5.80	
Excess Return			0.17	0.17	0.68	N/A	N/A	N/A	0.74	
US Treasuries										
Agincourt 1-3 Year Treasury (SA)	125,950,022	3.77	-2.41	-2.41	-2.93	N/A	N/A	N/A	0.79	05/01/2019
Bloomberg US Trsy 1-3 Yr Index			-2.51	-2.51	-3.05	0.84	1.04	0.84	0.79	
Excess Return			0.10	0.10	0.12	N/A	N/A	N/A	0.00	
IM U.S. Short Term Treasury/Govt Bonds (MF) Median			-2.43	-2.43	-3.07	0.69	0.93	0.68	0.63	
Rank			48	48	44	N/A	N/A	N/A	29	
Agincourt 1-5 Yr US TIPS (SA)	64,628,579	1.93	0.03	0.03	4.20	N/A	N/A	N/A	4.92	01/01/2020
Bloomberg US TIPS 1-5 Yr Index			-0.65	-0.65	3.64	4.60	3.18	1.76	4.67	
Excess Return			0.68	0.68	0.56	N/A	N/A	N/A	0.25	
IM U.S. TIPS (MF) Median			-2.59	-2.59	3.59	5.53	3.83	2.06	5.45	
Rank			6	6	26	N/A	N/A	N/A	72	



	Allocatio		Rate of Return (%)							
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Agincourt 10 Year Treasury (SA)	52,985,124	1.59	-6.79	-6.79	-3.26	N/A	N/A	N/A	2.01	05/01/2019
Bloomberg US Trsy Bellwethers 10 Yr Index			-6.86	-6.86	-3.44	1.62	1.85	1.93	1.87	
Excess Return			0.07	0.07	0.18	N/A	N/A	N/A	0.14	
IM U.S. Intermediate Government (MF) Median			-4.82	-4.82	-4.18	1.13	1.36	1.30	1.20	
Rank			100	100	11	N/A	N/A	N/A	1	
NISA 10 Year Treasury Futures (SA)	44,580,736	1.33	-5.58	-5.58	-2.05	N/A	N/A	N/A	-5.03	05/01/2020
Bloomberg US Trsy Bellwethers 10 Yr Index			-6.86	-6.86	-3.44	1.62	1.85	1.93	-6.39	
Excess Return			1.28	1.28	1.39	N/A	N/A	N/A	1.36	
IM U.S. Intermediate Government (MF) Median			-4.82	-4.82	-4.18	1.13	1.36	1.30	-3.19	
Rank			96	96	1	N/A	N/A	N/A	100	
L&G 5-15 Year TIPS (SA)	33,771,223	1.01	-2.71	-2.71	N/A	N/A	N/A	N/A	-0.67	10/01/2021
Bloomberg US TIPS 5-15 Year Index			-3.25	-3.25	3.89	6.23	4.54	2.82	-1.26	
Excess Return			0.54	0.54	N/A	N/A	N/A	N/A	0.59	
IM U.S. TIPS (MF) Median			-2.24	-2.40	4.07	6.21	4.54	2.75	-0.56	
Rank			71	63	N/A	N/A	N/A	N/A	57	
NISA 30 Year Treasury Futures (SA)	45,848,851	1.37	-10.02	-10.02	-0.62	N/A	N/A	N/A	-10.21	05/01/2020
Bloomberg US Trsy Bellwethers 30 Yr Index			-11.41	-11.41	0.41	3.62	4.13	3.98	-12.04	
Excess Return			1.39	1.39	-1.03	N/A	N/A	N/A	1.83	
IM U.S. Long Term Treasury/Govt Bond (MF) Median			-5.46	-5.46	-3.83	1.26	1.58	1.51	-4.35	
Rank			81	81	3	N/A	N/A	N/A	92	
Hoisington Macroeconomic US Treasuries (SA)	107,552,052	3.22	-11.90	-11.90	-1.21	N/A	N/A	N/A	4.74	05/01/2019
Bloomberg US Trsy Index			-5.58	-5.58	-3.67	1.39	1.76	1.68	1.53	
Excess Return			-6.32	-6.32	2.46	N/A	N/A	N/A	3.21	
IM U.S. Long Term Treasury/Govt Bond (MF) Median			-5.46	-5.46	-3.83	1.26	1.58	1.51	1.37	
Rank			96	96	7	N/A	N/A	N/A	4	
US Mortgages										
DoubleLine MBS (SA)	105,513,466	3.16	-4.85	-4.85	-5.44	N/A	N/A	N/A	-0.34	08/01/2019
Bloomberg US MBS Index (Unhgd)			-4.97	-4.97	-4.92	0.56	1.36	1.70	-0.25	
Excess Return			0.12	0.12	-0.52	N/A	N/A	N/A	-0.09	
IM U.S. Mortgage Backed Bonds (MF) Median			-4.71	-4.71	-5.10	0.61	1.18	1.46	-0.16	
Rank			61	61	69	N/A	N/A	N/A	61	



	Allocatio	n	Rate of Return (%)								
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date	
US Credit											
PGIM US IG Corporate Bond (CIT)	117,131,400	3.51	-7.83	-7.83	-4.01	N/A	N/A	N/A	2.38	08/01/2019	
Bloomberg US Crdt Index			-7.42	-7.42	-4.16	2.81	3.18	3.44	1.36		
Excess Return			-0.41	-0.41	0.15	N/A	N/A	N/A	1.02		
IM U.S. Corporate Bonds (MF) Median			-7.20	-7.20	-4.21	2.91	3.06	3.32	1.60		
Rank			81	81	40	N/A	N/A	N/A	14		
Asset Allocation											
Agincourt Passive Index (SA)	108,647,501	3.25	-5.12	-5.12	2.11	N/A	N/A	N/A	3.22	01/01/2021	
Passive Benchmark			-5.64	-5.64	1.72	8.67	7.82	6.53	2.11		
Excess Return			0.52	0.52	0.39	N/A	N/A	N/A	1.11		
Baillie Gifford Multi Asset (MF)	11,954,365	0.36	-4.36	-4.36	2.99	N/A	N/A	N/A	9.76	05/01/2020	
Multi-Asset Benchmark			-5.64	-5.64	1.72	8.51	7.73	6.48	15.43		
Excess Return			1.28	1.28	1.27	N/A	N/A	N/A	-5.67		
GMO Global Asset Allocation (MF)	12,120,543	0.36	-6.62	-6.62	-4.51	N/A	N/A	N/A	10.55	05/01/2020	
Multi-Asset Benchmark			-5.64	-5.64	1.72	8.51	7.73	6.48	15.43		
Excess Return			-0.98	-0.98	-6.23	N/A	N/A	N/A	-4.88		
Commodities & Other											
NISA Gold Futures (SA)	40,611,690	1.22	7.31	7.31	15.46	N/A	N/A	N/A	7.72	05/01/2020	
Bloomberg Gold Sub Index (TR)			6.59	6.59	13.13	13.01	8.09	0.69	5.72		
Excess Return			0.72	0.72	2.33	N/A	N/A	N/A	2.00		
US Dollar Instruments											
Agincourt 1-3 Month Treasury (SA)	12,135,915	0.36	0.01	0.01	0.00	N/A	N/A	N/A	0.65	05/01/2019	
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.69		
Excess Return			-0.02	-0.02	-0.06	N/A	N/A	N/A	-0.04		
Mellon Government STIF (CF)	2,272,678	0.07	0.00	0.00	0.00	N/A	N/A	N/A	0.00	02/01/2021	
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.06		
Excess Return			-0.03	-0.03	-0.06	N/A	N/A	N/A	-0.06		
COAERS USD (SA)	1,000,092	0.03	0.00	0.00	0.01	N/A	N/A	N/A	0.00	05/01/2020	
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.08		
Excess Return			-0.03	-0.03	-0.05	N/A	N/A	N/A	-0.08		



Composite: Total Fund Asset Allocation & Performance - Net of Fees As of March 31, 2022

	Allocatio	Allocation			Rate of Return (%)							
	Market Value (\$)	%	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date		
BNYM Money Market Fund (SA)	2,000,082	0.06	0.00	0.00	N/A	N/A	N/A	N/A	0.00	01/01/2022		
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.03			
Excess Return			-0.03	-0.03	N/A	N/A	N/A	N/A	-0.03			
Other Currencies												
NISA ST Sovereigns (SA)	2,000,836	0.06	0.04	0.04	N/A	N/A	N/A	N/A	0.04	01/01/2022		
Bloomberg US T-Bills 1-3 Mo Index			0.03	0.03	0.06	0.74	1.07	0.59	0.03			
Excess Return			0.01	0.01	N/A	N/A	N/A	N/A	0.01			



COAERS Implementation Dashboard

As of 3/31/2022

Asset Class	Manager and Mandate	AUM (\$MM)	% of Fund	Vehicle	Performance	Process	People
	NISA - S&P 500 INDEX FUTURES	69.7	2.1%	SMA			
	NISA - S&P 500 INDEX OPTIONS	4.3	0.1%	SMA			
	LGIMA - MSCI USA INDEX	215.1	6.4%	CIT			
	MELLON - SCIBETA US MAX DECORR INDEX	140.2	4.2%	SMA			
	LGIMA - SCIBETA INFLATION PLUS	98.4	2.9%	SMA			
	NEWTON - DYNAMIC US EQUITY (DUSE)	249.8	7.5%	SMA			
ES	SSGA - MSCI USA EW INDEX	202.2	6.1%	CIT			
E	TOBAM - MAX DIVERSIFICATION INDEX	124.5	3.7%	SMA			
GLOBAL EQUITIES	SSGA - MSCI USA SM CAP INDEX	46.9	1.4%	CIT			
AL I	WALTER SCOTT - EAFE EQUITIES	194.3	5.8%	SMA			•
OB,	1607 CAPITAL - INTERNATIONAL EQUITIES	133.7	4.0%	SMA			
GL	NEWTON - DYNAMIC EX-US EQUITY (DEXUS) FUND	29.4	0.9%	CIT			
	NISA - MSCI EAFE INDEX FUTURES	33.5	1.0%	SMA			
	NISA - MSCI HEDGED EAFE INDEX FUTURES	34.6	1.0%	SMA			
	NTAM - MSCI WORLD X-US SM CAP INDEX FUND	46.7	1.4%	CIT			
	BAILLIE GIFFORD - EM EQUITIES FUND	133.5	4.0%	MF	*		
	NISA - MSCI EM INDEX FUTURES	31.6	0.9%	SMA			
	LGIMA - MSCI EM INDEX FUND	81.4	2.4%	CIT	•		
S	PRINCIPAL - US PROPERTY ACCOUNT	189.7	5.7%	LP			
REAL ASSETS	FIDELITY - US REITs COMPLETION INDEX	180.1	5.4%	SMA			
AS	AGINCOURT - FTSE NAREIT	24.4	0.7%	SMA			
AL.	IFM - GLOBAL INFRASTRUCTURE FUND	82.6	2.5%	LP			
~	FIDELITY - GLOBAL INFRASTRUCTURE INDEX	100.7	3.0%	SMA			
	AGINCOURT - 1-3Y US TREASURIES	125.1	3.7%	SMA			
	AGINCOURT - 10Y US TREASURIES	52.9	1.6%	SMA			
٦E	AGINCOURT - 1-5Y US TIPS	64.5	1.9%	SMA			
ő	LGIMA - 5-15Y US TIPS	33.7	1.0%	SMA			
N	NISA - 10Y US TREASURY FUTURES	44.6	1.3%	SMA			
FIXED INCOME	NISA - 30Y US TREASURY FUTURES	45.8	1.4%	SMA			
Ĕ	HOISINGTON - MACROECONIC FIXED INCOME	107.2	3.2%	SMA			
	DOUBLELINE - AGENCY MORTGAGES	105.2	3.2%	SMA			
	PGIM - IG CORPORATE BOND FUND	117.1	3.5%	CIT			•
	BAILLIE GIFFORD - MULTI ASSET FUND	12.0	0.4%	MF			
Ė	GMO - GLOBAL ASSET ALLOCATION FUND	12.1	0.4%	MF			
MULTI. ASSET	AGINCOURT - PASSIVE INDEX	108.6	3.3%	SMA			
_ `	NISA - GOLD FUTURES	40.6	1.2%	SMA			
	AGINCOURT - 1-3M US TREASURIES	12.1	0.4%	SMA			
	BNY - GOVT SHORT TERM INV FUND	2.3	0.1%	CIT			•
Ŧ	BNY - USD DEPOSIT ACCOUNT	1.0	0.0%	Bank			•
САЅН	BNY - MONEY MARKET FUND	2.0	0.1%	MF			•
	BNY - FOREIGN CURRENCY	0.0	0.0%	Bank			
	NISA - FOREIGN SOVEREIGN	2.0	0.1%	SMA			

[◆] indicates a note in the Investment Manager Monitoring Report

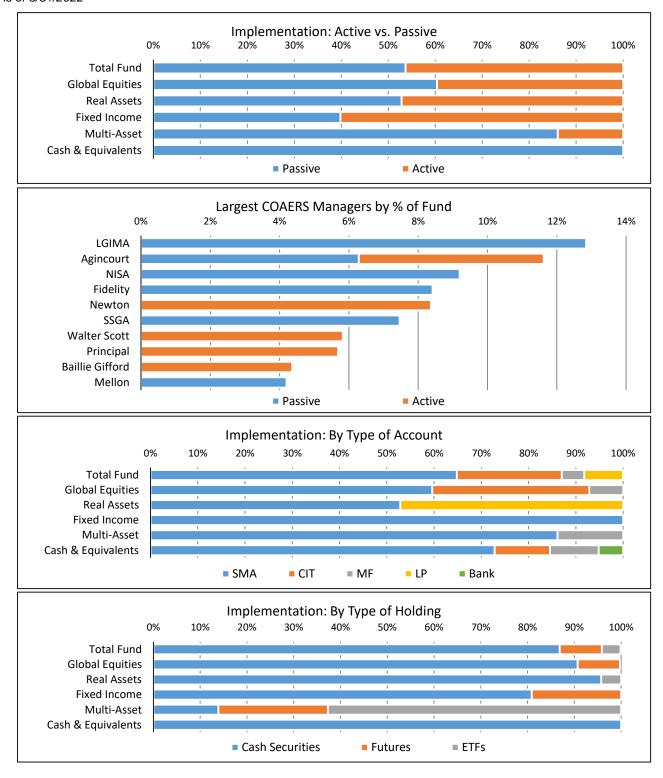
Green = satisfactory performance

Yellow = areas of concern Red = significant concerns

[↑] incicates a rising level of comfort with any existing matters indicates a rising level of concern with new or existing matters

COAERS Implementation Dashboard

As of 3/31/2022



COAERS Investment Manager Fees

DIRECT FEE PAYMENTS & ACCRU	ALS			
Earned In	1Q21	2Q21	3Q21	4Q21
Paid In	2Q21	3Q21	4Q21	1Q22
1607 Capital Intl Equities	317,800	361,755	469,546	482,562
Agincourt: 1-3M US Treasuries	2,400	2,661	1,330	3,614
Agincourt: 1-3Y US Treasuries	6,479	9,014	9,518	12,907
Agincourt: 10Y US Treasuries	5,477	5,654	5,640	5,685
Agincourt: 1-5Y TIPS	3,213	5,845	6,390	6,461
Agincourt Passive Index	5,219	10,427	11,034	11,451
Agincourt FTSE NAREIT Equity	-	1,871	2,191	2,544
BlackRock	44,728	-	-	-
Doubleline MBS	55,971	55,920	55,871	55,521
Fidelity DJ Brookfield	15,116	19,760	20,660	21,070
Fidelity US REITs	25,339	28,630	30,055	31,269
Hoisington	80,846	84,098	84,115	85,788
LGIMA 5 15YR US TIPS	-	-	-	1,736
LGIMA Inflation Plus	-	-	-	19,633
LGIMA - MSCI USA	16,165	17,666	18,915	16,628
LGIMA - MSCI EM	23,392	23,566	23,019	22,365
LGIMA - S&P 500	2,690	2,771	2,974	1,596
Mellon DEXUS	54,682	58,689	27,240	27,840
Mellon DUSE	185,118	205,756	208,550	233,169
Mellon Scibeta US Max Decorr	39,852	43,254	43,340	46,363
NISA Futures	41,277	44,607	52,915	47,141
NT Dev Intl Small Cap Fund ¹	6,740	7,169	7,529	7,557
SSGA MSCI USA Equal Weight	10,721	22,344	11,243	11,251
SSGA MSCI USA SmallCap	4,242	10,156	5,007	4,999
TOBAM Max Decorrelation	76,881	81,539	83,678	83,343
Walter Scott Intl Equities	226,746	235,014	246,420	241,362
TOTAL DIRECT PAYMENTS	1,251,093	1,338,166	1,427,181	1,483,856

¹ NTAM Management Fees are paid in the quarter they are earned.

TOTAL FEES	2,050,887	2,159,582	2,265,227	2,302,438
SUBTOTAL INDIRECT	799,794	821,416	838,046	818,582
Principal US Property	297,867	313,652	338,889	358,093
PGIM US Credit	69,381	70,067	72,601	72,083
IFM Infrastructure	143,027	148,298	155,237	154,925
GMO Global Asset Allocation	20,034	19,132	18,786	17,883
Baillie Gifford Multi-Asset	4,483	4,865	5,096	4,628
Baillie Gifford Emerging Market	265,002	265,402	247,437	210,970
Paid In	2Q21	3Q21	4Q21	1Q22
Earned In	2Q21	3Q21	4Q21	1Q22
INDIRECT FEE PAYMENTS				

^{*} Estimated



Annual Review of Cash & Equivalents

David Stafford and Ty Sorrel May 20, 2022

Cash as a Strategic Asset Class

- Cash is regarded as a strategic asset class because of its unique investment properties and its vital role in achieving the Fund's primary objectives
- Cash increases liquidity and can act as a diversifier to the rest of the Fund, investing in liquid, short-term assets with maturities less than a year

Investment Uses

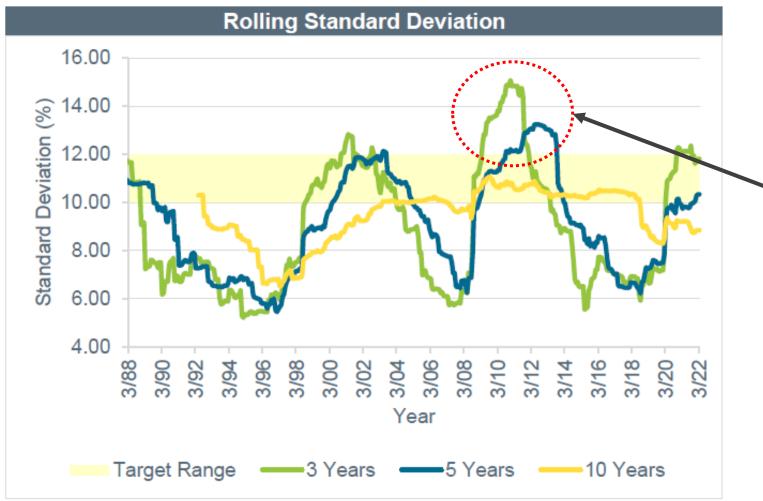
Manage Fund Risk

Receive Investment Income

Collateralize Futures

Operational Uses

Make Benefit Payments
Pay System Expenses



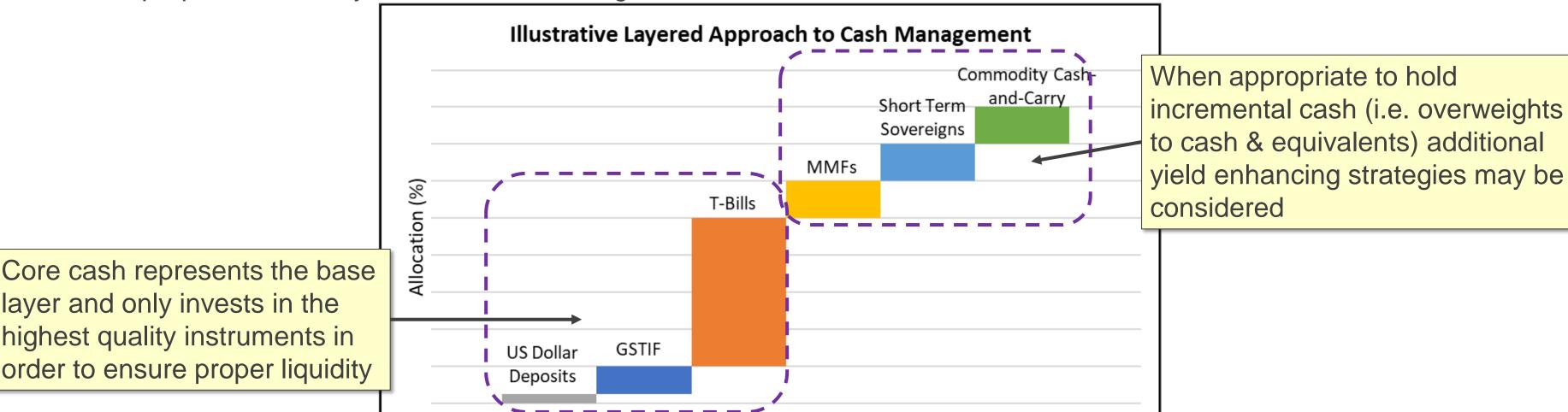
Given relatively stable values of cash & equivalents, they can be held during highly volatile times as an effective way to reduce Fund volatility

Source: RVK Summary of Investment Performance, March 31, 2022



Cash & Equivalents Approach for COAERS

- Cash & Equivalents are implemented in a layered approach to ensure that both operational and investment needs are effectively met
 - Core Cash is held in extremely high quality, liquid strategies in order to ensure that cash is available to pay benefits and System expenses
 - Incremental Cash is invested in strategies which improve yields and increase expected returns for investment purposes and may introduce small marginal risks



COMERS

Current Allocations

- At the end of March, the Fund was slightly underweight its neutral allocation to Cash & Equivalents
- The underweight was remedied with the Board approved implementation plan which was implemented in April and increased T-Bills
- Recent new mandate in other currencies increases the range of options for cash beyond USD

	Allocatio	n
	Market Value (\$)	%
US Dollar Instruments		
Agincourt 1-3 Month Treasury (SA)	12,135,915	0.36
Bloomberg US T-Bills 1-3 Mo Index		
Excess Return		
Mellon Government STIF (CF)	2,272,678	0.07
Bloomberg US T-Bills 1-3 Mo Index		
Excess Return		
COAERS USD (SA)	1,000,092	0.03
Bloomberg US T-Bills 1-3 Mo Index		
Excess Return		
BNYM Money Market Fund	2,000,082	0.06
Bloomberg US T-Bills 1-3 Mo Index		
Excess Return		
Other Currencies		
NISA ST Sovereigns (SA)	2,000,836	0.06
Bloomberg US T-Bills 1-3 Mo Index		
Excess Return		

COAERS

Performance

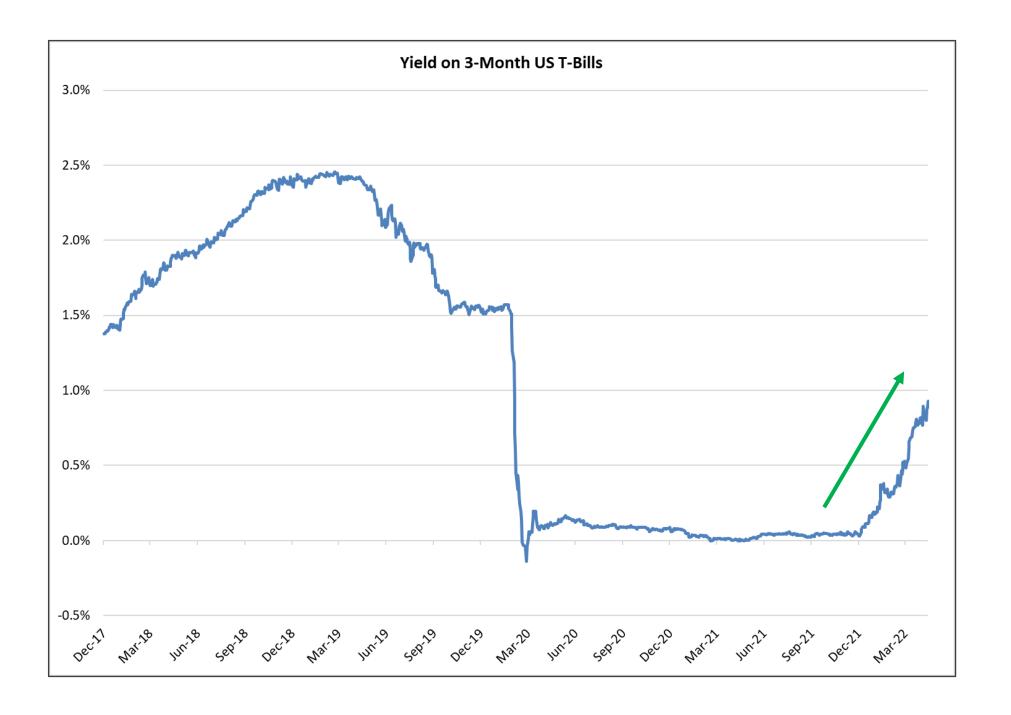
- In the first quarter of 2022, Cash & Equivalents maintained its value and outperformed both stocks and bonds
- These mandates pursue differentiated strategies but do not assume credit risk (as many cash funds do) by only purchasing government-backed securities
- It is worth noting that the Money Market Funds and Foreign Sovereigns mandates were invested this year, so their track records are short

	Allocation	Rate of Return (%)									
	Market Value (\$)	%	MTD	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Cash & Equivalents	19,409,603	0.58	0.01	0.01	0.01	0.00	0.68	0.99	N/A	1.00	07/01/2017
Cash & Equivalents Benchmark			0.02	0.03	0.03	0.06	0.74	1.07	0.59	1.08	
Excess Return			-0.01	-0.02	-0.02	-0.06	-0.06	-0.08	N/A	-0.08	
US Dollar Instruments	17,408,767	0.52	0.01	0.01	0.01	0.00	0.68	0.99	N/A	1.00	07/01/2017
Bloomberg US T-Bills 1-3 Mo Index			0.02	0.03	0.03	0.06	0.74	1.07	0.59	1.08	
Excess Return			-0.01	-0.02	-0.02	-0.06	-0.06	-0.08	N/A	-0.08	
Other Currencies	2,000,836	0.06	0.06	0.04	0.04	N/A	N/A	N/A	N/A	0.04	01/01/2022
Bloomberg US T-Bills 1-3 Mo Index			0.02	0.03	0.03	0.06	0.74	1.07	0.59	0.03	
Excess Return			0.04	0.01	0.01	N/A	N/A	N/A	N/A	0.01	
Bloomberg US T-Bills 1-3 Mo Index Excess Return Other Currencies Bloomberg US T-Bills 1-3 Mo Index	, ,		-0.01 0.06 0.02	-0.02 0.04 0.03	-0.02 0.04 0.03	0.06 -0.06 N/A 0.06	-0.06 N/A 0.74	-0.08 N/A 1.07	N/A N/A 0.59	1.08 -0.08 0.04 0.03	



Higher Rates = Better Environment for Cash & Equivalents

- Just last year, fees on many money market mutual funds (i.e., GSTIF, etc.) were being waived to avoid negative returns
- As short-term rates increased recently, the opportunities in the Cash & Equivalents universe has increased dramatically





Cash is Increasingly Important Allocation Tool

- During periods of weak growth, cash can preserve capital and outperform other assets
- During the inflationary period of the 1970s, real assets and cash performed well

	Regime	Disinflationary	Boom	Inflationary Boom	
	Nickname	SPRING		SUMMER	
1	Example	2010-2020		1973-1980	
	Best	Stocks		Real Assets	
P P		High growth st	ocks	Gold, silver, oil, etc.	
strong	Favor	Long-term govt	oonds	Real estate	
"		Leveraged comp	anies	Cash	
$ $	A:-I	Cash		Fixed rate bonds	
5	Avoid	Short-term bo	nds	Long-term bonds	
SROWTH	Regime	Disinflationary	Bust	Inflationary Bust	
ا ت	Nickname	WINTER		FALL	
ΙÍ	Example	1932, 2008		1966-1970	
weak	Best	Long-term govt	oonds	Safe currencies	
š		Dividend paying	stocks	Cash	
	Favor	Strong balance s	heets	Floating rate bonds	
₩		Cash		of an amount of the description of the control of t	
	A	Companies with no pr	icing power	Financial assets	
	Avoid	Negative cash flow	v assets	Long-term bonds	
	0	← low	INFLATION	high	\rightarrow



COAERS

Cash & Equivalents Premier List Recommendations



Annual Review of Fixed Income Portfolio

David Stafford and Ty Sorrel May 20, 2022

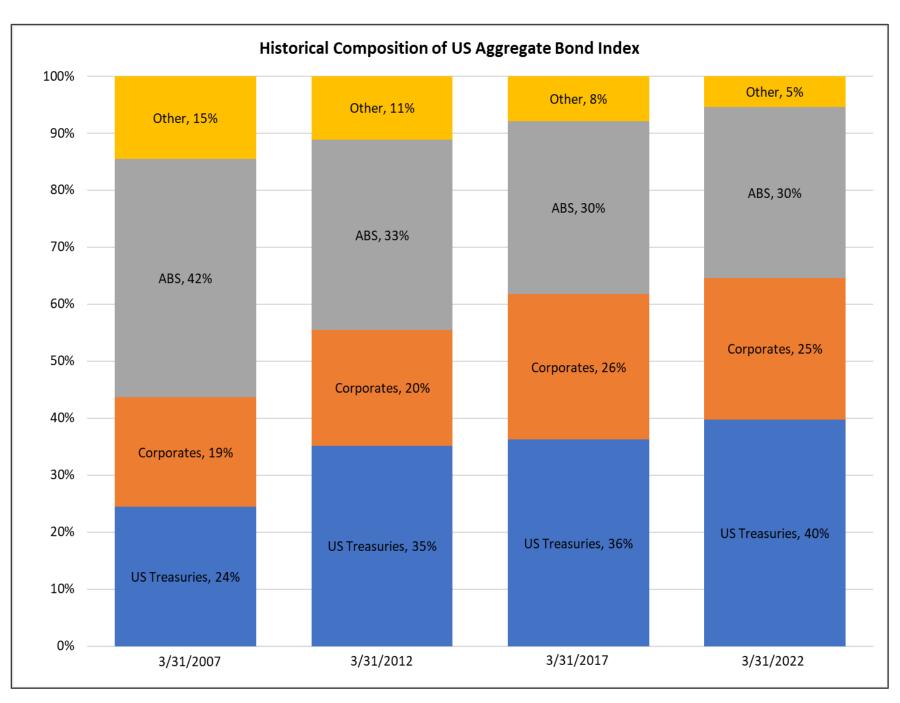
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History of COAERS Fixed Income

Implementation Through Aggregate Bond Mandates

- Historically, the fixed income portfolio was implemented using a core US aggregate bond approach
- This approach to portfolio construction was producing a sub-optimal risk-return profile and was a moving target as the index composition shifted
- In 2018, the Board approved adapting the fixed income portfolio to provide consistent exposure, but remain flexible as needed

Historical US Aggregate Bond Index Characteristics										
	3/31/1995	3/31/2002	3/31/2018	3/31/2022						
Yield to Worst	7.51%	5.92%	3.12%	2.92%						
Duration in Years	4.7	4.5	6.4	6.6						
Return / Risk	1.60	1.32	0.49	0.44						

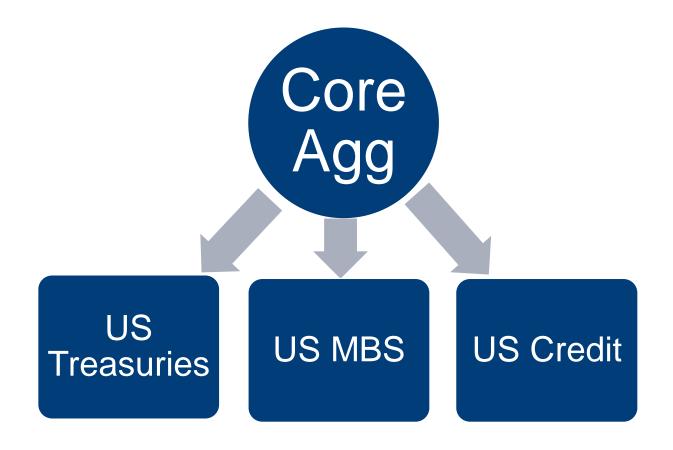


Source: Staff analysis of Bloomberg data



The Great Disaggregation

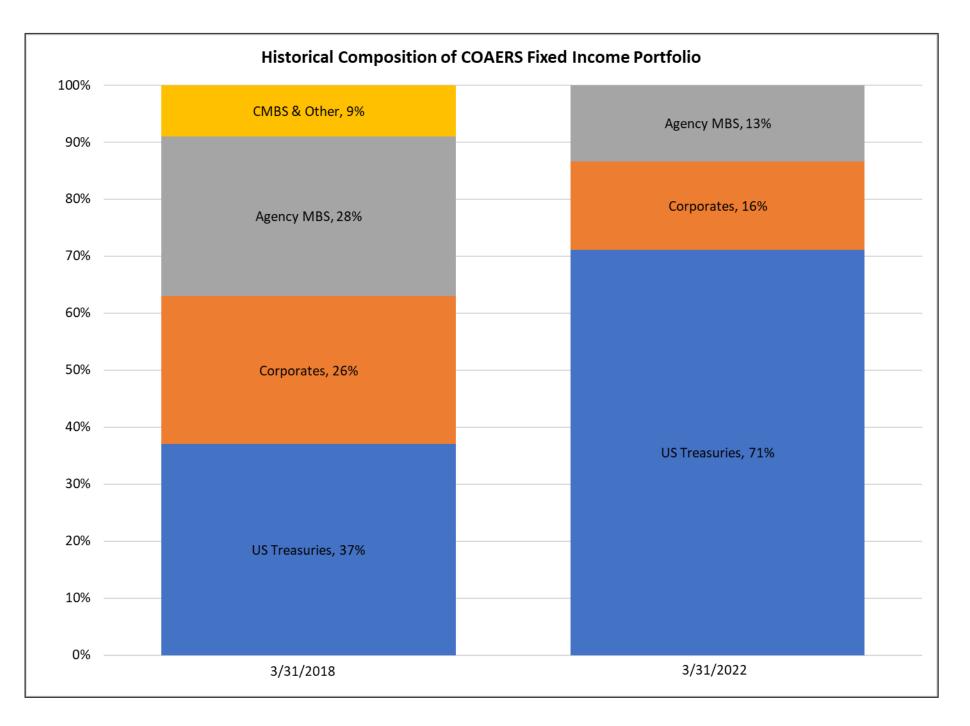
- The Board approved restructuring the fixed income portfolio by disaggregating the existing bond mandates into its component sub-asset classes: US Treasuries, US MBS, and US Credit
- The reasons for the disaggregation include increased control regarding interest rate sensitive US Treasuries (duration), reduced credit exposure (corporate bonds), and greater liquidity to better serve the intended portfolio role





Changing Composition of Fixed Income

- This restructuring reduced credit exposure from 26% to 16% of fixed income and increased exposure to US treasuries
- This allowed for extending duration in US Treasuries to increase their hedging characteristics, providing significant diversification during the market sell-off in March 2020





Implementation: US vs Global

- A key decision in this process was to maintain the Global Aggregate Bond Index is an appropriate benchmark representing, "...the opportunity set and return characteristics associated with the asset class."
- However, Staff recommended implementing only in the US in order to increase liquidity, reduce operational complexities (i.e., multiple currencies, sampling decisions, etc.), and to provide greater hedges to equity exposure through lower expected correlations

Bloomberg Barclays Fixed Income Benchmarks



	Global Agg Bond Index	US Agg Bond Index
Number of Bonds	27,979	12,393
Currencies	28	1
Yield to Worst	2.15%	2.92%



Examining These Decisions

- In summary, the restructuring of the Fixed Income portfolio resulted in some important decisions:
 - Implementation only in the US
 - Increased exposures to USTs alongside longer duration
 - Used active management, particularly in Credit and MBS

Fixed Income Attribution	
Global Benchmark Return	-0.9%
Decision to implement only in the US	+2.7%
Decision to overweight USTs	-2.1%
Manager selection and allocation effects	+1.4%
COAERS Portfolio Return	1.1%

These key decisions to deviate away from the global bond benchmark and increase the hedging characteristics in the Fund amounted to an additional 2.1% since the restructuring was implemented in 2019

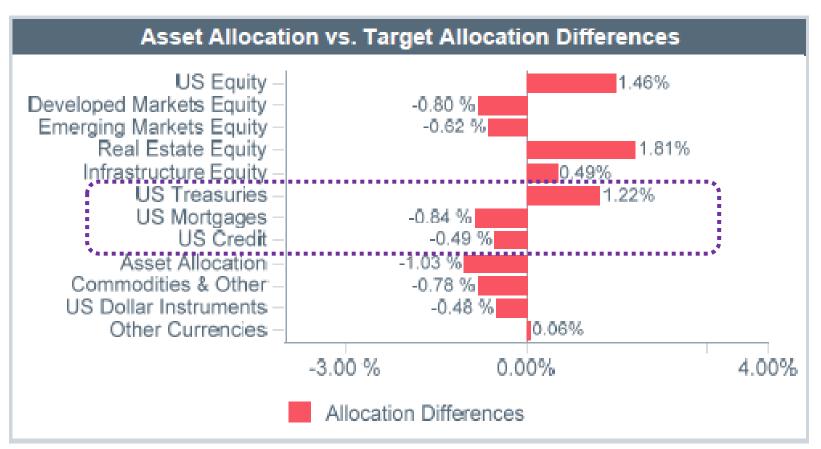


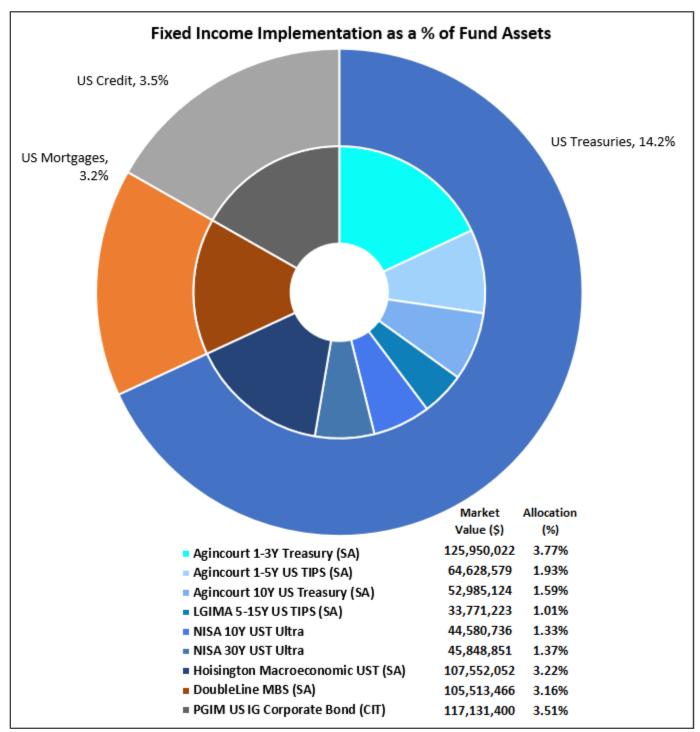
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Current Implementation & Performance of Fixed Income

Fixed Income Overview

- At the end of Q1, the fixed income portfolio was slightly underweight its 21% neutral allocation
- Implementation within fixed income largely results in a barbell approach to controlling duration – larger weights to key short and long duration mandates





Source: Staff analysis of BNY Mellon data as of March 31, 2022, RVK Q1 2022 Performance Report



Active vs Passive in Fixed Income

- Given the opportunity set and poor benchmark methodology, Staff continues to generally believe active management is likely to add value on a risk-adjusted, net-of-fees basis
- As such, the Fixed Income portfolio has a heavier presence of active management than do many other areas of the Fund

FUND CATEGORY	COMPARISON INDEX	1-YEAR	3-YEAR	5-YEAR	10-YEAR
Government Funds	Bloomberg Barclays U.S. Government Index	75.76	76.71	73.08	80.90
Inflation-Linked Funds	Bloomberg Barclays U.S. Treasury Inflation Notes Index	52.38	55.32	51.92	67.69
Investment-Grade Corp Funds	Bloomberg Barclays U.S. Corporate Index	41.59	46.34	43.80	44.79
High-Yield Corp Funds	Bloomberg Barclays U.S. Corporate High Yield Bond Index	68.60	60.67	79.01	62.82
Agency MBS Funds	Bloomberg Barclays U.S. MBS Index	25.00	35.00	34.43	38.10

Unlike US Equities, active management is more likely to add value in IG Credit and MBS strategies where there is benefit to do things differently than the underlying index

Source: S&P SPIVA Institutional Scorecard Year-End 2020, emphasis added by Staff



Fixed Income Performance

 Overall, strong manager selection and mandate specification have led to better returns than the underlying benchmarks

	Allocation	1				Ra	ate of Retu	rn (%)			
	Market Value (\$)	%	MTD	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	Since Incep.	Inception Date
Global Fixed Income	697,961,453	20.89	-2.81	-6.12	-6.12	-2.00	1.43	2.03	2.26	5.40	02/01/1991
Global Fixed Income Benchmark			-3.05	-6.16	-6.16	-6.40	0.69	1.43	1.88	5.22	
Excess Return			0.24	0.04	0.04	4.40	0.74	0.60	0.38	0.18	
US Treasuries	475,316,587	14.22	-2.89	-5.97	-5.97	-0.55	N/A	N/A	N/A	2.68	05/01/2019
US Treasuries Benchmark			-3.11	-5.58	-5.58	-3.67	1.39	1.76	1.68	1.53	
Excess Return			0.22	-0.39	-0.39	3.12	N/A	N/A	N/A	1.15	
US Mortgages	105,513,466	3.16	-2.72	-4.85	-4.85	-5.44	N/A	N/A	N/A	-0.34	08/01/2019
US Mortgages Benchmark			-2.60	-4.97	-4.97	-4.92	0.56	1.36	1.70	-0.25	
Excess Return			-0.12	0.12	0.12	-0.52	N/A	N/A	N/A	-0.09	
US Credit	117,131,400	3.51	-2.59	-7.83	-7.83	-4.01	N/A	N/A	N/A	2.03	08/01/2019
US Credit Benchmark			-2.51	-7.42	-7.42	-4.16	2.81	3.18	3.44	1.36	
Excess Return			-0.08	-0.41	-0.41	0.15	N/A	N/A	N/A	0.67	

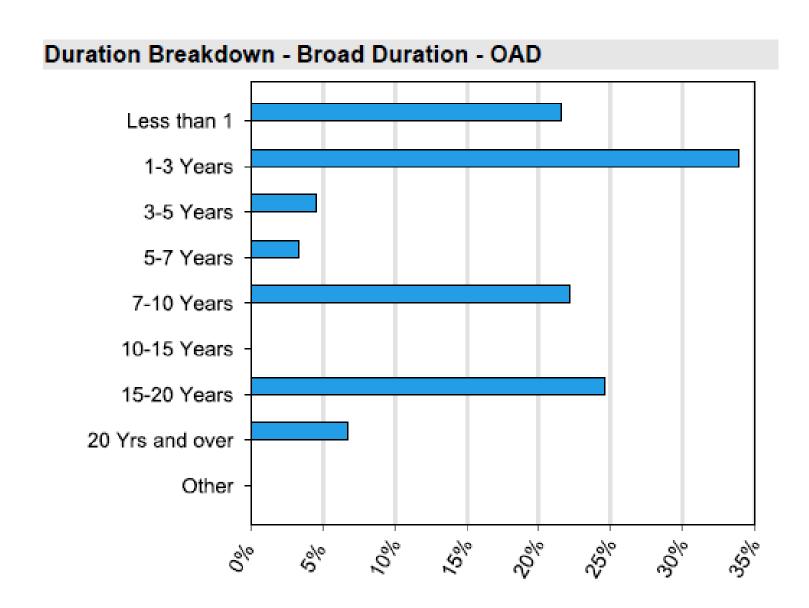


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Review of Fixed Income Sub-Asset Classes

US Treasuries

- US Treasuries serve two roles in the portfolio: providing liquidity and hedging equity risk
- The Fund has meaningful allocations to short and long duration mandates which can be adjusted to achieve a desired level of duration
- The portfolio is currently positioned with longer duration than the benchmark and will exhibit larger price moves (both up and down) based on changes in interest rates
- Additionally, active manager Hoisington has discretion to allocate to any maturity USTs which could materially move duration lower

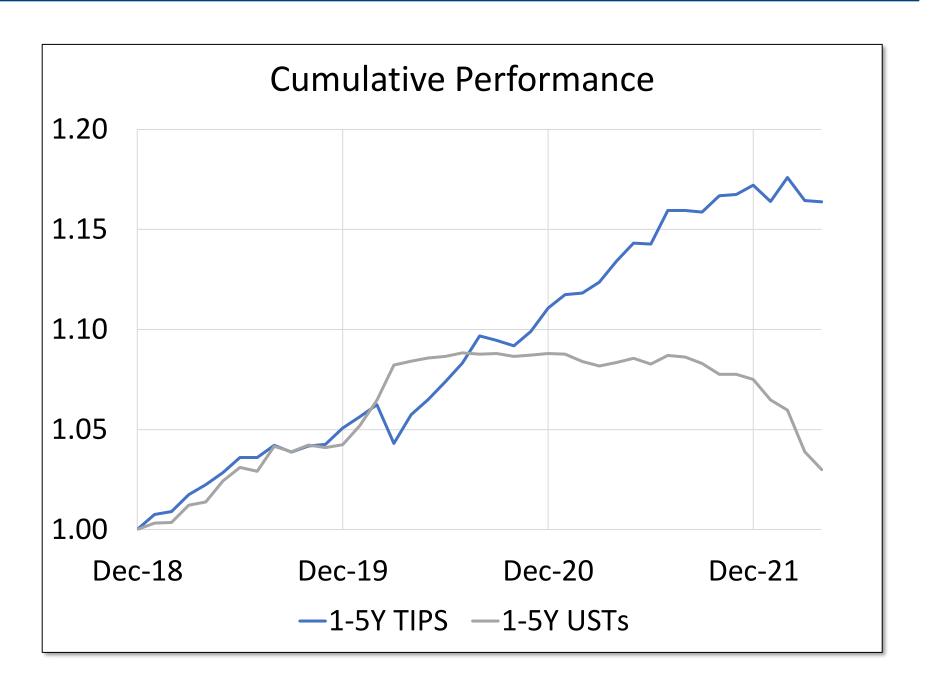




Positioning US Treasuries During Inflationary Times

- Within US Treasuries, COAERS has two Treasury Inflation Protected Securities (TIPS) mandates which add inflation protection
- The two TIPS mandates cover the short (1-5 years) and intermediate (5-15 years) parts of the curve and have provided meaningful diversification benefits within USTs

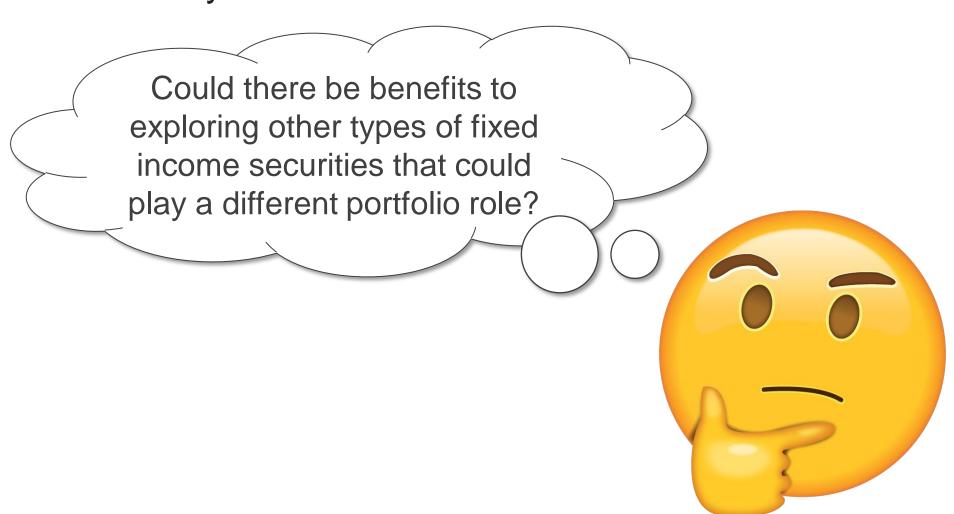
While not a perfect inflation hedge,
TIPS have held up much better through
the recent volatility in interest rates





US MBS & Credit

- MBS continues to serve as a liquidity and a rate-sensitive allocation while Credit serves as return-seeking allocation
- As discussed in the previous agenda item, current investments in investment grade bonds and agency MBS represent a small portion of the available instruments within fixed income and offer only marginal incremental yields relative to USTs



COAERS

Fixed Income Premier List Recommendations

10. Discuss and consider investment beliefs, goals, and strategy

Presented by Christopher Hanson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 10:

Discuss and consider investment beliefs, goals, and strategy

AGENDA ITEM OBJECTIVE

The Committee will receive a presentation discussing the results of the recent investment beliefs survey.

RELEVANCE TO STRATEGIC PLAN

This agenda item in central to COAERS Strategic Plan Goal 4: Identify and implement leading practices in board governance, pension administration, and investment management. Investment beliefs represent key foundational concepts on which recommendations in the investment program are based.

RECOMMENDATION FOR COMMITTEE ACTION

For discussion and informational purposes only, no action required.

BACKGROUND

Adopted in 2017, the System's investment beliefs are codified into the Investment Policy Statement and represent foundational assumptions that shape the way the investment program is structured and implemented. In this agenda item, Staff will lead a review of these investment beliefs based on recent survey information and discuss with the committee and recommended updates to these adopted beliefs.

ATTACHMENT

- 1. Staff Presentation: "Refreshing the System's Investment Beliefs"
- 2. Investment Beliefs Survey Results



Refreshing the System's Investment Beliefs

David Stafford
Interim Chief Investment Officer
May 20, 2022

Investment Beliefs

- Having a coherent and explicit investment philosophy is a best practice that can help enhance governance and performance
- The Board has adopted investments beliefs in the Investment Policy Statement which set the direction of investment policy, implementation and governance
- They help define how COAERS will create investment value in the context of future uncertainty, risk and opportunity
- The purpose of this survey was to gauge the appropriateness of the adopted investment beliefs and guide conversations about any modifications that might be prudent to consider
- The goal for this presentation is to provide an overview of the survey responses, discuss various perspectives and propose next steps in this process



Current In	vestment Beliefs	Tota	l Res	ponse	s			Average Response					
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses	
1	The Fund is a permanent entity with long-lived liabilities and, as such, it should strive to be a thoughtful, analytical, and patient investor that is focused on achieving successful outcomes.	11	5	0	0	0	0	4.69	4.44	5.00	5.00	0.46	
2	Clear governance and decision-making structures that promote decisiveness, simplicity, efficiency, and accountability are effective and add value to the Fund.	12	4	0	0	0	0	4.75	4.56	5.00	5.00	0.43	
3	To the extent possible, investment decision-making should be driven by data and analysis, including the findings of relevant research on financial markets and investment management.	13	3	0	0	0	0	4.81	4.67	5.00	5.00	0.39	
4	Strategic asset allocation is the most critical aspect of the investment process, with the level of risk assumed by the Fund driven primarily by its allocation to equity investments.	8	6	1	0	0	1	4.47	4.25	4.75	4.67	0.62	
5	The Fund should seek to be well compensated for the investment risks it chooses to bear, risks that should be articulated at the time of investment and revisited regularly.	10	6	0	0	0	0	4.63	4.33	5.00	5.00	0.48	
6	Diversification across asset classes and risk factors is central to the System's investment strategy, and investments that may improve the Fund's risk/return profile will be considered.	11	4	1	0	0	0	4.63	4.33	5.00	5.00	0.60	
7	Equities are the most prudent investment vehicle for long-term growth of real values, and the associated drawdown risk should be carefully managed in light of the Fund's liabilities.	6	8	0	0	0	2	4.43	4.29	4.25	5.00	0.49	
8	Costs can significantly reduce net returns and therefore must be carefully measured and managed when making decisions regarding investment strategy and implementation.	11	5	0	0	0	0	4.69	4.56	5.00	4.67	0.46	
9	Implementation should occur passively and in public markets unless a high likelihood of success on a risk-adjusted, net-of-fees basis can be expected from other approaches.	9	6	0	0	0	1	4.60	4.38	4.75	5.00	0.49	

Current Beliefs

- Survey results suggest that there is broad agreement among the existing investment beliefs
- Questions 4 and 7 discuss the role of equities in the total Fund and show the lowest (though still high) levels of agreement



Prospective	e Investment Beliefs	Tota	l Resp	onse	s			Avera	ge Resp	onse		
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses
10	Risk is multi-faceted and robust risk management enhances our ability to achieve our mandates.	10	5	1	0	0	0	4.56	4.22	5.00	5.00	0.61
11	Markets are largely efficient over the long term (10–20 years); however, during certain economic and financial environments markets may not be efficient in setting prices.	7	5	3	0	0	1	4.27	4.13	4.00	5.00	0.77
12	Environmental, social and governance (ESG) considerations matter and are especially important for investors with a long-term investment horizon.	3	4	7	1	1	0	3.44	3.11	3.00	5.00	1.06
13	The relative performance of asset classes and investment styles is generally subject to reversion to the mean, although timing such moves is challenging.	2	11	3	0	0	0	3.94	3.89	3.75	4.33	0.56
14	Investment or asset class constraints and/or mandates will likely reduce investment returns.	4	3	6	0	0	3	3.85	3.57	4.75	3.00	0.86
15	A long-time horizon enables the Fund to invest in private market strategies which may provide diversification and/or enhanced returns, provided Fund liquidity is carefully managed.	8	5	0	1	0	2	4.43	3.86	5.00	5.00	0.82
16	Investment decisions may reflect wider stakeholder views, provided they are consistent with fiduciary duty to members and beneficiaries.	3	6	6	0	1	0	3.63	3.67	3.00	4.33	0.99
17	In pursuing a diversified portfolio, investments should be primarily considered and evaluated based on their functional role in the total Fund context.	7	7	0	0	0	2	4.50	4.00	5.00	5.00	0.50
18	Where appropriate, resources should be allocated to well-aligned, internal investment functions in order to improve outcomes over time.	9	2	3	0	0	2	4.43	3.86	5.00	5.00	0.82

Prospective Beliefs

- Responses suggest a few topics that likely could use additional discussion such as ESG, private markets and internal resources
- Questions 10, 15, 17 and 18 scored equal to or higher than the lowest scoring current investment belief



Role of Equities and Risk Management

• These three statements garnered favorable responses and focus on similar topics of risk management, equity allocations and the strategic asset allocation

		Total Responses						Avera	ge Res	sponse	2	
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses
4	Strategic asset allocation is the most critical aspect of the investment process, with the level of risk assumed by the Fund driven primarily by its allocation to equity investments.		6	1			1				4.67	0.62
7	Equities are the most prudent investment vehicle for long-term growth of real values, and the associated drawdown risk should be carefully managed in light of the Fund's liabilities.	6	8	0	0	0	2	4.43	4.29	4.25	5.00	0.49
10	Risk is multi-faceted and robust risk management enhances our ability to achieve our mandates.	10	5	1	0	0	0	4.56	4.22	5.00	5.00	0.61



Stewardship and Sustainability

• The statements regarding stewardship had the largest dispersion of views and could likely warrant additional discussion around what these concepts suggest

		Tota	l Res	pons	es			Avera	ge Re	sponse	2	
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses
12	Environmental, social and governance (ESG) considerations matter and are especially important for investors with a long-term investment horizon.	3	4	7	1	1	0	3.44	3.11	3.00	5.00	1.06
	Investment decisions may reflect wider stakeholder views, provided they are consistent with fiduciary duty to members and beneficiaries.	3	6	6	0	1	0	3.63	3.67	3.00	4.33	0.99



Strongest Contenders Among Prospective Beliefs

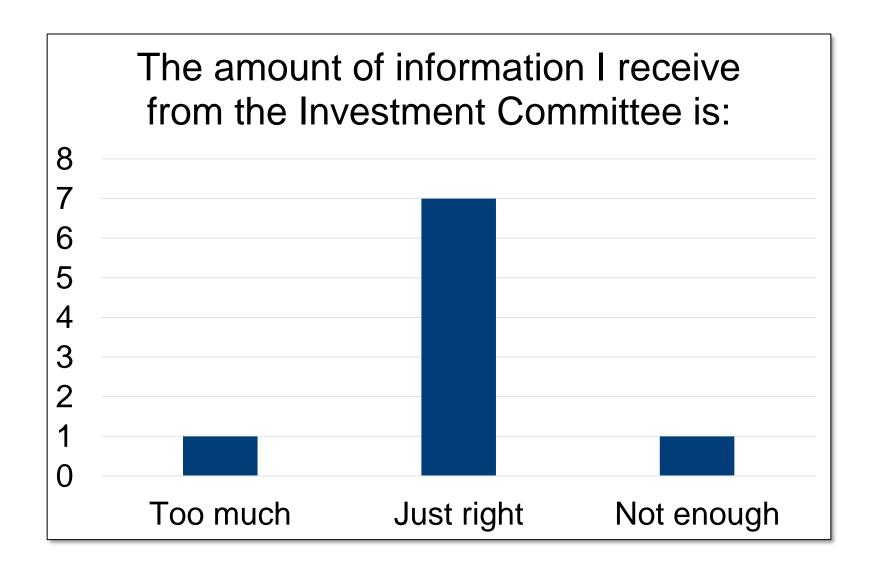
 The below prospective statements all scored within the range of existing investment beliefs and have strong agreement from Staff and Consultant

		Total Responses Average Response						2				
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses
10	Risk is multi-faceted and robust risk management enhances our ability to achieve our mandates.	10		1	0	0	0		4.22		5.00	0.61
15	A long-time horizon enables the Fund to invest in private market strategies which may provide diversification and/or enhanced returns, provided Fund liquidity is carefully managed.	8	5	0	1	0	2	4.43	3.86	5.00	5.00	0.82
17	In pursuing a diversified portfolio, investments should be primarily considered and evaluated based on their functional role in the total Fund context.	7	7	0	0	0	2	4.50	4.00	5.00	5.00	0.50
18	Where appropriate, resources should be allocated to well-aligned, internal investment functions in order to improve outcomes over time.	9	2	3	0	0	2	4.43	3.86	5.00	5.00	0.82



Amount of Information Provided from IC

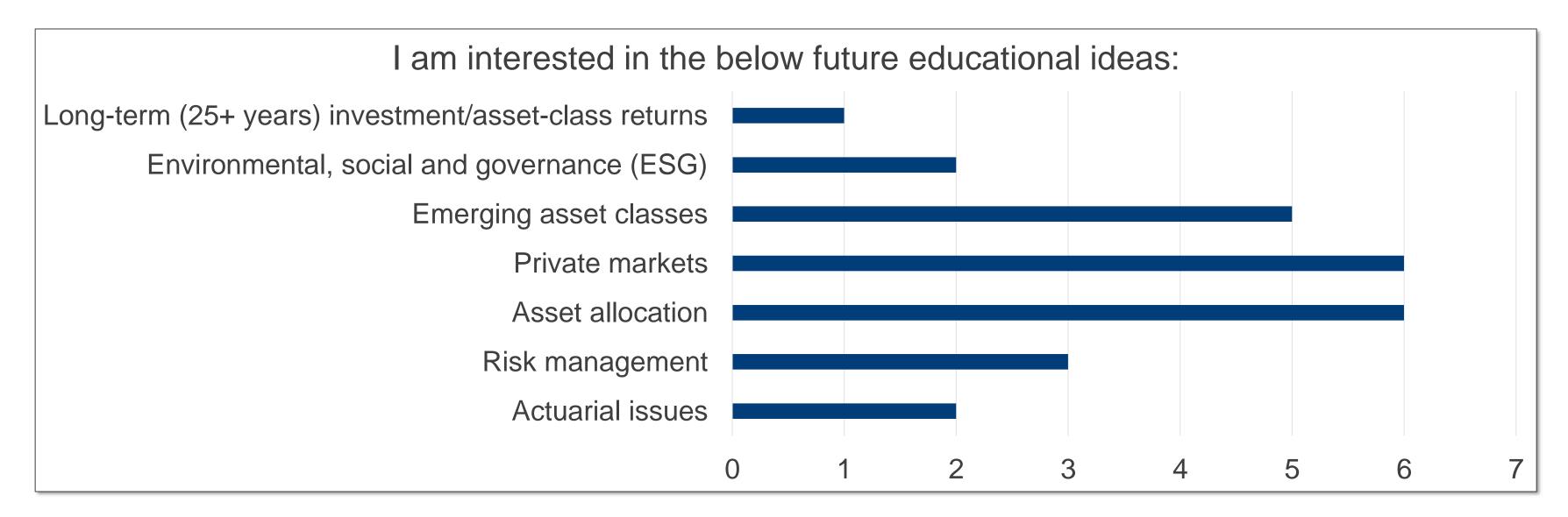
 Trustee responses generally suggest that just the right amount of information is being provided by the investment committee after recent efforts to streamline packets





Future Educational Areas

 Educational interest in private markets, asset allocation and emerging asset classes remain popular among Trustees





Staff Recommendation on Next Steps

- Educational, training and discussion in three major areas:
- 1. Role of equities and risk management
- 2. The potential of private markets and emerging asset classes
- 3. Stewardship and sustainability (i.e. ESG)
- These items could be discussed at the next IC meeting and Board retreat in October alongside any proposed amendments to the adopted investment beliefs



Survey Methodology

Respondents:

• Trustees: 9

• Staff: 4

• RVK: 3

• Scoring: higher average scores indicate stronger agreement with the statement

Response	Score
Strongly Agree	5
Agree	4
Neither Agree nor Disagree	3
Disagree	2
Strongly Disagree	1
Don't Know/Need More Information	Omitted

 Dispersion of responses: the standard deviation of scores; a higher number indicates a wider range of views



Current Investment Beliefs			l Resp	onse	!S			Avera				
Question	Statement	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know/NMI	All Respondents	Trustees Only	Staff Only	RVK Only	Dispersion of Responses
1	The Fund is a permanent entity with long-lived liabilities and, as such, it should strive to be a thoughtful, analytical, and patient investor that is focused on achieving successful outcomes.	11	5	0	0	0	0	4.69	4.44	5.00	5.00	0.46
2	Clear governance and decision-making structures that promote decisiveness, simplicity, efficiency, and accountability are effective and add value to the Fund.	12	4	0	0	0	0	4.75	4.56	5.00	5.00	0.43
3	To the extent possible, investment decision-making should be driven by data and analysis, including the findings of relevant research on financial markets and investment management.	13	3	0	0	0	0	4.81	4.67	5.00	5.00	0.39
4	Strategic asset allocation is the most critical aspect of the investment process, with the level of risk assumed by the Fund driven primarily by its allocation to equity investments.	8	6	1	0	0	1	4.47	4.25	4.75	4.67	0.62
5	The Fund should seek to be well compensated for the investment risks it chooses to bear, risks that should be articulated at the time of investment and revisited regularly.	10	6	0	0	0	0	4.63	4.33	5.00	5.00	0.48
6	Diversification across asset classes and risk factors is central to the System's investment strategy, and investments that may improve the Fund's risk/return profile will be considered.	11	4	1	0	0	0	4.63	4.33	5.00	5.00	0.60
7	Equities are the most prudent investment vehicle for long-term growth of real values, and the associated drawdown risk should be carefully managed in light of the Fund's liabilities.	6	8	0	0	0	2	4.43	4.29	4.25	5.00	0.49
8	Costs can significantly reduce net returns and therefore must be carefully measured and managed when making decisions regarding investment strategy and implementation.	11	5	0	0	0	0	4.69	4.56	5.00	4.67	0.46
9	Implementation should occur passively and in public markets unless a high likelihood of success on a risk-adjusted, net-of-fees basis can be expected from other approaches.	9	6	0	0	0	1	4.60	4.38	4.75	5.00	0.49

Prospective Investment Beliefs			l Resp	onse	S		Avera					
10	Risk is multi-faceted and robust risk management enhances our ability to achieve our mandates.	10	5	1	0	0	0	4.56	4.22	5.00	5.00	0.61
11	Markets are largely efficient over the long term (10–20 years); however, during certain economic and financial environments markets may not be efficient in setting prices.	7	5	3	0	0	1	4.27	4.13	4.00	5.00	0.77
12	Environmental, social and governance (ESG) considerations matter and are especially important for investors with a long-term investment horizon.	3	4	7	1	1	0	3.44	3.11	3.00	5.00	1.06
13	The relative performance of asset classes and investment styles is generally subject to reversion to the mean, although timing such moves is challenging.	2	11	3	0	0	0	3.94	3.89	3.75	4.33	0.56
14	Investment or asset class constraints and/or mandates will likely reduce investment returns.	4	3	6	0	0	3	3.85	3.57	4.75	3.00	0.86
15	A long-time horizon enables the Fund to invest in private market strategies which may provide diversification and/or enhanced returns, provided Fund liquidity is carefully managed.	8	5	0	1	0	2	4.43	3.86	5.00	5.00	0.82
16	Investment decisions may reflect wider stakeholder views, provided they are consistent with fiduciary duty to members and beneficiaries.	3	6	6	0	1	0	3.63	3.67	3.00	4.33	0.99
17	In pursuing a diversified portfolio, investments should be primarily considered and evaluated based on their functional role in the total Fund context.	7	7	0	0	0	2	4.50	4.00	5.00	5.00	0.50
18	Where appropriate, resources should be allocated to well-aligned, internal investment functions in order to improve outcomes over time.	9	2	3	0	0	2	4.43	3.86	5.00	5.00	0.82

Discuss and consider Investment Consultant including annual review and contracting

Presented by David Stafford



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 11:

Discuss and consider Investment Consultant including annual review and contracting

AGENDA ITEM OBJECTIVE

The Committee will conduct the required annual review of the System's investment consultant.

RELEVANCE TO STRATEGIC PLAN

This agenda item is part of the core competency set forth in the **COAERS Strategic Plan** "*Prudent Investment Management:* Fulfilling fiduciary duty through monitoring performance within adopted process and stated goals." Committee review of the performance of the investment consultant helps ensure that Trustees monitor the performance of the portfolio and achieve the goal of prudent investment management.

RECOMMENDATION FOR COMMITTEE ACTION

Staff recommends that the Committee refer to the Board for approval Amendment No.3 to the Service Agreement between RVK and the System. Staff also recommends the Committee refer to the Board an amendment to the Investment budget to add funding of \$55,000 in 2022 for an asset liability study.

BACKGROUND

Best practices for fiduciaries require the regular evaluation of key service providers, particularly those that are engaged in a fiduciary capacity to provide strategic advice to the Board. To that end, Staff has (1) provided its assessment of the services RVK provides to COAERS and (2) conducted a detailed review of the relevant compliance and regulatory documents to gauge the overall health and stability of the firm. An overview of the fees paid to RVK since 2018 is below:

	2018A	2019A	2020A	2021A	2022E
Base fee	\$250,000	\$250,000	\$253,750	\$264,452	\$274,431
Asset Liability Study	\$40,000	ı	-	ı	\$55,000
TX 802.109 Report	-	ı	\$45,000	ı	1
Custodian RFP	-	ı	\$35,000	ı	-
TOTAL	\$290,000	\$250,000	\$333,750	\$264,452	\$329,431

The contract with RVK included an initial 3-year period that ended on June 30, 2020, and two potential extensions of 2 years. The first 2-year contract extension was executed and continues through June 30, 2022. This review covers services provided



COMMITTEE MEETING Agenda Item Information Sheet

over the last year of that 2-year extension and will include a recommendation on the final proposed 2-year contract extension through June 30, 2024, with any further determination of general investment consulting services made through an RFP process prior to this date.

ATTACHMENTS

- 1. Staff Assessment of Investment Consultant Services
- 2. Staff Review of RVK Firm, Compliance and Regulatory Documents
- 3. Proposed RVK Retainer Agreement Amendment 3
- 4. Proposed Update to the 2022 Investment Budget

SUPPLEMENTAL INFORMATION PROVIDED VIA CONVENE APP

- 1. RVK SEC Forms ADV Part 1 and Part 2A
- 2. RVK Due Diligence Questionnaire
- 3. RVK Site Visit Meeting Presentation
- 4. RVK Site Visit Staff Report
- COAERS Contract with RVK for Investment Consulting services including amendments
- 6. RVK Code of Conduct and Ethics

Staff Assessment of Investment Consultant Services

Summary rating: Outstanding. RVK was selected to provide objective, strategic advice to the Board and, in the view of Staff, has contributed meaningfully to the Fund through sound fiduciary recommendations and perspectives.

Governance: RVK perspectives on governance have provided thoughtful views on industry best practices and actively encouraged strategic focus, which avoids the often cookie cutter approach to advice on this subject. As a result, RVK has been able to help the Board solve for and move towards best-in-class Fund governance that is tailored to the needs of the System.

Written materials/communications: RVK has provided committee materials and presentations in advance of deadlines. In response to committee feedback, these materials have become more and more streamlined to help focus conversations on the most meaningful topics. RVK also provides capital market assumptions, detailed investment analysis, monthly performance reporting and materials for the annual comprehensive financial report in a timely and relatively accurate fashion. RVK has a dedicated email address for the COAERS relationship and individuals are prompt in their responses.

Meeting Attendance: As promised, RVK sends two consultants to be regular attendees of investment committee meetings and important board meetings with investment related items. Given health and safety guidance, attendance over the past year has been done virtually though RVK has expressed a willingness to return to attending in person when appropriate. Despite the challenges with virtual meetings, the consultants still manage to contribute meaningfully to the conversation and provide differentiated perspectives.

Manager Diligence: On the whole, RVK has provided meaningful contributions to manager selection, portfolio construction and Staff's efforts in the Premier List process. Staff notes that the RVK approach to manager selection and monitoring tends to focus on more customized approaches with fewer, best-in-class managers which is well aligned with the Premier List philosophy. However, should the Board choose to pursue certain private markets strategies, such as venture capital, it may be prudent to closely review RVK's capabilities and consider whether a specialized consultant could be additive to that approach.

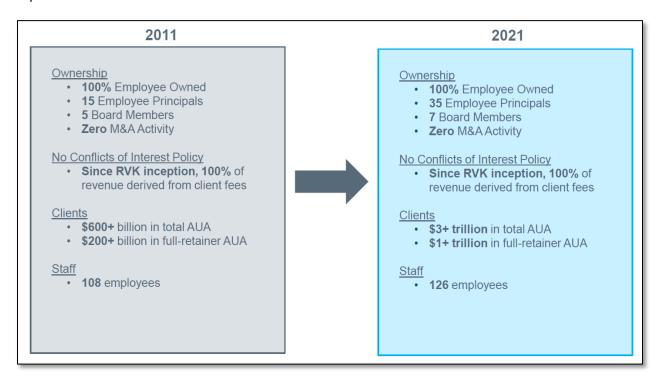
Special Projects: Historically, RVK has provided assistance on a variety of special projects such as the asset/liability study, custodial bank RFP, TX 802.109 report and custom peer benchmarking reports with great success. Given the ongoing progress with pension modernization, it may be prudent to consider bringing forward the next required asset/liability study into 2022.

Other Considerations: The firm remains strongly committed to its conflict-free business model, which is a rarity in the consulting world and a source of strong alignment with clients. Billing and other operational details have been handled smoothly.

Staff Review of RVK Diligence Items

As part of its annual review of RVK for the Board, Staff performed a site visit at the RVK offices to discuss the firm and meet with a variety of RVK personnel. Additionally, Staff reviewed key firm, compliance, ethics, due diligence, and regulatory documents including current and historical SEC Form ADV filings.

In total, Staff concludes that RVK remains a well-managed top-tier investment consulting firm that is keenly focused on providing high quality, strongly aligned strategic advice to institutions. RVK has significantly increased its Assets Under Advisement (AUA) in the five years that COAERS has been a client to over \$3T, placing the firm as the 5th largest US institutional investment consultant by this measure. Staff notes that this number is skewed higher by project related engagements and full retainer AUA is nearer to \$1T. The growth in AUA alongside steady total client counts suggest that RVK continues to focus on organic growth for their firm, instead of the common practice of growth through mergers or acquisitions.



Key Updates from Staff Site Visit to RVK Offices

During its site visit to the RVK offices, Staff was able to meet with senior personnel at RVK in firm leadership and investment manager research. Becky Gratsinger (CEO and President) and Jim Voytko (President) discussed the evolution of the firm in line with this large growth in AUA. They suggested that the firm continues to focus on generational planning, advising for the long run and maintaining employee ownership of the firm. In the view of Staff, these goals are well aligned with the experienced growth of RVK and structure of the organization. The primary focus of RVK remains non-discretionary investment consulting and new practice areas, notably outsourced chief investment officer (OCIO) search, have generally evolved from existing client needs.

General Consulting

- Trustee Education
- · Investment Policy Review and Development
- Asset Allocation Analysis
- Manager Search and Evaluation
- Manager Monitoring and Due Diligence
- Performance Reporting Total Fund
- Performance Reporting Alternative Asset Classes
- Manager Structure Studies

Investment Operations Solutions Group

- · Securities Lending Program Development
- · Trade Execution Analysis
- Organizational and Compensation Analysis
- Custody/Recordkeeper Searches and Evaluation
- Prime Brokerage Due Diligence and Selection
- · Cash Management Program Development
- · Transition Management

Specialty Consulting

- · Real Estate Investment Program Development
- Targeted Due Diligence on Direct Alternative Investments
- · Alternative Asset Due Diligence and Pacing
 - Private Equity Fund of Funds
 - Real Return Strategies
 - Hedge Fund of Funds
- · Stochastic Risk Analysis and Modeling
- · Liability Driven Investing Studies
- · Asset Liability Modeling
- · Legislative Issues Support
- · Strategic Planning and Organization Analysis

Defined Contribution Solutions Group

- Plan Structure
- Industry Trend Analysis
- · Third Party Administrator Evaluation
- Investment Selection and Monitoring
- · Plan Operations and Platform Analysis
- Fiduciary Policy Development and Implementation
- Participant Education

For COAERS it is notable that Spencer Hunter (one of the two lead consultants for COAERS) remains a control person of the firm and is a member of RVK's Board of Directors. In addition, Ian Bray (the other of the two lead consultants for COAERS) remains a shareholder of the firm and was promoted from Consultant to Senior Consultant since the last review of RVK. Finally, Kevin Wyllie (primary support for COAERS) was promoted from Associate Consultant to Consultant in the past year. Staff views the seniority of these consultants and their success at the firm as evidence that COAERS is receiving insights and analysis from the most talented professionals that RVK has to offer.

Staff also met with Ryan Sullivan (Senior Consultant, Principal) who leads RVK's asset liability (A/L) studies and is a senior member of the RVK team that sets capital market assumptions. Ryan and his team have built out additional A/L capabilities including scenario analysis, deterministic and stochastic modelling, liquidity modeling and risk budgeting. As such, he suggested that RVK could provide meaningful analysis for the System given the ongoing pension sustainability efforts. In scenarios where contributions are increased or the System adopts an actuarially determined contribution, Ryan suggested that COAERS has a unique opportunity to rethink some of the key allocation decisions for the Fund.

RVK discussed their investment manager due diligence process and Staff had the opportunity to meet with Austin Head-Jones (traditional and alternative fixed income), Steve Hahn (private equity) and their respective teams. As industry and client needs have evolved, they noted that there was a need to build sophistication in the firm's direct fund diligence. As such, since 2007 the firm has expanded its headcount in this area to improve their capabilities. In their view, RVK tends to use a more customized approach for each client focusing on client needs and objectives instead of a "buy list" of funds.

Regulatory Assets Under Management (AUM)

Investment Committee May 20, 2022

As previously noted, in RVK's 2020 SEC Form ADV Part 1, the firm had "Regulatory Assets Under Management" totaling \$112 million. This amount had grown to \$828 million in 2021 and \$1.3 billion in 2022.



Staff monitors this disclosure since any move by an investment consultant to become an asset manager or OCIO provider (and thereby being required to report a nonzero level of AUM) could raise the risk of significant new conflicts of interest. Staff discussions with RVK indicate that the revisions to this disclosure do not suggest a push by the firm into new business areas with risk of significant conflicts, but rather an ongoing administrative recategorization of existing business activity for disclosure purposes.

Specifically, RVK has indicated that the activity now captured under this disclosure involves a handful of small clients with limited staff where RVK has limited power of attorney to complete paperwork and execute trades with prior approval of those clients. Much of this "direct to consultant" business is done for small and legacy relationships, often with charitable organizations, and RVK reports that these clients maintain full discretion over all investment decisions.

Staff finds this explanation credible since the SEC guidance on how to calculate AUM for regulatory purposes makes the determination complicated and somewhat subjective. That process considers a range of facts including the terms of the advisory contract, the nature of the compensation arrangement, and the kinds of management practices applied to the accounts. In past years RVK has determined that the assets involved in these arrangements did not meet the SEC definition of RAUM, but recent consultations with legal counsel and SEC personnel have led RVK to revisit that conclusion.

Based on this research, Staff believes the change in the firm's disclosure is attributable to RVK revisiting its past disclosures alongside asset growth in the markets rather than a new push toward becoming an asset manager. As such, we regard the change as a routine administrative update rather than a worrisome red flag for the relationship.

Ongoing Litigation

As has been in the news in recent years, RVK is one of 31 organizations named in a fiduciary lawsuit brought in 2017 by eight individuals regarding the Kentucky Retirement System (KRS). In 2021, RVK noted that the original lawsuit had been dismissed by the state supreme court for lack of standing but the case had been resurrected by the state attorney general.

In the ADV Part 1 dated March 30, 2022, RVK discloses the following developments:

• A group of the original private plaintiffs, along with a group of "tier 3" plaintiffs who participate in the KRS plan have made efforts to re-enter the case. These efforts have been rejected by the courts and the plaintiffs have a pending appeal.

Investment Committee May 20, 2022

- The "tier 3" plaintiffs have filed substantively similar cases which asserts putative class action allegations and direct breach of trust claims. One of these cases was removed to federal court and the court stayed all proceedings pending resolution of open state cases. RVK and all of the defendants filed motions to dismiss the other case, which the court has yet to rule on.
- The state attorney general filed an amended complaint, which was almost identical to the
 original. RVK and all defendants have filed motions to dismiss this complaint and the court has
 yet to rule on this.

Though these developments are notable and worthy of continued monitoring, Staff believes these actions will ultimately prove to be nuisance lawsuits for RVK and does not currently view it to be a material concern for COAERS.

Paycheck Protection Program (PPP) Loan

As has been noted in the past, RVK disclosed that it was among the 4.5 million small businesses that qualified for and received a loan under the Small Business Administration's PPP program that was created for COVID-19 relief.

In the ADV part 2A dated March 30, 2022, RVK updated disclosures related to this loan and, despite using these funds for the purposes set forth in the PPP program, suggest that they intend to repay the loan with interest instead of seeking forgiveness. RVK suggests that they are proceeding with repayment as their business has proven resilient and has the capacity to do so. Their understanding with their bank and SBA agent is that RVK was the only bank client that did not seek to have the loan forgiven outright but instead chose to repay it. This is a positive development in the view of Staff that suggests that the RVK business model remains strong despite COVID-19 related uncertainty for many of their clients and in the markets.

Changes in Control Persons

The list of the control persons included in the ADV Form 1 is largely unchanged except for the addition of Ryan Sullivan, who oversees the firm's A/L study capabilities. Ryan started with the firm in 2007, is a member of the firm's board and received a BS and MS from the University of Oregon.

FULL LEGAL NAME (Individuals: Last	DE/FE/I	Title or Status	Date Title or Status	Ownership	Control	PR	CRD No. If None: S.S. No. and Date
Name, First Name, Middle Name)	' '		Acquired MM/YYYY	Code	Person		of Birth, IRS Tax No. or Employer ID
							No.
GRATSINGER, REBECCA A	I	CEO/DIRECTOR/PRINCIPAL	12/2008	С	Υ	N	xxx-xx-xxxx
BEARD, MARCIA DENE PANKEY	I	SENIOR CONSULTANT/PRINCIPAL	12/2008	В	N	N	xxx-xx-xxxx
GRATSINGER, SCOTT P	I	CHIEF INFORMATION OFFICER/PRINCIPAL	10/2001	С	N	N	xxx-xx-xxxx
VOYTKO, JAMES MICHAEL	I	COO/PRESIDENT/DIRECTOR/PRINCIPAL	07/2012	В	Υ	N	xxx-xx-xxxx
KEVAN, JOSHUA, R	I	SENIOR CONSULTANT/PRINCIPAL	12/2008	Α	N	N	5643658
KOWOLIK, JONATHAN, K.	I	SENIOR CONSULTANT/PRINCIPAL	01/2010	Α	N	N	5786095
JOHNSON, ANTHONY, KEITH	I	DIRECTOR OF MIDWEST CONSULTING/ PRINCIPAL/DIRECTOR	02/2008	NA	Y	N	6270080
MILLER, JEREMY	I	SENIOR CONSULTANT/ DIRECTOR/PRINCIPAL	02/2013	NA	Y	N	6322450
BOREK, JOHN, RANDAL	I	CHIEF FINANCIAL OFFICER/PRINCIPAL	01/2016	NA	Υ	N	6609895
Healey, Megan, Elena	I	CHIEF COMPLIANCE OFFICER	08/2018	NA	Υ	N	7013375
LEDGERWOOD, JOSEPH, MICHAEL	I	DIR. OF INV. MGR. RESEARCH/PRINCIPAL	01/2019	NA	N	N	5088751
Hunter, Spencer, Lewis	I	SENIOR CONSULTANT/DIRECTOR/PRINCIPAL	01/2019	NA	Y	N	7072010
BAUER, MATTHIAS	I	SENIOR CONSULTANT/DIRECTOR/PRINCIPAL	04/2019	NA	Υ	N	7243114
Sullivan, Ryan, Patrick	I	SENIOR CONSULTANT/DIRECTOR/PRINCIPAL	04/2021	NA	Υ	N	7492670

New Client Type: Insurance Companies

Year over year, the types of clients that RVK serves has increased to also include insurance companies, though there were no updates to their description of services to include insurance specific items. While insurance companies have very different directives than public pensions, it appears likely to Staff that RVK's existing services and expertise could be additive to an insurance company and believes that this does not represent a material deviation from their overall general investment consulting focus.

Ethics Policy Remains Consistent with High Standards

Staff review of the firm's Ethics Policy indicates that it has not changed materially over the last year and that it remains consistent with the highest industry standards. The firm's ethics policy still makes it clear that RVK employees should not accept anything that may influence their judgement. Indeed, the policy clearly states that employees will not become involved in situations that compromise RVK's or such employee's independence and objectivity. Staff believes this stance continues to align well with that of COAERS toward these matters.



April 29, 2022



City of Austin Employees' Retirement System 6850 Austin Center Blvd., Suite 320 Austin, Texas 78731

Re: Amendment No. 3 to the Service Agreement ("Agreement") between RVK, Inc. and City of Austin Employees' Retirement System ("Client")

Dear Client,

Thank you very much for the opportunity to serve you as your investment consultant. This Amendment No. 3 (the "Amendment") extends the term of the Agreement as indicated below.

Whereas, pursuant to Section 1 of the Agreement, RVK and Client exercise the final option to renew the agreement for two (2) years, commencing July 1, 2022 and ending June 30, 2024.

Client may extend the term of this Agreement on a month-to-month basis subsequent to June 30, 2024. Either party may terminate this contract at any time after June 30, 2024 by providing 30 days prior notice at the beginning of a calendar month.

If the foregoing meets with your approval, please sign this Agreement. This Agreement may be executed in one or more counterparts, each of which shall be considered to be an original, and all of which, when taken together, shall constitute one of the same instrument. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or electronic mail in portable document format shall be effective as delivery of a manually executed counterpart of this Agreement.

Best Regards,

Rebecca A. Gratsinger, CFA Chief Executive Officer RVK. Inc.



This Agreement is executed by the person(s) signing below who warrant that they have the authority to execute this contract.

City of Austin Employees' Retirement System

Authorized Signature	Authorized Signature
Name (print)	
Title (print)	
Date Executed	
	RVK, Inc.
Authorized Signature	
Name: Rebecca A. Gratsinger	
Title: Chief Executive Officer	
Date Executed:	

COAERS Investment Budget -20)22E
	2022 Budget
Investment Manager Fees	
Total Investment Manager Fees	8,863,532
Basis Points of Average AUM	24.9
Investment Consulting	
Investment Consultant - Base Fees	274,431
Investment Consultant - Project Fees	55,000
Total Investment Consultant Costs	329,431
Investment Personnel	
Total Personnel Costs	1,305,719
Travel and Training	
Due Diligence & Site Visits	30,000
Staff Continuing Education	35,000
Total Travel and Training Costs	65,000
Staff Investment Resources	
Investment Systems	175,000
Investment Research	160,000
Memberships and Licenses	25,000
Total Staff Investment Resources Costs	360,000
Other Investment Costs	
Investment Legal Counsel	75,000
Reporting and Monitoring	50,000
Subscriptions	10,000
Securities Lending Fees	_
Commissions & Other Transaction Costs	220,000
Transition and Other Fees	50,000
Custodial Fees	260,000
Total Other Investment Costs	665,000
Total Investment Budget	\$ 11,588,682
Basis Points of Average AUM	32.6

12. Receive key meeting takeaways and call for future agenda items

Presented by Committee Chair Benson



COMMITTEE MEETING Agenda Item Information Sheet

AGENDA ITEM 12:

Review key meeting takeaways and call for future agenda items

AGENDA ITEM OBJECTIVE

This standing agenda item provides Trustees the opportunity to review the key takeaways from the meeting.

RELEVANCE TO STRATEGIC PLAN

This agenda item meets COAERS Strategic Plan Goal 4: Identify and implement leading practices in board governance, pension administration, and investment management. It is an industry best practice to review key meeting takeaways to summarize what was accomplished at the meeting as well as ensure Staff has clear direction on further work and future agenda items.

RECOMMENDATION FOR COMMITTEE ACTION

Trustees will review key meeting takeaways and delineate next steps.