

Fixed Income Structure Review

Broward Health Pension and Unrestricted Plans

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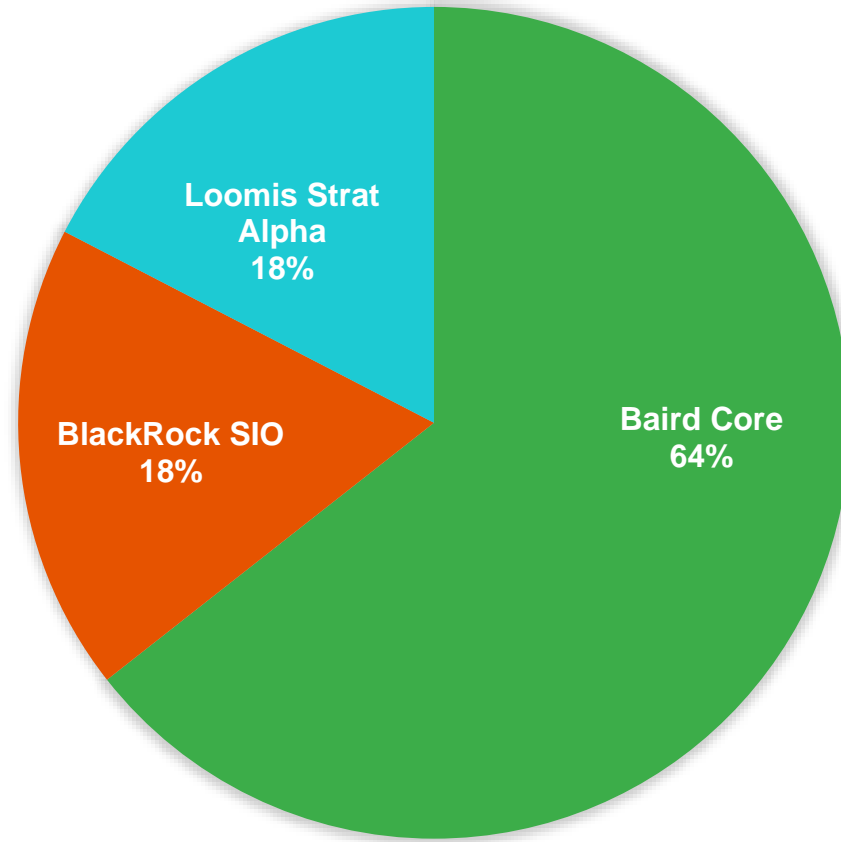
Robert Hungerbuhler, Senior Consultant

2022



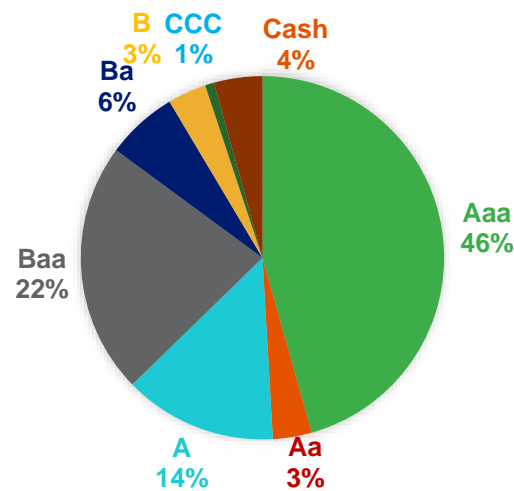
Segal Marco Advisors

Broward Health Pension Fixed Income (\$92,416,774)



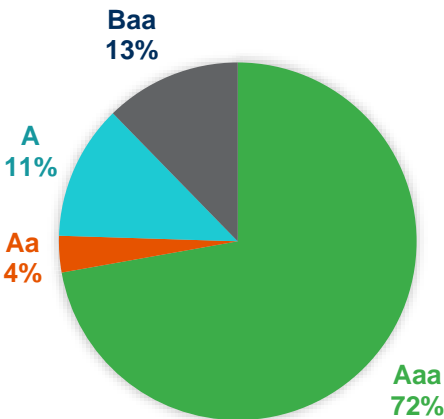
Portfolio Characteristics

Current Portfolio Quality

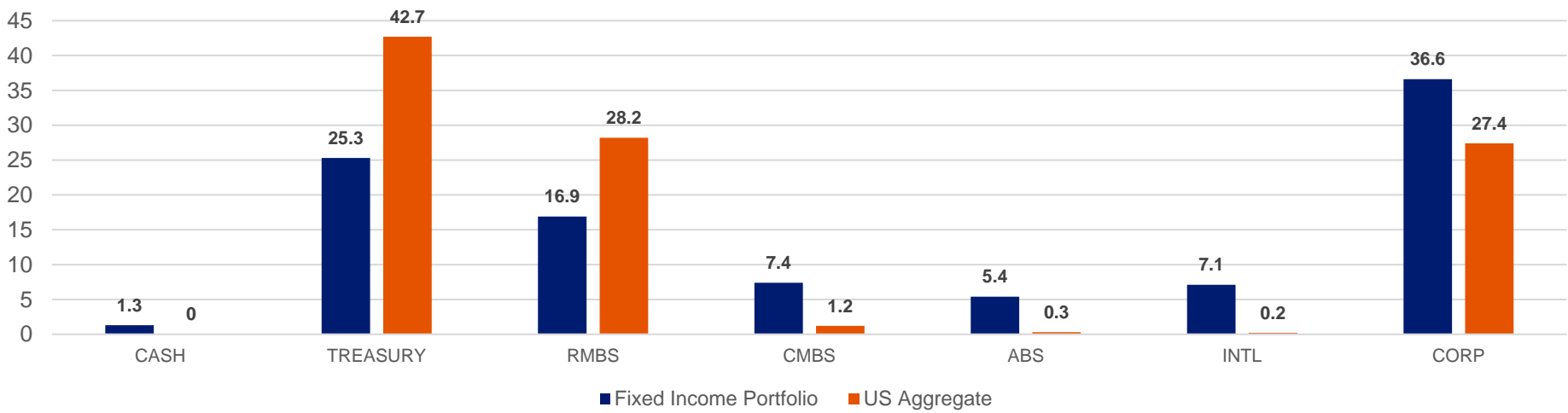


	Duration	Yield
FI Portfolio	5.04	2.01
US Aggregate	6.78	1.59

US Aggregate Index

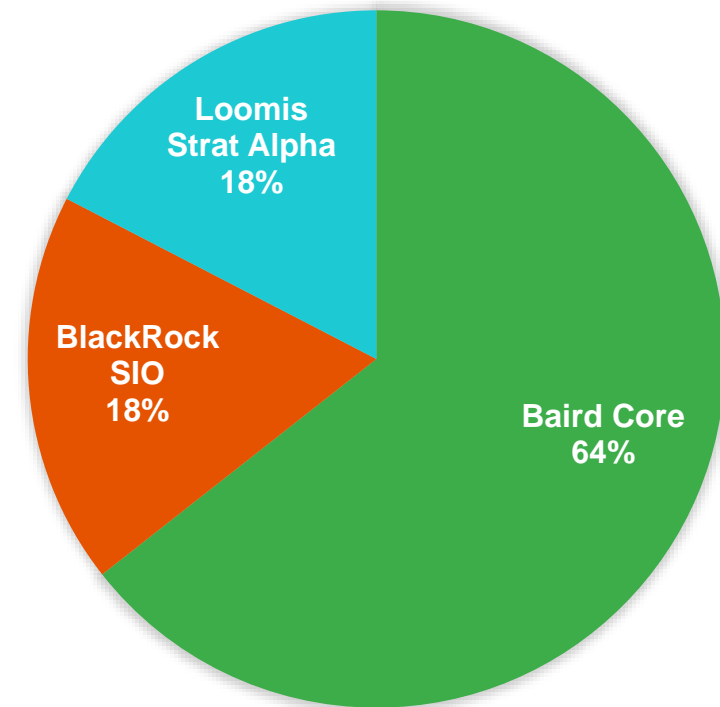


Sector Exposures



Broward Health Unrestricted Fund (\$222,866,674)

- Same allocation breakdown as the pension plan
- Appropriate for an institutional fixed income program
 - A diversified bond portfolio that provides uncorrelated performance behavior relative to equity



Fixed Income Asset Class Returns

2016	2017	2018	2019	2020	2021
High Yield 17.49	EMD Local 15.21	Munis 1.28	IG Corporates 14.54	Global Agg ex-US 10.11	High Yield 5.36
USD EMD 10.19	Global Agg ex-US 10.51	MBS 0.99	USD EMD 14.42	IG Corporates 9.89	Bank Loans 5.20
Bank Loans 10.16	USD EMD 9.32	Treasury 0.86	High Yield 14.41	Treasury 8.00	Munis 1.62
EMD Local 9.94	EMD (Corporate) 7.96	Bank Loans 0.44	EMD Local 13.47	EMD (Corporate) 7.13	EMD (Corporate) 0.91
EMD (Corporate) 9.65	High Yield 7.48	EMD (Corporate) -1.65	EMD (Corporate) 13.09	High Yield 6.17	MBS -1.04
IG Corporates 6.11	IG Corporates 6.42	Global Agg ex-US -2.15	Bank Loans 8.64	USD EMD 5.88	IG Corporates -1.04
MBS 1.67	Munis 5.45	High Yield -2.26	Munis 7.54	Munis 5.21	USD EMD -1.51
Global Agg ex-US 1.49	Bank Loans 4.12	IG Corporates -2.51	Treasury 6.86	MBS 3.87	Treasury -2.32
Treasury 1.04	MBS 2.47	USD EMD -4.61	MBS 6.35	Bank Loans 3.12	Global Agg ex-US -7.05
Munis 0.25	Treasury 2.31	EMD Local -6.21	Global Agg ex-US 5.09	EMD Local 2.69	EMD Local -8.75

Navigating a Low Interest Rate World

Where can a fixed income program add diversification and also be accretive to the overall plan?

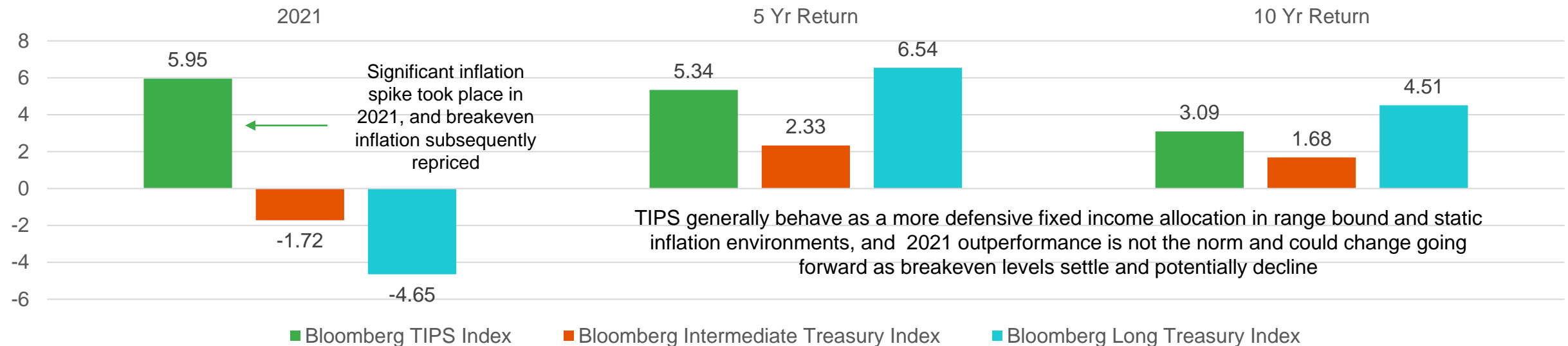
- There are three popular options to consider these days given an unappealing developed market interest rate outlook:
 - Sacrifice Liquidity: Allocate to the private debt markets through avenues like first lien senior secured illiquid or quasi-liquid strategy offerings
 - Examples: Direct Lending and Opportunistic Credit
 - Canvass the global landscape for unique structures (securitized, floating rate, bullet maturity) and move down in credit quality
 - Examples: Multi-Credit, Global Unconstrained, Bank Loans and Opportunistic High Yield
 - Source alpha through a differentiated ex-US opportunity set using a disciplined active management approach that can also target a unique and underrepresented instrument (currency)
 - Examples: Emerging Markets Local Debt, Emerging Markets Hard Currency Debt, Blended Emerging Markets Debt

Inflation: Headwinds and Opportunity

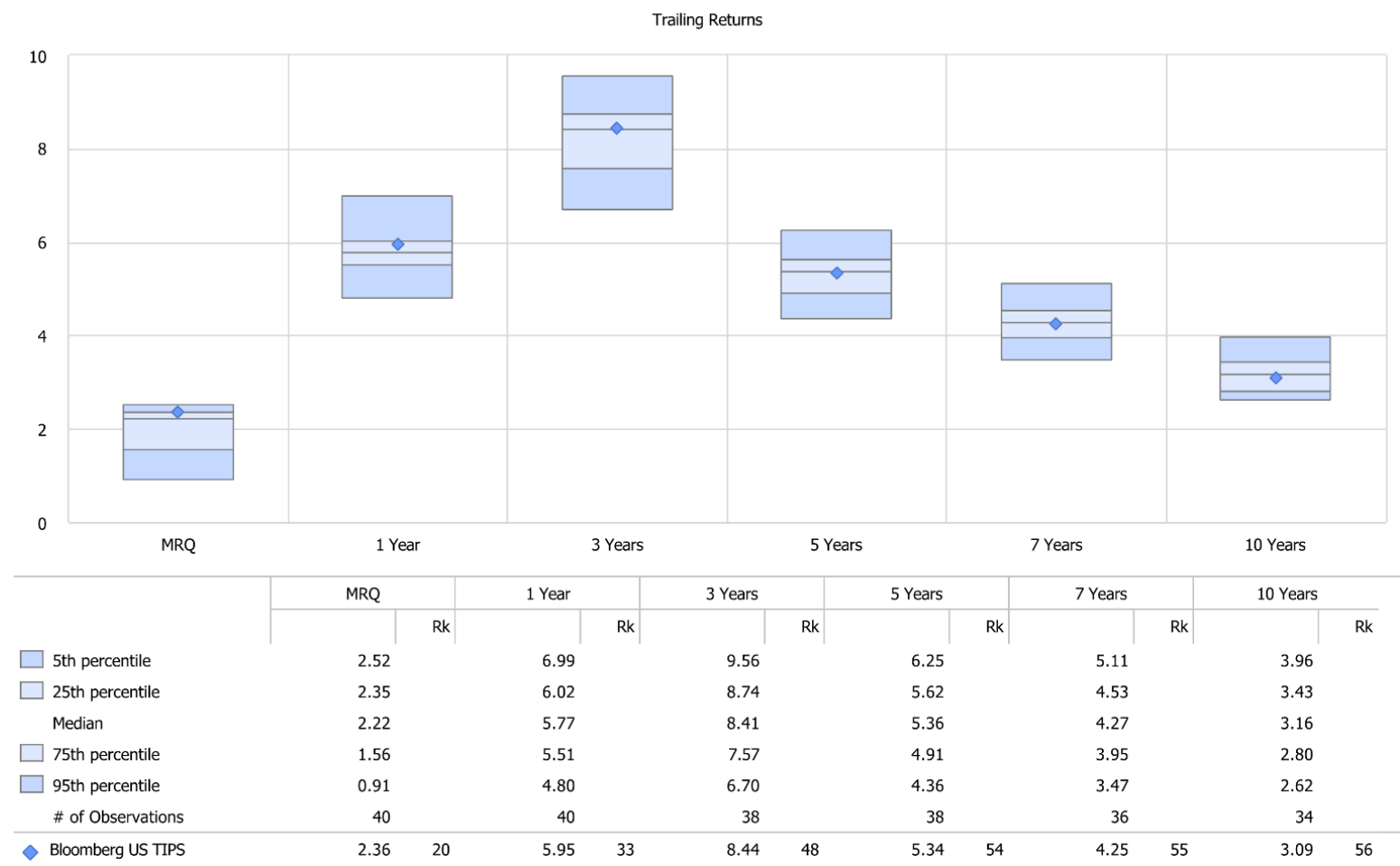
- Duration is undesirable in a trending inflationary re-pricing environment
 - However, over-enthusiastic selling in nominal government bonds and high convexity corporate debt securities create long term opportunities because of higher nominal interest rate levels
 - Transitory or Structural?
 - Has production been permanently altered or will supply bottlenecks work themselves out and see a return to pre-pandemic growth and supply chain efficiency levels?
- The near-term outlook is for global fiscal stimulus to be sharply reduced and many central banks to be more inclined to support hawkish policy
 - 2022 could ultimately be a transition year where the pre-COVID headwinds of debt, demographics, and technological displacements take center stage once again
- Benchmark agnostic, short duration, TIPS, securitized and floating rate strategies can provide long term diversification and alpha potential (both tactical and strategic) when combined with core fixed income

When Do TIPS Outperform?

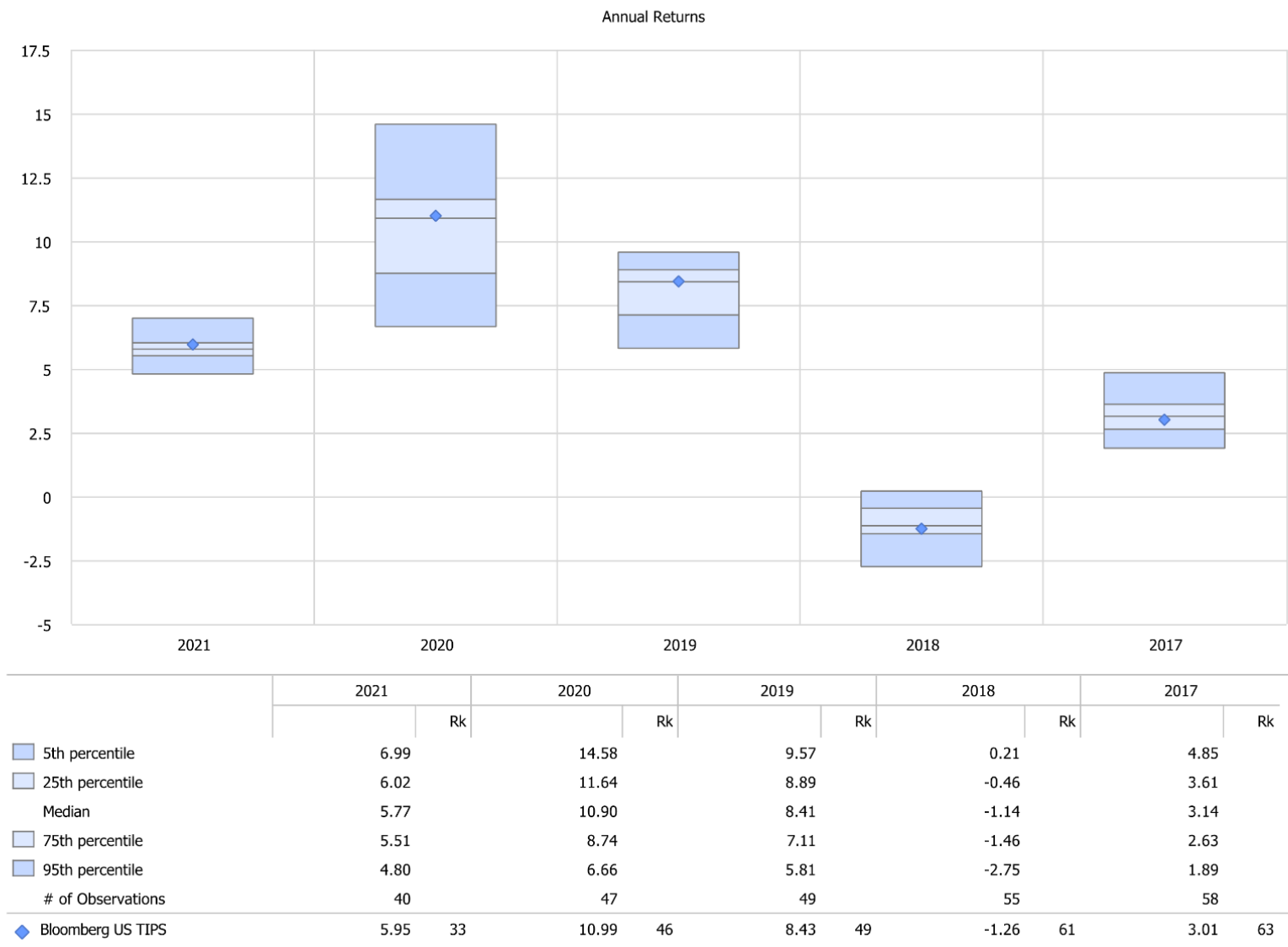
- During inflation **surprise** environments
 - A TIPS yield is the real yield component of a nominal Treasury bond
 - Breakeven inflation is the difference between the nominal Treasury yield and TIPS yield
 - When breakeven inflation is underpriced and inflation spikes, then TIPS tend to outperform nominal Treasuries during that period



Passive vs. Active Management

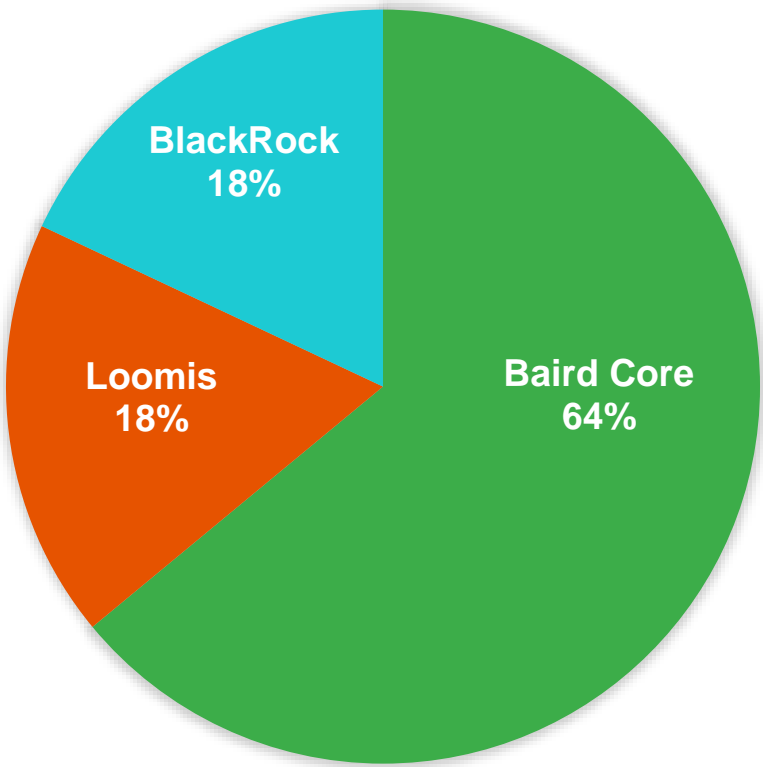


Historical Performance Supportive of Passive

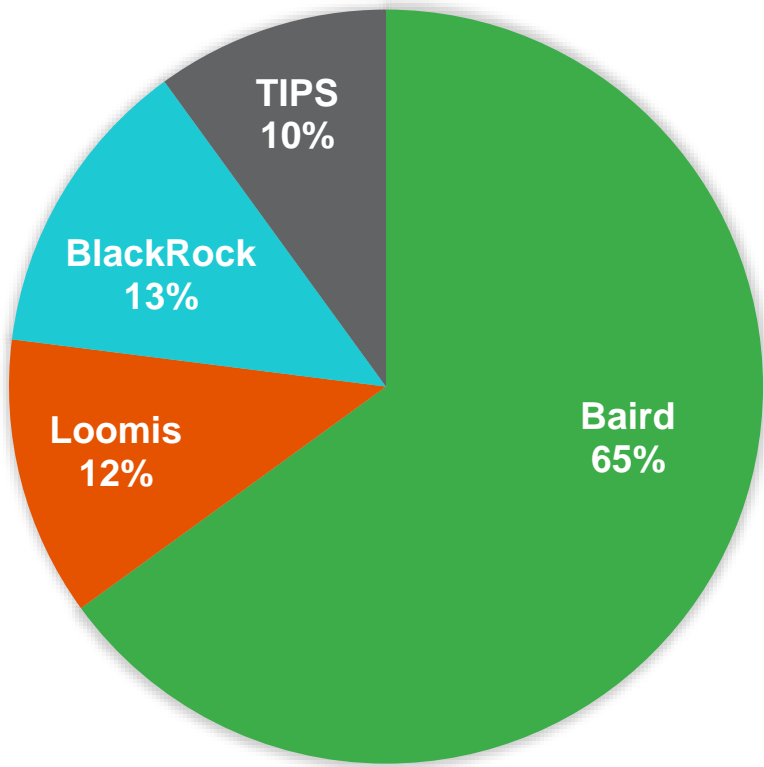


3% Plan Level TIPS Allocation

Current Portfolio (\$92,416,774)



Portfolio With TIPS (\$136,338,304)



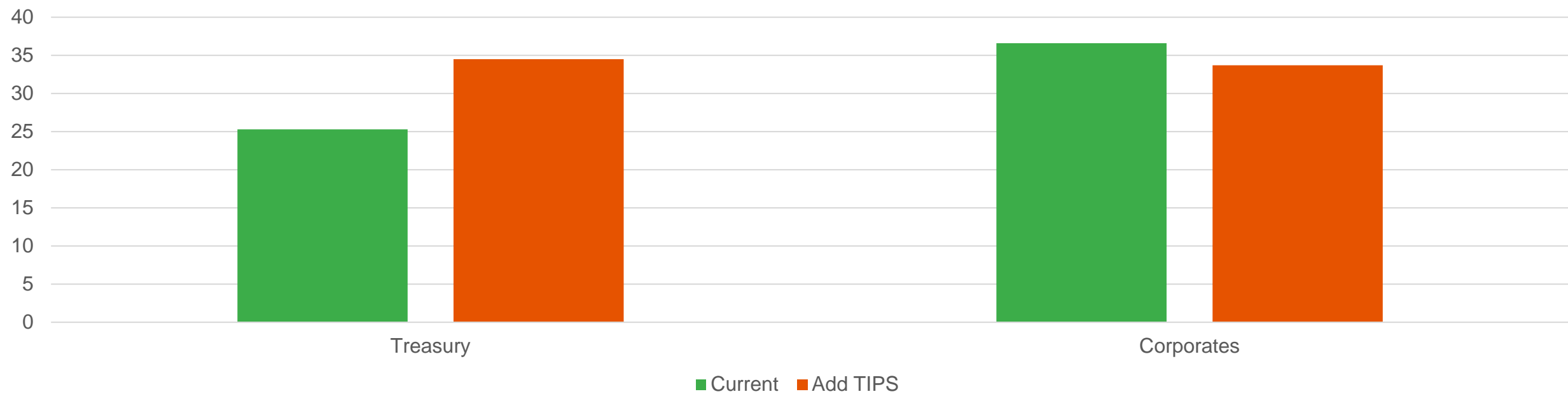
Portfolio Comparison

Current Portfolio

Duration	5.04
Yield	2.01
Trailing 3 Yr. Return	6.2%
Trailing 7 Yr. Return	3.6%

With TIPS*

Duration	5.65
Yield	1.86
Trailing 3 Yr. Return	6.5%
Trailing 7 Yr. Return	3.9%



*eVestment composite returns: 10% TIPS, 65% Baird, 12% Loomis, 13% BlackRock

Baird Core Fixed Income

- Duration neutral approach keeps performance in line with the Bloomberg US Aggregate Index
- Active management in credit is the area where Baird is able to consistently source alpha and generate modest excess returns through market cycles
- Baird continues to be a high conviction bottom-up, active core bond manager
 - Expectations are for the strategy to deliver on its target return objective and establish the duration exposure needed for providing correlation benefits to the overall plan

BlackRock SIO

- The unconstrained approach with attention to core-like volatility provided a welcome hedge and positive performance in 2021
- Flexible duration management kept the strategy in a 1-2 year duration range for the year (down from over 3 years in 2020)
- The strategy is favoring select segments of the structured product market given housing fundamentals, consumer demand, and various commercial real estate sectors offering value
- A more hawkish fed is supporting BlackRock's reduced emphasis on emerging markets
- Tactically rotating across spread sectors with tighter valuations that exist today

Loomis Strategic Alpha

- Strategic Alpha differentiates itself from BlackRock as an unconstrained strategy because of its more aggressive approach to credit, less tactical duration focus, and ability to implement both long and short positions
 - Its objective is to provide a favorable absolute total return with a low correlation to traditional fixed income
 - Target volatility is 4-6% and duration can be -2 to +5 years
- Securitized exposure to asset backed securities, collateralized debt obligations, and non-Agency mortgages was additive in 2021
- High yield bond exposure in consumer, communications, and finance companies led to positive returns
- 2021 duration hovered around 2 years

Pension Plan Takeaways

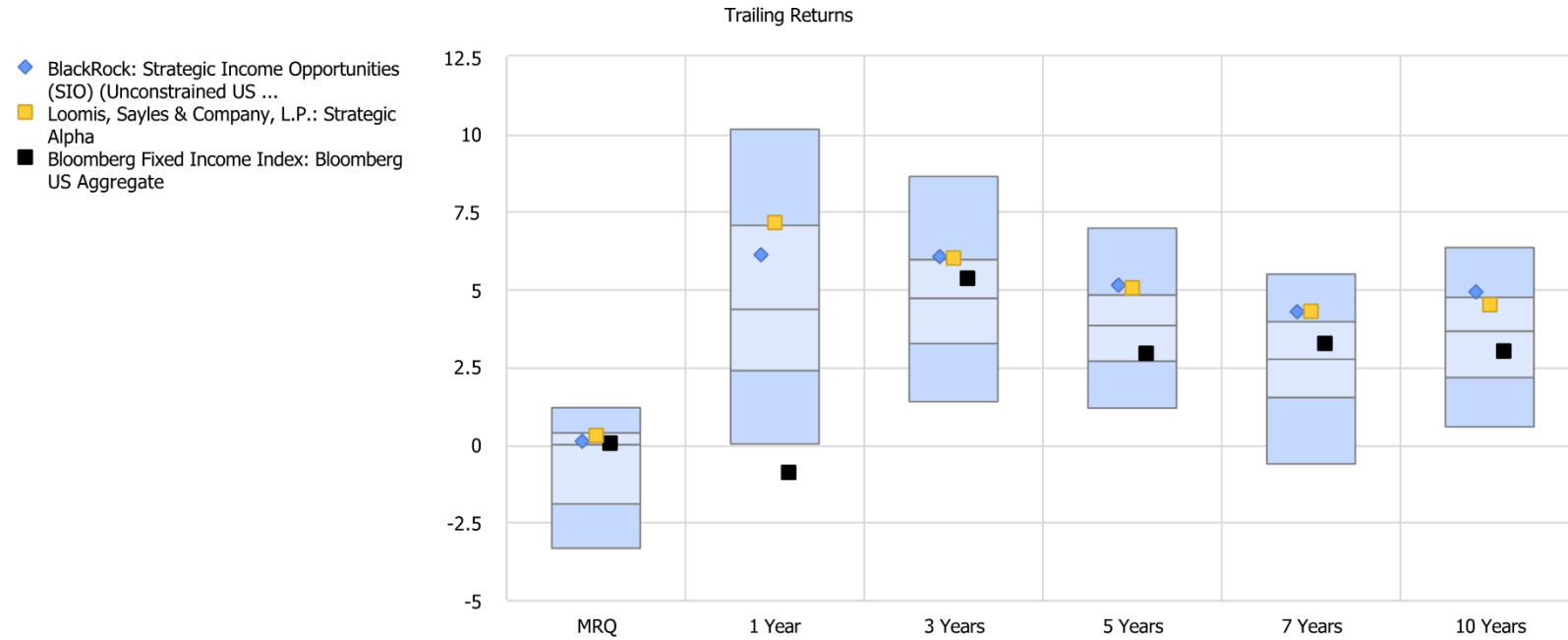
- Maintain the 8% plan level allocation to the two unconstrained strategies
 - The outlook is supportive of these allocations due to inflationary concerns and a more flexible approach to the global bond opportunity set that allows for active, tactical navigation to source alpha
 - Plan level volatility is still reduced because the assets are rotating out of equities
- Core assets are going to grow by nearly \$30 million
 - Add additional core assets to Baird
 - Consider diversifying this allocation with a complementary Core or Core Plus manager if fixed bucket continues to grow
 - A differentiated strategy should help enhance returns and mitigate price volatility behavior coming from this interest rate sensitive US Aggregate fixed income sleeve
- TIPS allocation to be added per new asset allocation mix
 - Recommend hiring SSGA TIPS Index fund at 4bps fee

Unrestricted Plan Takeaways

- Maintain the current fixed income structure and adopt Core manager changes (if any are made) to the current core sleeve of the Pension portfolio
- There is not a TIPS allocation for the Unrestricted Fund- no changes recommended

Appendix

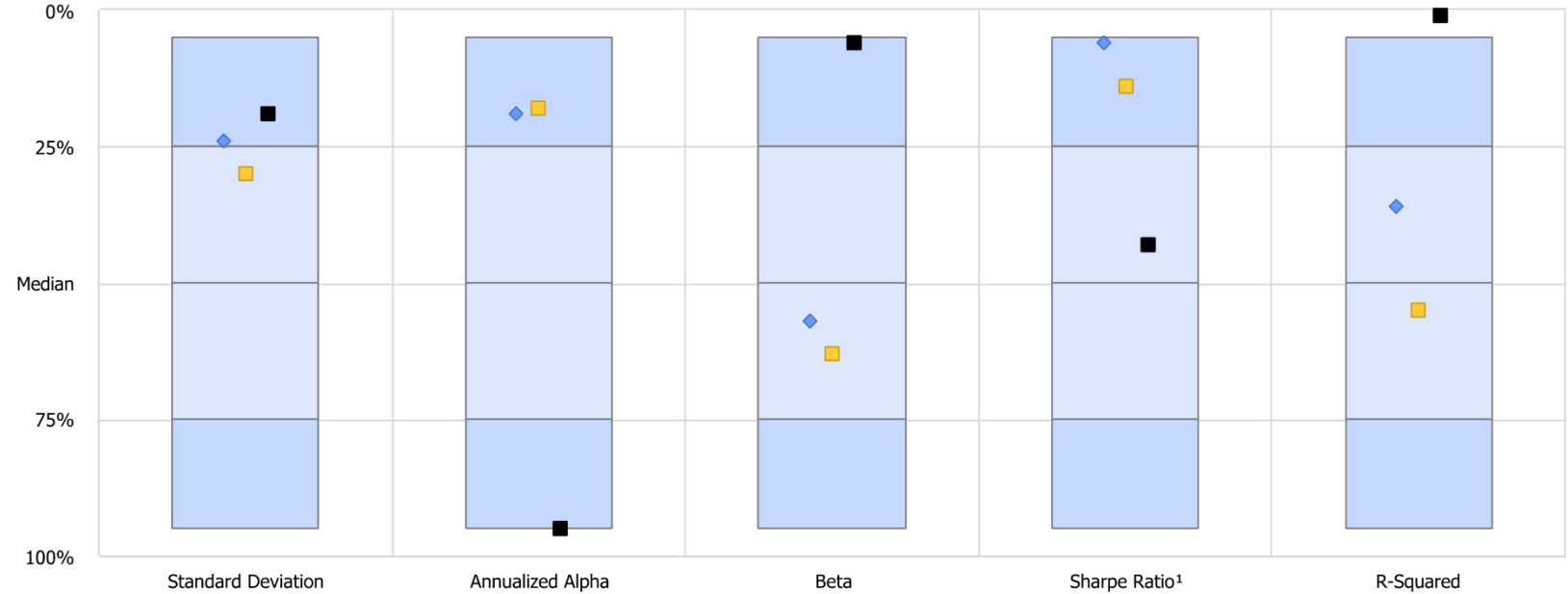
- Unconstrained Fixed
- TIPS
- TIPS Fees



Universe: eVestment Global Unconstrained Fixed Income

	MRQ		1 Year		3 Years		5 Years		7 Years		10 Years	
		Rk		Rk		Rk		Rk		Rk		Rk
5th percentile	1.19		10.16		8.64		6.97		5.49		6.35	
25th percentile	0.38		7.06		5.96		4.82		3.95		4.74	
Median	-0.01		4.35		4.71		3.83		2.75		3.65	
75th percentile	-1.91		2.38		3.25		2.68		1.51		2.16	
95th percentile	-3.34		0.03		1.38		1.17		-0.62		0.57	
# of Observations	114		114		110		102		83		63	
BlackRock: Strategic Income Opportunities (SIO) (Unconstrained US Domiciled)	0.11	43	6.12	34	6.06	23	5.14	18	4.28	20	4.92	20
Loomis, Sayles & Company, L.P.: Strategic Alpha	0.29	30	7.15	24	6.01	24	5.05	20	4.29	20	4.51	29
Bloomberg Fixed Income Index: Bloomberg US Aggregate	0.05	46	-0.90	99	5.36	36	2.94	70	3.26	39	3.01	59

Risk Rankings - Trailing 5 Years



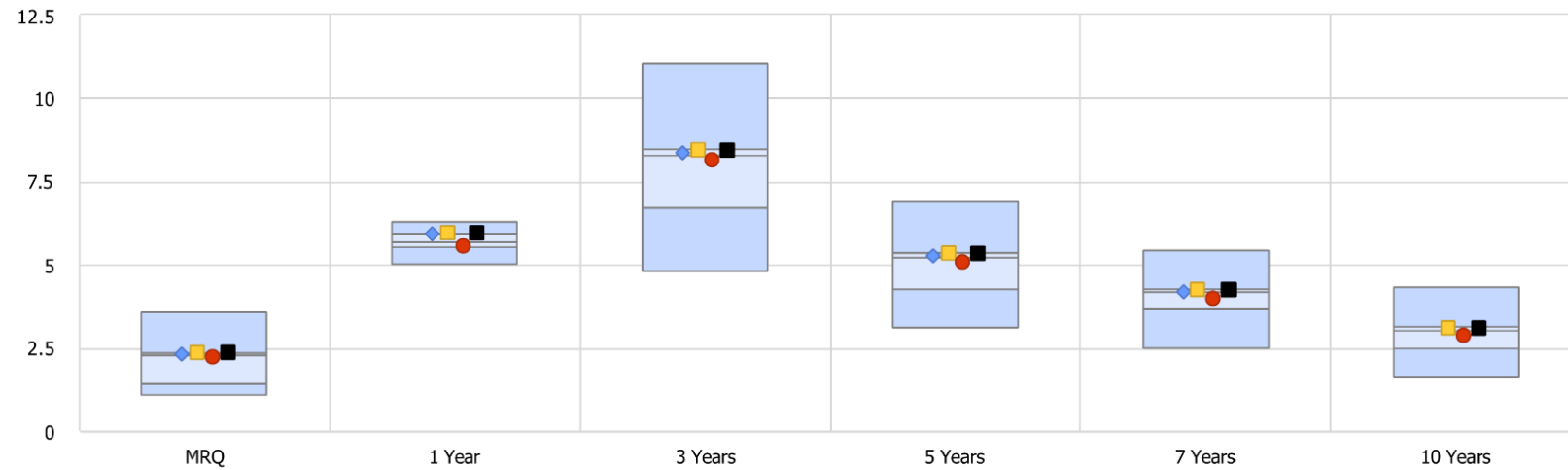
	Standard Deviation		Annualized Alpha		Beta		Sharpe Ratio¹		R-Squared	
		Rk		Rk		Rk		Rk		Rk
5th percentile	2.24		5.19		1.06		1.19		0.41	
25th percentile	4.01		3.58		0.68		0.78		0.16	
Median	5.77		2.78		0.41		0.49		0.06	
75th percentile	8.27		1.74		0.20		0.29		0.02	
95th percentile	10.56		0.00		0.01		0.00		0.00	
# of Observations	102		102		102		102		102	
♦ Strategic Income Opportunities (SIO) (Unconstrained US Domiciled)	3.97	24	4.12	19	0.36	57	1.01	6	0.09	36
■ Strategic Alpha	4.21	30	4.22	18	0.30	63	0.93	14	0.06	55
■ Bloomberg US Aggregate	3.31	19	0.00	95	1.00	6	0.55	43	1.00	1

¹FTSE 3-Month T-Bill

Appendix

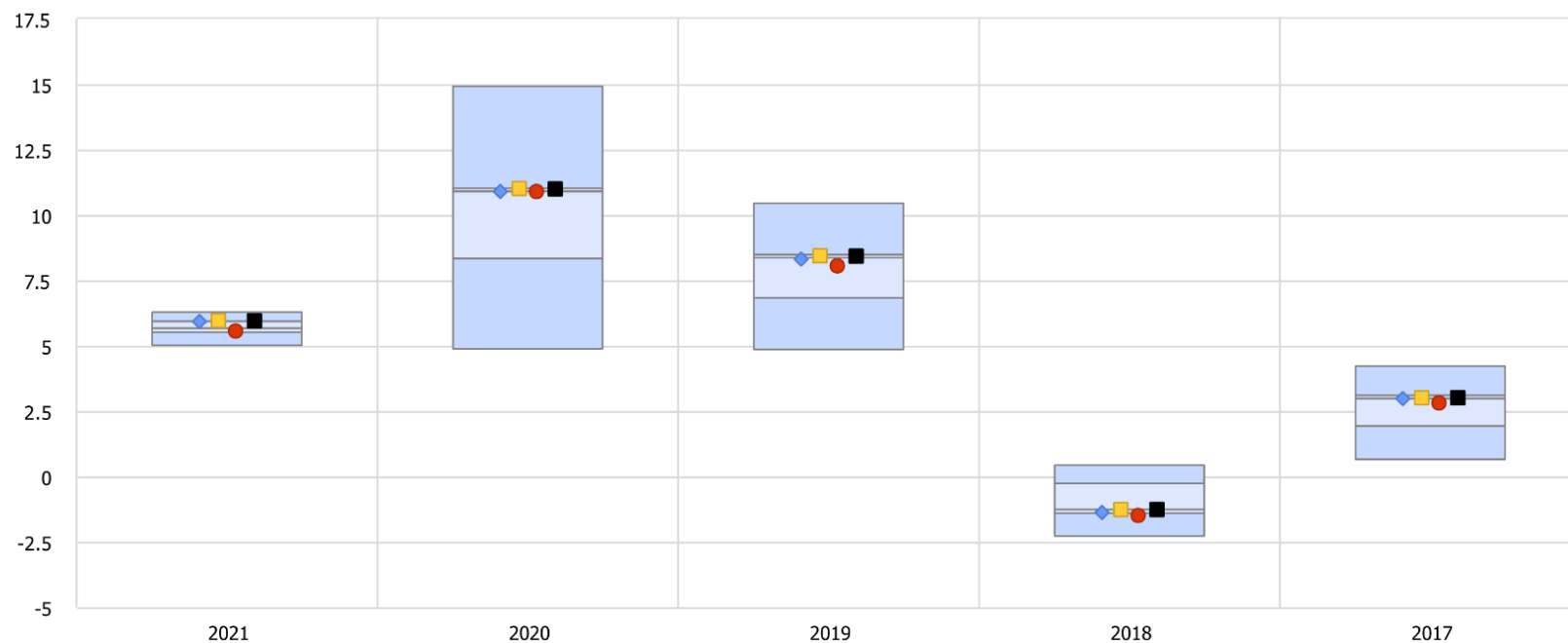
- TIPS

Trailing Returns



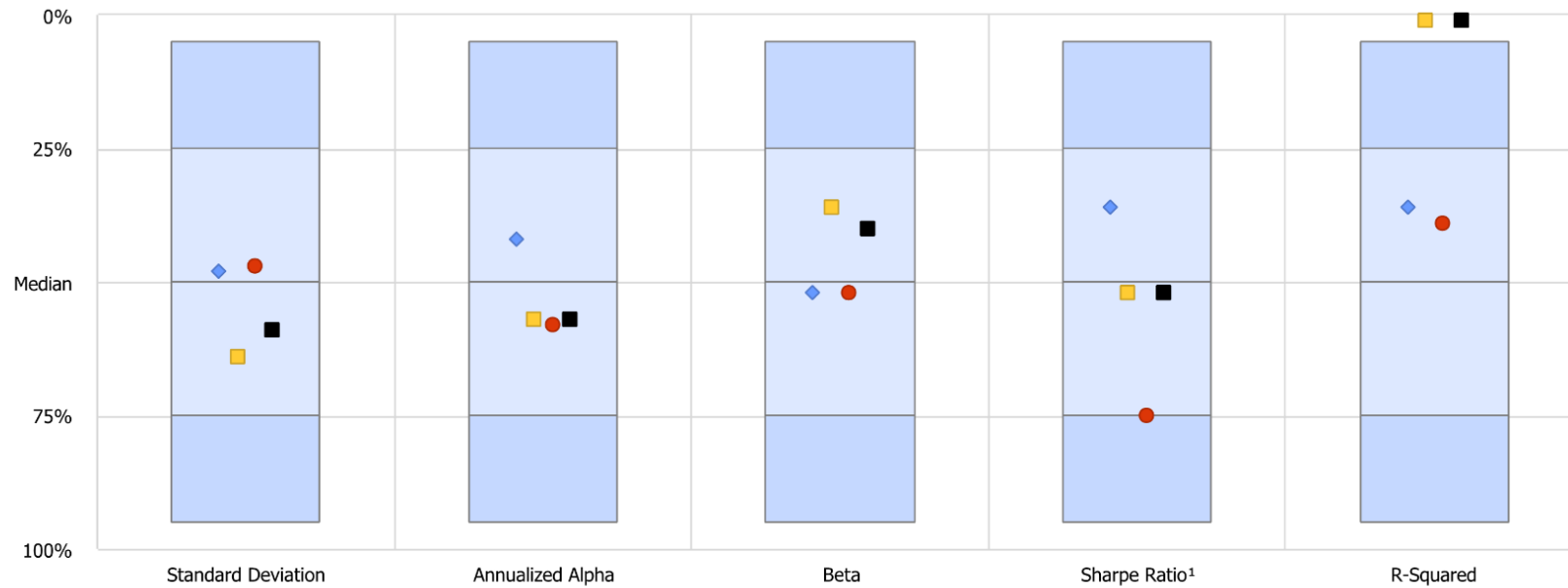
	MRQ		1 Year		3 Years		5 Years		7 Years		10 Years	
		Rk		Rk		Rk		Rk		Rk		Rk
5th percentile	3.57		6.29		11.04		6.89		5.43		4.32	
25th percentile	2.33		5.93		8.46		5.35		4.26		3.12	
Median	2.26		5.67		8.28		5.21		4.17		3.01	
75th percentile	1.41		5.52		6.70		4.25		3.65		2.48	
95th percentile	1.08		5.02		4.80		3.10		2.49		1.63	
# of Observations	20		20		20		20		19		16	
◆ Fidelity Inflation-Protected Bond Index Fund	2.31	42	5.93	26	8.36	42	5.26	42	4.18	44	---	---
■ State Street US TIPS	2.36	21	5.96	16	8.45	26	5.34	26	4.25	27	3.09	33
● Vanguard Inflation-Protected Securities Fund	2.23	52	5.56	66	8.15	54	5.08	54	3.99	62	2.87	60
■ Bloomberg US TIPS	2.36	20	5.95	18	8.44	29	5.34	27	4.25	28	3.09	40

Annual Returns



	2021		2020		2019		2018		2017	
		Rk		Rk		Rk		Rk		Rk
5th percentile	6.29		14.92		10.45		0.43		4.22	
25th percentile	5.93		11.02		8.48		-0.27		3.10	
Median	5.67		10.90		8.36		-1.27		2.98	
75th percentile	5.52		8.34		6.83		-1.41		1.93	
95th percentile	5.02		4.88		4.86		-2.28		0.65	
# of Observations	20		23		25		25		25	
◆ Fidelity Inflation-Protected Bond Index Fund	5.93	26	10.90	49	8.31	54	-1.37	71	2.98	50
■ State Street US TIPS	5.96	16	11.01	31	8.44	37	-1.26	46	3.01	46
● Vanguard Inflation-Protected Securities Fund	5.56	66	10.90	50	8.06	62	-1.49	80	2.81	62
■ Bloomberg US TIPS	5.95	18	10.99	37	8.43	42	-1.26	46	3.01	46

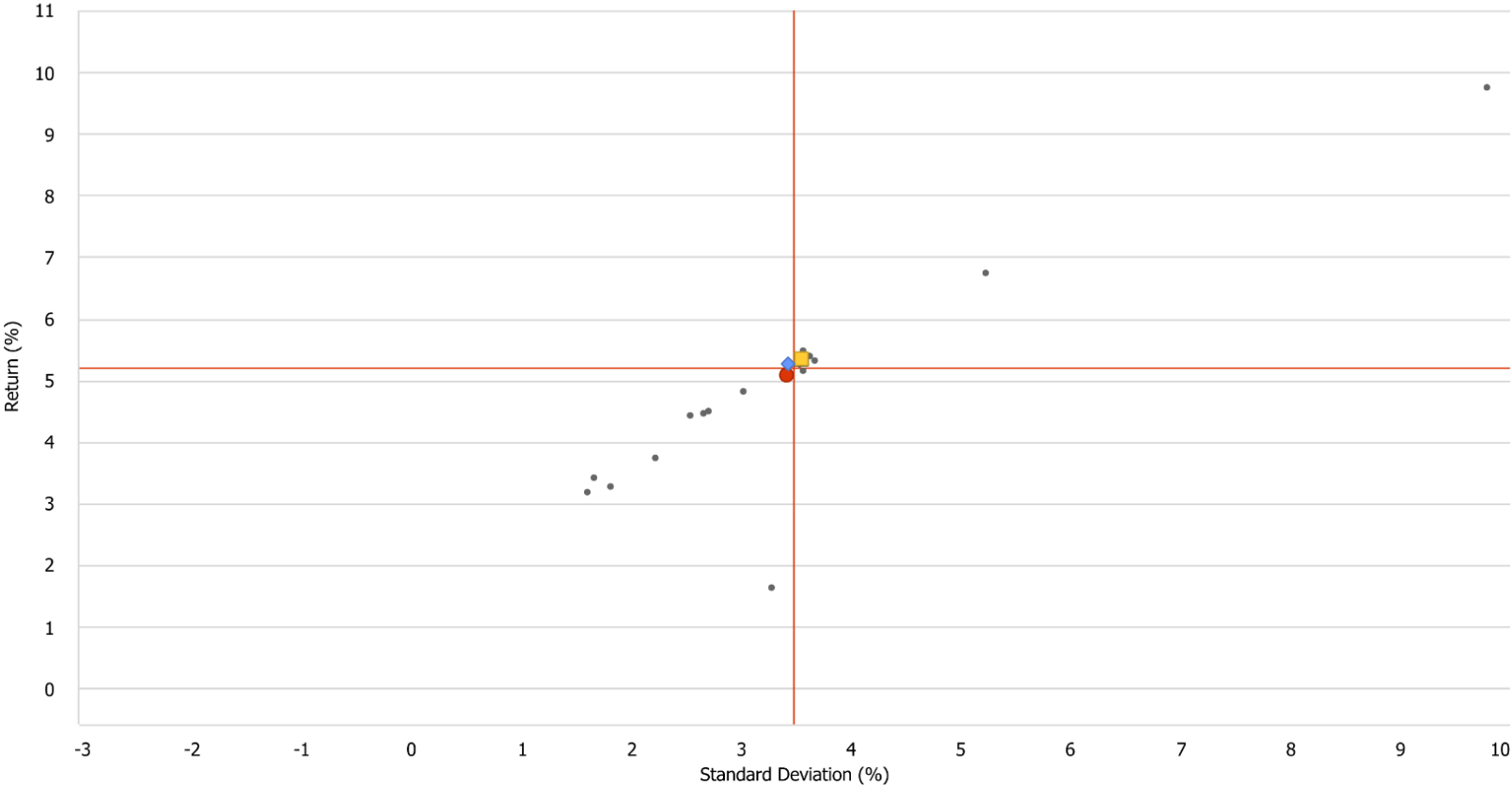
Risk Rankings - Trailing 5 Years



	Standard Deviation		Annualized Alpha		Beta		Sharpe Ratio¹		R-Squared	
		Rk		Rk		Rk		Rk		Rk
5th percentile	1.66		1.27		1.50		1.31		1.00	
25th percentile	2.63		0.80		1.01		1.23		1.00	
Median	3.48		0.06		0.98		1.19		0.94	
75th percentile	3.57		-0.08		0.64		1.16		0.72	
95th percentile	5.47		-1.07		0.36		0.84		0.61	
# of Observations	20		20		20		20		20	
◆ Fidelity Inflation-Protected Bond Index Fund	3.42	48	0.15	42	0.96	52	1.21	36	0.98	36
■ State Street US TIPS	3.55	64	0.00	57	1.00	36	1.19	52	1.00	1
● Vanguard Inflation-Protected Securities Fund	3.41	47	0.00	58	0.95	52	1.16	75	0.98	39
■ Bloomberg US TIPS	3.55	59	0.00	57	1.00	40	1.19	52	1.00	1

¹FTSE 3-Month T-Bill

Risk vs. Return Analysis
Annualized Five Year Periods



	VT	RM	Return (%)	Standard Deviation (%)
◆ Fidelity Inflation-Protected Bond Index Fund	PF	NF	5.26	3.42
■ State Street US TIPS	SA	GF	5.34	3.55
● Vanguard Inflation-Protected Securities Fund	PF	NF	5.08	3.41
■ Bloomberg US TIPS	IX	IX	5.34	3.55
+ US Passive TIPS / Inflation Fixed Income	---	---	5.21	3.48

Fees

Mandate Size: \$14M		Fidelity Investments (Passive)	State Street Global Advisors (Passive)	Vanguard (Active)
Proposed Vehicle		Mutual Fund	Commingled Fund	Mutual Fund
Product Assets (Billions)		\$11 in strategy	\$34 in strategy	\$6 in strategy
Fees:	Basis Points	5 bps	4 bps	7 bps
	Dollars	\$7,000	\$5,600	\$9,800
Schedule		5 bps flat	4 bps flat	7 bps flat

Fee Comparison

Mandate Size: \$14 Million

Universe: U.S. Inflation Protected Fixed Income

	Annual Commingled Fund Fees (\$USD)	Annual Commingled Fund Points (bps)	Annual Mutual Fund Fees (\$USD)	Annual Mutual Fund Points (bps)
Low	\$4,200	3.0	\$7,000	5.0
5 th Percentile	\$4,620	3.0	\$7,000	5.0
25 th Percentile	\$5,600	4.0	\$8,050	6.0
Median	\$5,600	4.0	\$26,600	19.0
75 th Percentile	\$7,000	5.0	\$28,000	20.0
95 th Percentile	\$7,980	6.0	\$39,340	28.0
High	\$8,400	6.0	\$53,200	38.0
# of Observations	7	7	12	12

Firm	Product	Annual Commingled Fund Fees (\$USD)	Annual Commingled Fund Points (bps)	Annual Mutual Fund Fees (\$USD)	Annual Mutual Fund Points (bps)
Fidelity Investments	Fidelity Inflation-Protected Bond Index Fund	--	--	\$7,000	5
State Street Global Advisors	U.S. TIPS Index	\$5,600	4	--	--
Vanguard	Vanguard Inflation-Protected Securities Fund	--	--	\$9,800	7