PUBLIC SCHOOL FUND INVESTMENT BOARD MEETING AGENDA, NOVEMBER 14, 2022

VIDEO CONFERENCE VIA ZOOM LINK:

https://us02web.zoom.us/j/81235497230?pwd=S2pROUdBdk1YT2xZd1Q5WkFOZ2pBZz09

Meeting ID: 812 3549 7230 Passcode: 33CKRj One tap mobile

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Public School Fund Investment Board Members

Dave Young - Colorado State Treasurer - Board Chair

Peter Calamari - Platte River Equity
Jerome DeHerrera, Esq. - Achieve Law Group

b. Proposed IPS Change Vote

c. 2023 Planning

Wendy Dominguez - Innovest Portfolio Solutions
Christine Scanlan - State Land Board Commissioners

l.	Call to Order	D. Young Noon
II.	Roll Call	D. Young
III.	Approval of Minutes from August 15, 2022 Board Meeting	D. Young 12:02
IV.	Approval of Minutes from October 4, 2022 Board Meeting	D. Young 12:03
V.	Approval of Minutes from October 12, 2022 Board Meeting	D. Young 12:04
VI.	Market Update (Qtr. 3 – Ending September 30, 2022)	Callan 12:05 (15 min)
VII.	Performance Report (FY Qtr. 1 – Ending September 30, 2022)	Callan 12:20 (15 min)
VIII.	Cash Deployment Update and Allocation Discussion	Callan 12:35 (20 min)
IX.	Equity Portfolio Manager RFP Update a. Parametric contract end date – October 31, 2022	S. Zimbelman 12:55 (5 min)
X.	Conflict of Interest Policy Acknowledgement & Disclosure	G. Sullivan 1:00 (10 min)
XI.	Fund Manager Presentation: MacKay Shields	MacKay Shields 1:10 (20 min)
XII.	Fund Manager Presentation: Spectrum Preferred Securities	S. Solmonson 1:30 (20 min)
XIII.	Other Business a. House Bill 1146 Working Group Update	1:50 (8 min)

XIV. Public Comment 1:58 (2 min)

XV. Board Adjournment 2:00

Future Meeting Dates:

February 27, 2023 Noon



Public School Fund Investment Board Meeting Meeting Minutes August 15, 2022 Held Via Zoom

Board Members in Attendance:

Dave Young
Peter Calamari
Wendy Dominguez
Christine Scanlan - Excused
Jerome DeHerrera

12:03 – 12:04 PM Welcome, roll call

12:04 – 12:05 PM Meeting minutes from the May 16, 2022 Board Meeting

Mr. Calamari made a motion to approve the May 16, 2022 meeting minutes. Ms. Dominguez seconded the motion. The motion passed at 12:05 pm.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Yes
- Christine Scanlan Excused

12:05 - 12:13 PM Equity Portfolio Manager RFP Update

Ms. Zimbelman (PSPF Portfolio Administrator) gave an update on the Equity Portfolio Manager search. Ms. Zimbelman asked the Board for a Board Member representative to chair the RFP evaluation committee. Mr. Calamari volunteered to be the Board Member to support the RFP evaluation process. Ms. Zimbelman is going to follow up with the Board Members to schedule the finalist presentations meeting.

12:13 – 12:18 PM Board Member Renewal

Treasurer Young announced that Ms. Scanlan had been chosen by the Land Board to do another term as their Board Member representative on the PSPF Board. He also announced that Mr. Calamari, Mr. DeHerrera and Ms. Scanlan all agreed to another term on the PSPF Board. Mr. Calamari asked a question regarding the new staggering of Board member terms under HB 1146. Ms. Zimbelman clarified that this provision only applied to newly appointed board members. Ms. Zimbelman stated she would put together reappointment letters for each of the Board members for their renewals.

12:18 – 12:24 PM Vote on 1 year extension: Janus Henderson

Ms. Janet Becker-Wold (Callan) made a recommendation to the Board that they vote to renew Janus for a 1-year extension. Mr. Alex Browning (Callan) also

made this recommendation to the Board. Ms. Dominguez made a motion to accept Callan's recommendation to extend Janus's contract by 1 year. Mr. DeHerrera seconded the motion. The motion passed at 12:24 pm.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Yes
- Christine Scanlan Excused

12:24 – 12:41 PM Vote on 1 year extension: Sarah Zimbelman as Portfolio Administrator

Mr. Eric Rothaus (Deputy Treasurer) led the discussion of renewing Ms. Zimbelman as the Portfolio Administrator. Ms. Becker-Wold and Mr. Browning (Callan) and Mr. Grant Sullivan (Attorney General Office) gave comment on their experience in working with Ms. Zimbelman and recommend the Board renew her contract for 1 year. Mr. Rothaus led a discussion regarding Ms. Zimbelman's compensation and the consideration of an increase to Ms. Zimbelman's hourly rate. Ms. Dominguez made a motion to extend Ms. Zimbelman's contract for 1 year at a rate of \$60 per hour. Mr. DeHerrera seconded the motion. The motion passed at 12:38 pm.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Yes
- Christine Scanlan Excused

12:41 – 1:04 PM OMA education/review Communication and Open Meetings Policy

Mr. Skip Spear (Attorney General Office) went through the statutorily required annual training on Colorado Open Meetings Law and Colorado Open Records Act.

1:04 – 1:06 PM Annual Report

Ms. Zimbelman informed the Board that the annual report was not quite ready for review at this time and that it would be reviewed at the next Board meeting.

1:06 – 1:22 PM Market Update (Qtr. 2 – Ending June 30, 2022)

Presentation by Ms. Janet Becker-Wold (Callan)

1:22 – 1:29 PM Performance Report (FY Qtr. 4 – Ending June 30, 2022)

Presentation by Mr. Alex Browning (Callan)

1:29 – 1:41 PM Cash Deployment Update

The PSPF received approximately \$30M from revenues from the State Land Board to deploy into the portfolio. Ms. Becker-Wold presented Callan's recommendation for this deployment. Mr. Calamari asked if the Board should look at the portfolio asset allocations sooner rather than later. Ms. Becker-wold suggested that it would be best to do that review when they have their updated capital markets expectations early next year. Mr. Calamari is going to follow-up with Callan after the meeting to see if asset allocations should be revisited sooner rather than later.

1:41 – 1:56 PM Fund Manager Presentation: Bond Portfolio

Presentation by Maruti More - Colorado Department of the Treasury, Chief Investment Officer

1:57 - 2:00 PM Other Business

Mr. Eric Rothaus (Deputy Treasurer) gave an update on the working group created by HB 1146. Mr. Rothaus told the Board that they are looking for recommendations for individuals to serve on the working group if they had any one in mind.

Ms. Zimbelman let the Board know that she will likely not be able to attend the November 14th Board meeting due to some required scheduled surgery

2:01 – 2:03 PM Public comments

- Written Comments
 - There were no written comments.
- Verbal Comments
 - There were no verbal comments.

The meeting was adjourned at 2:03 pm.

Next Meeting

• November 14, 2022 at Noon



Public School Fund Investment Board Meeting Meeting Minutes October 4, 2022 Held Via Zoom

Board Members in Attendance:

Dave Young
Peter Calamari
Wendy Dominguez - Excused
Christine Scanlan - Excused
Jerome DeHerrera

1:03 - 1:04 PM Welcome, roll call

1:05 – 1:08 PM Sarah Zimbelman August 2022 Invoice Approval

Mr. Eric Rothaus (Deputy Treasurer) explained to the Board the provision in the Portfolio Administrator contract that requires Board approval if the Administrator's hours exceed 20 hours in one week. Ms. Sarah Zimbelman (Portfolio Administrator) had one week in August where her hours exceeded 20 hours by 3 hours and Board approval is needed to pay these 3 additional hours. Mr. DeHerrera made the motion to approve the payment of the additional 3 hours. Mr. Calamari seconded this motion. The motion passed at 1:08 pm.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Excused
- Christine Scanlan Excused

1:05 - 1:18 PM 2022 Annual Report

Ms. Zimbelman presented the 2022 PSPF Annual Report to the Board

1:18 – 1:28 PM Equity Manager RFP Discussion

The Board discussed with Mr. Grant Sullivan (Attorney General Office) what can and can not be discussed in executive session as it relates to the RFP process and selecting a final candidate. Ms. Zimbelman gave a summary of the RFP evaluation process. Treasurer Young thanked the evaluation team for their work on this process.

1:28 – 1:53 PM Parametric Equity Manager RFP Finalist Presentation

Presentation by Dan Ryan and Jim Reber from Parametric. Mr. Calamari asked how the recent ownership changes might impact Parametric as the Board's manager for this portfolio. Mr. Ryan assured the Board that there have been no changes to how Parametric manages their portfolios or specifically the PSPF portfolio.

1:54 – 2:18 PM SSGA Equity Manager RFP Finalist Presentation

Presentation by Sonya Park and Charles LeVine from State Street Global Advisors. Mr. Alex Browning (Callan) asked if SSGA can manage the accounts in a non-discretionary manner to support rebalancing efforts similar to what we do now with Parametric. SSGA assured the Board that yes, they can act in that capacity.

2:18 – 2:30 PM Equity Manager RFP Board Discussion

Treasurer Young clarified for the Board that they had quorum but not two-thirds quorum which is required to enter executive session, if the Board had specific items to discuss that required executive session another meeting would need to be scheduled when more of the Board members could be present. Ms. Zimbelman presented a summary of the RFP Evaluation Team's findings to the Board for their consideration. Mr. Sullivan (Attorney General Office) clarified for the Board that the current Parametric contract expires at the end of October but that all of our contracts contain a provision to automatically extend them for 2 months if additional time is needed. The Board decided that executive session was needed to discuss additional contract negotiation items so a follow-up meeting will be scheduled.

2:30 - 2:32 PM Public comments

- Written Comments
 - o There were no written comments.
- Verbal Comments
 - There were no verbal comments.

The meeting was adjourned at 2:32 pm.



Public School Fund Investment Board Meeting Meeting Minutes October 12, 2022 Held Via Zoom

Board Members in Attendance:

Dave Young
Peter Calamari
Wendy Dominguez
Christine Scanlan - Excused
Jerome DeHerrera

4:04 - 4:05 PM Welcome, roll call

4:04 – 4:20 PM Equity Manager RFP Board Discussion

Treasurer Young addressed the purpose of the meeting was to continue the discussion among Board Members regarding the selection of an Equity Manager candidate as well as to go into Executive Session if it is deemed necessary as there were not enough Board Members present at the 10/4/2022 meeting. Ms. Dominguez asked if Callan had a recommendation to the Board on which candidate they would recommend. Ms. Zimbelman (Portfolio Administrator) read through Callan's provided comments as Callan representatives were not able to be attend the meeting. These comments included:

- Both State Street Global Advisors (SSGA) and Parametric are skilled providers.
- SSGA is technically skilled but that proficiency only becomes valuable at much higher levels of service complexity.
- Parametric has done a solid job over the past 5 years and has displayed a higher level of service than available at SSGA.
- As HB 1146 outcomes unfold on investment flexibility, Parametric may also be able to get the PSPF access to Morgan Stanley's manager platform which offers very attractive discounts on active manager fees.
- While Parametric's fees are higher than those of SSGA, the difference on an AUM (assets under management) basis is small.
- Overall recommendation is Parametric

Ms. Dominquez asked Mr. Calamari what his thoughts were based on his evaluations. Mr. Calamari thought both Parametric and SSGA were head and shoulders above the other choices. He felt that it was close between the two candidates but felt that the Board has had 5 years of really great successful service with Parametric. He did like SSGA's recommendation to adjust our portfolio to reduce the active fees in our portfolio, but that this was something that could also be accomplished with Parametric. Treasurer Young asked if there would be fees associated with making this adjustment to our portfolio. Mr. Calamari responded that there would be some costs associated with the change but that the ongoing fees would be meaningfully lower. Ms. Dominguez commented that if the Board

decided to stick with Parametric then they should try to negotiate the fee as every dollar is meaningful to the fund even if it is a small difference on an AUM basis.

Treasurer Young made a motion to enter Executive Session for the purposes of receiving legal advice on negotiations and contract process for the Equity Manager RFP. This Executive Session is adopted by reference to Colorado Revised Statute 24-6-402(3)(a)(II). Mr. DeHerrera seconded this motion. This motion passed at 4:20 PM.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Yes
- Christine Scanlan Excused

4:20 – 4:22 PM Public comments before Executive Session

- Written Comments
 - There were no written comments.
- Verbal Comments
 - There were no verbal comments.

4:23 PM - Board Enters Executive Session (closed to public)

4:47 PM – The Board concluded Executive Session and Returned to Public Meeting

4:48PM – 4:55 PM Board Discussion on Equity Manager RFP Candidates

Mr. Calamari recommended that the Board proceed with negotiations with Parametric based on the recommendations from Callan and others as well as the Board's experience with Parametric from the last 5 years. Mr. Calamari noted that Parametric has given The Board exceptional service and that this is a complex relationship because of the management of the gains and losses. Mr. Calamari felt that between the two proposals that were otherwise fairly equal this tipped the scales to Parametric. Ms. Dominquez also added that the current market conditions are such that any change to a new manager may introduce additional unwanted risk to the portfolio. Mr. DeHerrera also supported the recommendation to move forward with negotiations with Parametric. Treasurer Young also supported the recommendation to move forward with negotiations with Parametric and noted that Parametric noted no exceptions to the State's model contract in their proposal while SSGA had several.

Mr. Calamari made a motion to move forward with contract negotiations with Parametric. Ms. Dominguez seconded the motion. The motion passed at 4:55 pm.

- Dave Young Yes
- Peter Calamari Yes
- Jerome DeHerrera Yes
- Wendy Dominguez Yes
- Christine Scanlan Excused

The meeting was adjourned at 4:55 pm.

Next Meeting

November 14, 2022

Callan

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November 14, 2022

Colorado Public School Fund Investment Board

Third Quarter 2022

Janet Becker-Wold, CFA

Senior Vice President

Alexander Browning

Senior Vice President

Callan

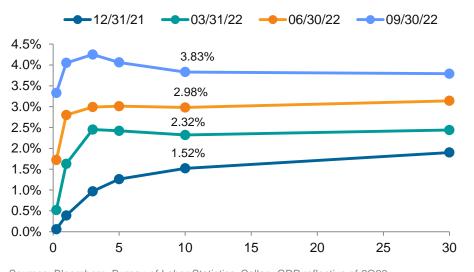
Economic and Market Update

U.S. Economy—Summary

Third Quarter 2022

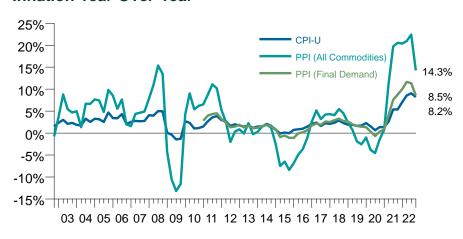
- After declining 0.6% in Q2, real U.S. GDP bounced back in the third quarter with an annualized growth rate of 2.6%, according to the advance estimate.
- Headline inflation remained elevated in September, climbing 8.2% year-over-year.
- The Federal Reserve made its third consecutive 75 basis point rate hike on September 21st (to a target range of 3.00–3.25%).
- The Fed made an additional 0.75% hike on 11/2/22.
- The labor market continues to be a source of strength with unemployment remaining at 3.5% in September.

U.S. Treasury Yield Curves

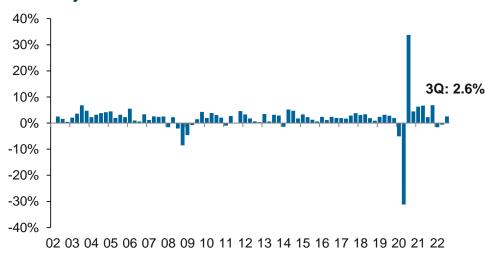


Sources: Bloomberg, Bureau of Labor Statistics, Callan. GDP reflective of 2Q22.

Inflation Year-Over-Year



Quarterly Real GDP Growth





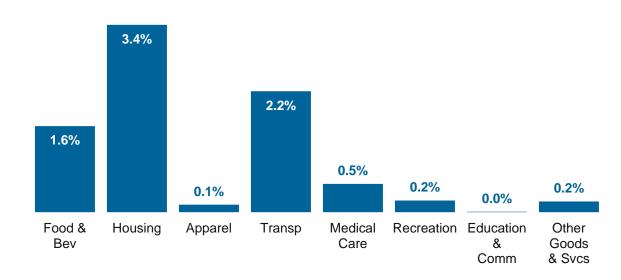
Contributors to Recent Inflation: Primary Categories

Transportation inflation has finally begun to trend downward, albeit with still very high absolute levels.

Housing took over as the biggest weighted contributor to headline inflation due to the category's high weight in the index (42.4%).

Transportation's downward trend in inflation has been offset by an upward trend for Food & Beverage, Housing, and Medical Care.

Contribution to September 2022 YOY Inflation



	Primary					Ye	ar-over-Y	ear Chan	ge				
Primary Category	Category Weight	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
All Items	100.0%	6.2%	6.8%	7.0%	7.5%	7.9%	8.5%	8.3%	8.6%	9.1%	8.5%	8.3%	8.2%
Food & Bev	14.3%	5.1%	5.8%	6.0%	6.7%	7.6%	8.5%	9.0%	9.7%	10.0%	10.5%	10.9%	10.8%
Housing	42.4%	4.5%	4.8%	5.1%	5.7%	5.9%	6.4%	6.5%	6.9%	7.3%	7.4%	7.8%	8.0%
Apparel	2.5%	4.3%	5.0%	5.8%	5.3%	6.6%	6.8%	5.4%	5.0%	5.2%	5.1%	5.1%	5.5%
Transportation	18.2%	18.7%	21.1%	21.1%	20.8%	21.1%	22.6%	19.9%	19.4%	19.7%	16.4%	13.4%	12.6%
Medical Care	8.5%	1.3%	1.7%	2.2%	2.5%	2.4%	2.9%	3.2%	3.7%	4.5%	4.8%	5.4%	6.0%
Recreation	5.1%	3.9%	3.2%	3.3%	4.7%	5.0%	4.8%	4.3%	4.5%	4.6%	4.4%	4.1%	4.1%
Education & Communication	6.4%	1.8%	1.7%	1.6%	1.6%	1.6%	1.5%	1.0%	0.8%	0.8%	0.5%	0.5%	0.2%
Other Goods & Svcs	2.7%	4.2%	4.4%	4.5%	4.9%	5.6%	5.5%	5.7%	6.3%	6.7%	6.3%	6.6%	6.9%

Source: U.S. Bureau of Labor Statistics



Callan Periodic Table of Investment Returns

	,	Annual Return	s		Cumulative Returns					
2017	2018	2019	2020	2021	15 Years	10 Years	5 Years	3 Years	1 Year	1 Quarter
Emerging Market Equity	NCREIF:NFI- ODCE Val Wt Nt	Large Cap Equity	Small Cap Equity	Large Cap Equity	Large Cap Equity	Large Cap Equity	NCREIF:NFI- ODCE Val Wt Nt			
37.28%	7.36%	31.49%	19.96%	28.71%	8.03%	11.70%	9.26%	11.38%	20.96%	0.31%
Dev ex-U.S. Equity	U.S. Fixed Income	Small Cap Equity	Large Cap Equity	NCREIF:NFI- ODCE Val Wt Nt	Small Cap Equity	NCREIF:NFI- ODCE Val Wt Nt	Large Cap Equity	Large Cap Equity	High Yield	High Yield
24.21%	0.01%	25.52%	18.40%	21.02%	6.40%	9.91%	9.24%	8.16%	-14.14%	-0.65%
Large Cap Equity	High Yield	Dev ex-U.S. Equity	Emerging Market Equity	Small Cap Equity	NCREIF:NFI- ODCE Val Wt Nt	Small Cap Equity	Small Cap Equity	Small Cap Equity	U.S. Fixed Income	Small Cap Equity
21.83%	-2.08%	22.49%	18.31%	14.82%	5.78%	8.55%	3.55%	4.29%	-14.60%	-2.19%
Small Cap Equity	Global ex-U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity	High Yield	High Yield	High Yield	High Yield	Large Cap Equity	U.S. Fixed Income
14.65%	-2.15%	18.44%	10.11%	12.62%	5.71%	3.94%	1.57%	-0.45%	-15.47%	-4.75%
Global ex-U.S. Fixed Income	Large Cap Equity	High Yield	Dev ex-U.S. Equity	High Yield	U.S. Fixed Income	Dev ex-U.S. Equity	U.S. Fixed Income	Dev ex-U.S. Equity	Small Cap Equity	Large Cap Equity
10.51%	-4.38%	14.32%	7.59%	5.28%	2.74%	3.62%	-0.27%	-1.21%	-23.50%	-4.88%
High Yield	Small Cap Equity	U.S. Fixed Income	U.S. Fixed Income	U.S. Fixed Income	Dev ex-U.S. Equity	Emerging Market Equity	Dev ex-U.S. Equity	Emerging Market Equity	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income
7.50%	-11.01%	8.72%	7.51%	-1.54%	0.72%	1.05%	-0.39%	-2.07%	-23.91%	-8.85%
NCREIF:NFI- ODCE Val Wt Nt	Dev ex-U.S. Equity	Global ex-U.S. Fixed Income	High Yield	Emerging Market Equity	Global ex-U.S. Fixed Income	U.S. Fixed Income	Emerging Market Equity	U.S. Fixed Income	Global ex-U.S. Fixed Income	Dev ex-U.S. Equity
6.66%	-14.09%	5.09%	7.11%	-2.54%	0.32%	0.89%	-1.80%	-3.26%	-24.77%	-9.20%
U.S. Fixed Income	Emerging Market Equity	NCREIF:NFI- ODCE Val Wt Nt	NCREIF:NFI- ODCE Val Wt Nt	Global ex-U.S. Fixed Income	Emerging Market Equity	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	Global ex-U.S. Fixed Income	Emerging Market Equity	Emerging Market Equity
3.54%	-14.57%	4.39%	0.34%	-7.05%	0.27%	-2.39%	-4.03%	-7.78%	-28.11%	-11.57%
Sources: • B	loomberg U.S.	Aggregate Bon	d Bloomber	g Corp High Yie	eld Bloombe	erg Global Aggr	egate ex U.S.			

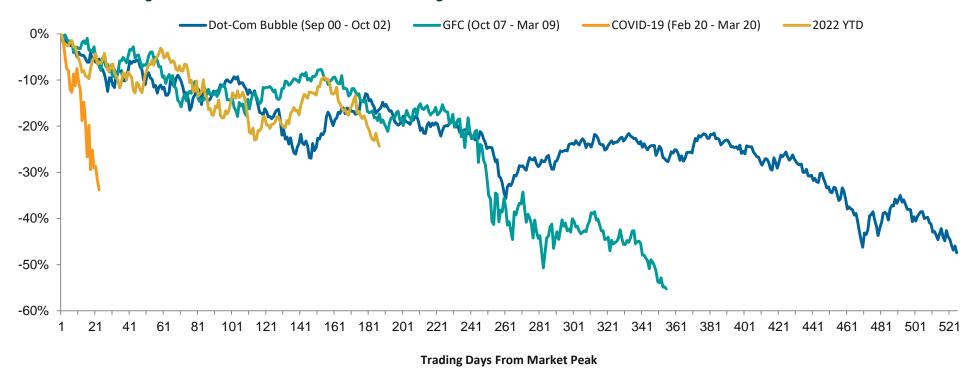
NCREIF ODCE Val Wtd
 MSCI World ex USA
 MSCI Emerging Markets
 Russell 2000
 S&P 500



2022 Equity Drawdown: A More 'Typical' Correction?

S&P 500 Cumulative Returns

Market Peak-to-Trough for Recent Corrections vs. 2022 YTD Through 09/30/22



- -While the COVID correction was swift and intense, so far the 2022 correction resembles the GFC and Dot-Com Bubble.
- -The 2022 drawdown has been 187 trading days through September.
- It would take another 168 trading days to get to the bottom of the GFC and 338 trading days to get to the bottom of the Tech Bubble.

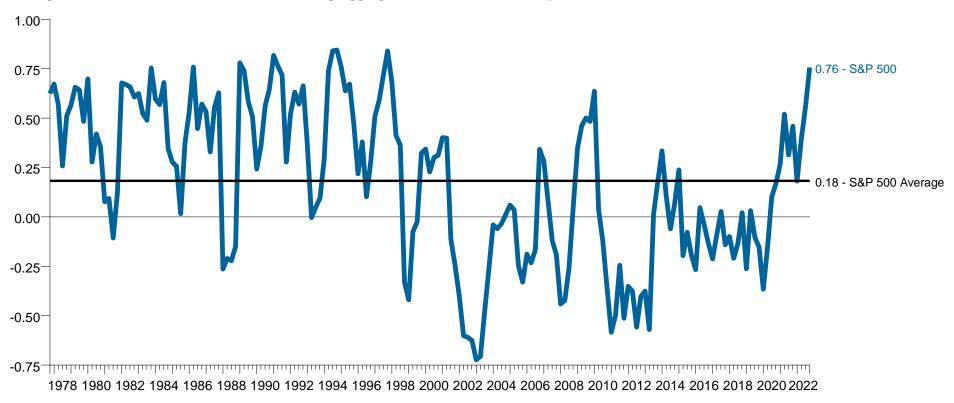


Sources: Callan, S&P Dow Jones Indices

Did Diversification Fail in 2022?

Stocks and bonds down together in each of the first three quarters of 2022

Rolling 1 Year Correlation of S&P 500 to Bloomberg Aggregate for 45 Years Ended September 30, 2022



Are we seeing a return to a regime of higher correlation between stocks and bonds, potentially lessening the diversification benefit of bonds to stocks?

Sources: Bloomberg, Callan, S&P Dow Jones Indices



Did Diversification Fail in 2022?

How capital markets interact under stress

S&P 500 was down 4.6% in 1Q22, 16.1% in 2Q, and another 4.9% in 3Q; -23.9% year-to-date

Bloomberg Aggregate was down 5.9% in 1Q22, 4.7% in 2Q, and another 4.8% in 3Q; -14.6% year-to-date

-Long Government bonds down 28.8% YTD, Long Credit down 29.2%, worse than equities

Less decline in local currency around the global markets, but the strong U.S. dollar made things worse for U.S. investors

- -MSCI ACWI ex-USA down 26.5% YTD in USD, -16.2% in local currency
- -Global Aggregate down 19.9% in USD, -12.1% hedged to the US dollar

How often does this happen?

- Stocks and bonds declined together in 10% of all quarters back to 1926.
- In quarters when the stock market declined, bonds declined 33% of the time.

The "curse" of zero correlation

- In a market drawdown, investors want correlation between stocks and bonds to be -1: when stocks go down, bonds are likely to be up.
- In real life, correlation of stocks to bonds is closer to zero.
 - -Zero correlation = when one asset class is down, the probability that the other asset class is up or down is similar; zero means no discernable pattern between the returns of the two asset classes.

In normal times, correlation close to zero suggests a strong diversification benefit

- A diversified portfolio of stocks and bonds will not see negative returns for stocks and bonds together 90% of the time.
- -Note that when stocks are down, bonds can also be down about 1/3 of the time.

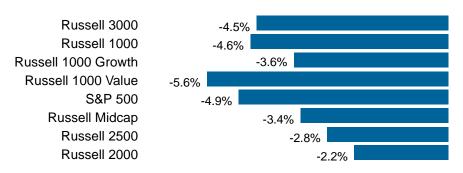


U.S. Equity Performance: 3Q22

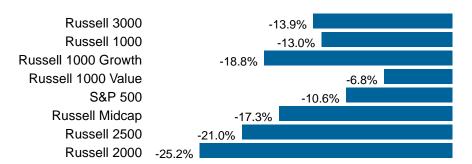
Challenging market conditions persist

- -The S&P 500 Index dropped by 5% in 3Q22; all major U.S. indices across styles and market cap ranges were negative in the quarter, except for the Russell 2000 Growth Index, which was up 0.24%.
- During the quarter, all sectors posted negative returns, except for Energy (+2%) and Consumer Discretionary (+4%). The quarterly return for Consumer Discretionary was aided by an exceptional July in which it was up over 18%. Returns posted by Real Estate and Communication Services were the worst, -11% and -13%, respectively.
- Small cap (Russell 2000) outpaced large cap (Russell 1000) and growth outperformed value during the quarter, a reversal of what we've seen in previous quarters this year.
- Continued concerns around inflation and a potential recession, along with geopolitical headlines, contributed to a volatile and risk-averse environment.

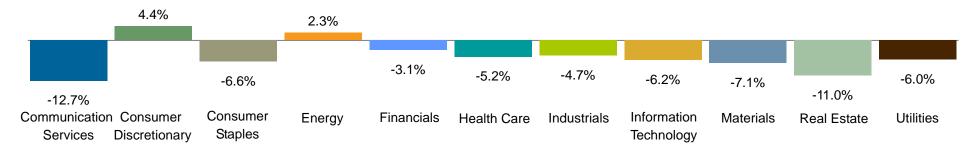
U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns



Industry Sector Quarterly Performance (S&P 500)



Sources: FTSE Russell, S&P Dow Jones Indices



U.S. Equity Market: Valuation Metrics



Cur	rent P/E vs	. 20-year av	g. P/E
	Value	Blend	Growth
Large	12.1	15.1	20.4
	7 10.1	7 10.0	7 10.0
Mid	11.8	13.8	19.7
Σ	14.4	16.3	20.3
Small	13.2	16.8	22.8
Sr	16.9	21.3	34.1
Cur	rent P/E as	% of 20-yea	ır avg. PE
Cur	rent P/E as Value	% of 20-yea	r avg. PE Growth
Large		-	_
	Value	Blend	Growth
Large	Value 88.5%	97.9%	Growth 109.8%

Sources: FactSet, FRB, Robert Shiller, S&P Dow Jones Indices, Thomson Reuters, J.P. Morgan Asset Management Guide to the Markets – U.S. Data are as of September 30, 2022.



Global/Global ex-U.S. Equity Performance: 3Q22

Global market turmoil

 Global and global ex-U.S. equity markets waned for three consecutive quarters due to inflation, rising rates, and fears of a global recession.

Geopolitical and macro factors plague the market

- Political instability in Italy and the U.K. as a result of prime minister departures weighed on the market.
- China's COVID-19 lockdowns and growing concerns around the property sector sapped sentiment and economic activity.

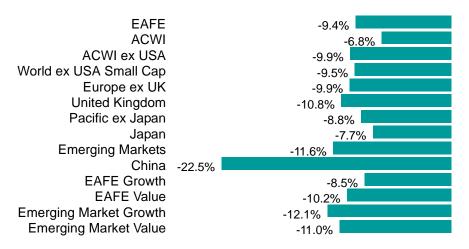
Growth vs. value

- Growth outpaced value in developed markets but lagged value in emerging markets.
 - Rate-sensitive sectors in developed markets (e.g., Communication Services and Real Estate) were challenged given the tightening cycle by global central banks.

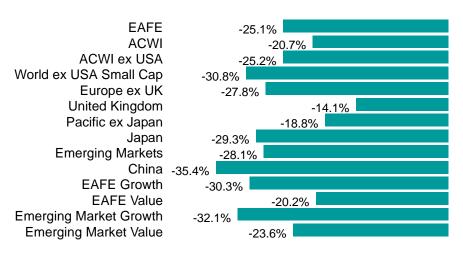
U.S. dollar vs. other currencies

- Growth and interest rate differentials as well as its safe haven status have fueled the U.S. dollar to a multi-decade high.
 - The dollar gained vs. the euro and the yen by about 6%.

Global Equity: Quarterly Returns



Global Equity: One-Year Returns



Source: MSCI



U.S. Fixed Income Performance: 3Q22

Bonds hit hard as rates rose sharply (again)

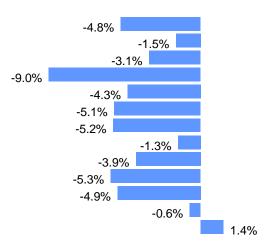
- Bloomberg US Aggregate worst nine-month return in its history
 - As are trailing 1, 3, 5 and 10-year returns!
 - 10-year return for Aggregate a mere 0.9%
- Yield curve inverted at quarter-end; 2-year at 4.22%, 10-year at 3.83%.
- Fed raised rates by 150 bps during the quarter, bringing target to 3.0% to 3.25%.
 - Median expectation from Fed is 4.4% at year-end and 4.6% at the end of 2023.
 - Longer-term expectations are much lower.
- Volatility climbed to levels not seen since early 2020.

Spread sectors underperformed

- Mortgages had worst month ever vs. like-duration U.S.
 Treasuries in September; underperformed by 169 bps for 3Q
- Corporates also produced negative returns; the Bloomberg Corp yield-to-worst reached 5.7%.
- High yield fared better and loans gained.

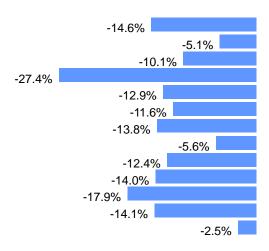
U.S. Fixed Income: Quarterly Returns

Bloomberg Aggregate
Bloomberg Gov/Credit 1-3 Yr
Bloomberg Intmdt Gov/Credit
Bloomberg Long Gov/Credit
Bloomberg Treasury
Bloomberg TIPS
Bloomberg Securitized
Bloomberg ABS
Bloomberg CMBS
Bloomberg MBS
Bloomberg Invst Grd Credit
Bloomberg High Yield Corp
S&P/LSTA Leveraged Loans



U.S. Fixed Income: One-Year Returns

Bloomberg Aggregate
Bloomberg Gov/Credit 1-3 Yr
Bloomberg Intmdt Gov/Credit
Bloomberg Long Gov/Credit
Bloomberg Treasury
Bloomberg TIPS
Bloomberg Securitized
Bloomberg ABS
Bloomberg CMBS
Bloomberg MBS
Bloomberg Invst Grd Credit
Bloomberg High Yield Corp
S&P/LSTA Leveraged Loans







October 2022 Market Update

Returns for Periods Ending October 31, 2022

	October 2022	Year to Date
Russell:3000 Index	8.2	(18.4)
MSCI:ACWI xUS	3.0	(24.3)
Blmbg:Agg Idx	(1.3)	(15.7)
Blmbg:Gov/Cred 1-3 Yr	(0.1)	(4.7)
Blmbg:HY Corp	2.6	(12.5)



Recent Activity and Plan Performance



Quarterly Total Fund Highlights

As of September 30, 2022

CO PSPF ended the quarter with \$1.2 billion in assets, down \$26.5 million from Q2 2022 after income, distributions and net new investments.

Investment losses were \$56.0 million while cash inflows were \$29.5 million over the quarter

The Total Fund lost 4.5% for the quarter and fell 16.9% for the trailing year. Ahead of the benchmark in both periods.

The Total Equity Composite slid 7.1% and 25.5% for the quarter and year, respectively.

U.S Equity outperformed International Equity for the quarter and year, with losses of 4.5% and 24.7%, versus
 -10.9% and -26.9% respectively.

The Fixed Income Composite exceeded its benchmark by 42 basis points with a return of -3.9%. For the year, the portfolio lost 13.2%, ahead of the benchmark by 22 basis points.

- The Market Duration bond portfolio outperformed its benchmark by 31 basis points with a return of -4.4% in the quarter. For the year, the portfolio was down 14.4%.
- The Janus Short Duration bond portfolio exceeded its benchmark by 82 basis points with a return of -0.7%.
 The portfolio lost 5.0% for the year.

The High Income Strategies Composite outperformed its benchmark for the quarter by 21 basis points with a return of -0.5%. For the year, the Composite was down 11.3%, 3.5% ahead of the benchmark.

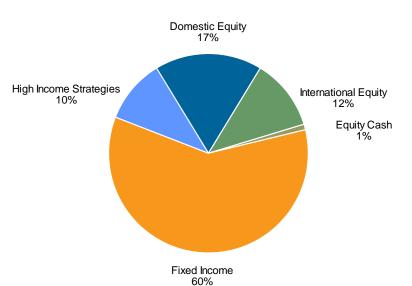
- The MacKay Shields' high yield bond portfolio lost 0.4% and 11.1% for the quarter and year, respectively.
- The Principal Spectrum preferred securities portfolio returned -1.3% and -12.9% for the quarter and year, respectively.



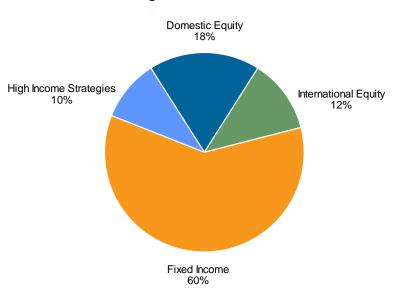
Total Fund Asset Allocation

September 30, 2022

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Weight Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	206,339	17.5%	18.0%	(0.5%)	(6,099)
International Equity	137,010	11.6%	12.0%	(0.4%)	(4,616)
Equity Cash ' '	10,098	0.9%	0.0%	`0.9%´	10,098
Fixed Income	704,062	59.7%	60.0%	(0.3%)	(4,066)
High Income Strategies	122,704	10.4%	10.0%	0.4%	4,683
Total	1,180,214	100.0%	100.0%		

Asset Distribution

	September 3	0, 2022			June 30, 2	2022
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
(1) Total Equity	\$344,903,165	29.22%	\$17,424,284	\$(26,714,329)	\$354,193,210	29.35%
Domestic Equity	\$206,339,409	17.48%	\$3,252,075	\$(10,234,891)	\$213,322,225	17.68%
iShares S&P 1500 ETF	206,339,409	17.48%	3,252,075	(10,234,891)	213,322,225	17.68%
International Equity	\$137,009,748	11.61%	\$13,143,987	\$(16,482,972)	\$140,348,734	11.63%
iShares MSCI Emerging ETF	39,086,528	3.31%	3,823,217	(5,455,018)	40,718,329	3.37%
iShares MSCI Canada ETF	14,433,423	1.22%	1,535,406	(1,352,631)	14,250,648	1.18%
iShares Core MSCIEAFE ETF	83,489,798	7.07%	7,785,364	(9,675,323)	85,379,757	7.08%
Equity Cash	1,554,007	0.13%	1,028,222	3,534	522,251	0.04%
Total Fixed Income	\$704,062,393	59.66%	\$4,478,148	\$(28,695,385)	\$728,279,630	60.35%
Market Duration	\$602,631,645	51.06%	\$4,959,009	\$(28,020,394)	\$625,693,031	51.85%
Colorado Treasurer's Portfolio	602,631,645	51.06%	4,959,009	(28,020,394)	625,693,031	51.85%
Short Duration	\$101,430,748	8.59%	\$(480,861)	\$(674,990)	\$102,586,599	8.50%
(2) Janus Henderson	101,430,748	8.59%	(480,861)	(674,990)	102,586,599	8.50%
High Income Strategies	\$122,704,323	10.40%	\$252,462	\$(689,138)	\$123,141,000	10.20%
High Yield Fixed Income	\$104,242,042	8.83%	\$(492,850)	\$(393,507)	\$105,128,398	8.71%
(3) Mackay Shield US High Yield	104,242,042	8.83%	(492,850)	(393,507)	105,128,398	8.71%
Preferred Securities	\$18,462,282	1.56%	\$745,312	\$(295,631)	\$18,012,601	1.49%
(4) Principal Preferred Securities	\$18,462,282	1.56%	\$745,312	\$(295,631)	\$18,012,601	1.49%
Cash Available For Investing	\$8,543,724	0.72%	\$7,337,859	\$74,102	\$1,131,763	0.09%
Total Fund	\$1,180,213,605	100.0%	\$29,492,753	\$(56,024,750)	\$1,206,745,602	100.0%

The Fund ended the quarter at \$1.2 billion, a decline of \$26.5 million from the second quarter. There were net new investments of \$29.5 million and \$56.0 million in investment losses.

⁽⁴⁾ Funded in July 2020.



⁽¹⁾ Funded in December 2017.

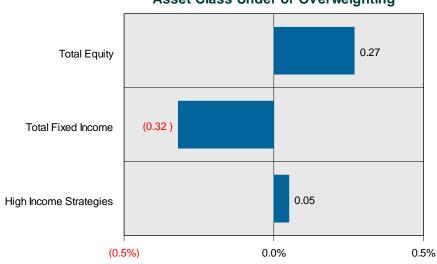
⁽²⁾ Funded in November 2018.

⁽³⁾ Funded in July 2020.

One-Quarter Performance Attribution

As of September 30, 2022

Asset Class Under or Overweighting



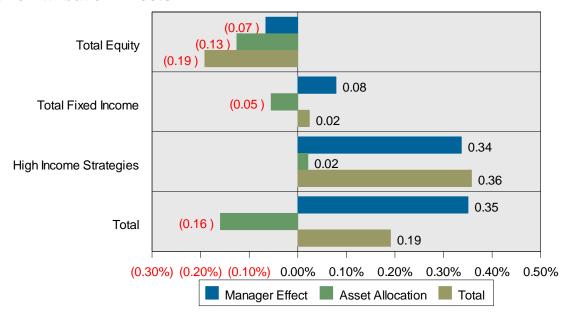
Relative Attribution Effects for Quarter ended September 30, 2022

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	30%	30%	(7.06%)	(6.64%)	(0.13%)	(0.01%)	(0.14%)
Total Fixed Income	60%	60%	(3.92%)	(4.34%)	0.25%	(0.00%)	0.25%
High Income Strategies	10%	10%	(0.52%)	(0.73%)	0.02%	(0.00%)	0.02%
Total			(4.54%) =	(4.67%) +	0.15% +	(0.02%)	0.13%

One Year Performance Attribution

As of September 30, 2022

One Year Relative Attribution Effects



One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity	30%	30%	(20.84%)	(20.64%)	(0.07%)	(0.13%)	(0.19%)
Total Fixed Income	60%	60%	(13.30%)	(13.44%)	`0.08%	(0.05%)	0.02%
High Income Strategies	10%	10%	(10.83%)	(14.25%)	0.34%	0.02%	0.36%
Total			(15.38%) =	(15.57%) +	0.35% +	(0.16%)	0.19%

Manager & Composite Cumulative Returns

As of September 30, 2022

(7.06%) (6.64%)	to Date (25.48%) (25.34%)	Last Year (20.84%)	5 Years	10 Years
(7.06%) (6.64%)	(25.48%)	(20.84%)	Years	Years
(6.64%)	· · · · · · · · · · · · · · · · · · ·	,		
(6.64%)	· · · · · · · · · · · · · · · · · · ·	,	-	-
(4.500()	,	(20.64%)	4.81%	8.04%
(4.53%)	(24.71%)	(17.83%)	-	-
(4.46%)	(24.62%)	(17.63%)	8.62%	11.39%
(10.85%)	(26.89%)	(25.47%)	-	-
(9.91%)	(26.50%)	(25.17%)	(0.81%)	3.01%
(3.92%)	(13.17%)	(13.30%)	0.01%	1.11%
(4.34%)	(13.39%)	(13.44%)	(0.14%)	0.77%
(4.44%)	(14.38%)	(14.50%)	(0.18%)	1.01%
(4.44%)	(14.38%)	(14.50%)	(0.18%)	1.01%
(4.75%)	(14.61%)	(14.60%)	(0.27%)	0.70%
(0.66%)	(4.95%)	(5.17%)	-	-
			-	-
	(4.54%)	,		0.81%
(1.16%)	(4.69%)	(5.07%)	0.99%	1.25%
(0.52%)	(11.33%)	(10.83%)	_	_
(0.73%)	(14.76%)	(14.25%)	1.57%	-
(0.39%)	(11.07%)	(10.43%)	-	-
(0.39%)	(11.07%)	(10.43%)	-	-
(0.65%)	(14.74%)	(14.14%)	1.57%	3.94%
(1.26%)	(12.85%)	(13.14%)	-	-
(1.26%)	(12.85%)	(13.14%)	-	-
(1.20%)	(14.87%)	(14.89%)	1.52%	-
(4.54%)	(16.86%)	(15.38%)	0.78%	1.50%
				1.29%
	(10.85%) (9.91%) (3.92%) (4.34%) (4.44%) (4.44%) (4.75%) (0.66%) (1.48%) (1.16%) (0.52%) (0.73%) (0.39%) (0.39%) (0.39%) (0.65%)	(4.46%) (24.62%) (10.85%) (26.89%) (9.91%) (26.50%) (3.92%) (13.17%) (4.34%) (13.39%) (4.44%) (14.38%) (4.75%) (14.61%) (0.66%) (4.95%) (0.66%) (4.95%) (1.48%) (4.54%) (1.16%) (4.69%) (0.52%) (11.33%) (0.73%) (14.76%) (0.39%) (11.07%) (0.39%) (11.07%) (0.39%) (11.07%) (0.65%) (14.74%) (1.26%) (12.85%) (1.20%) (14.87%)	(4.46%) (24.62%) (17.63%) (10.85%) (26.89%) (25.47%) (9.91%) (26.50%) (25.17%) (3.92%) (13.17%) (13.30%) (4.34%) (13.39%) (13.44%) (4.44%) (14.38%) (14.50%) (4.44%) (14.38%) (14.50%) (4.75%) (14.61%) (14.60%) (0.66%) (4.95%) (5.17%) (0.66%) (4.95%) (5.17%) (1.48%) (4.54%) (5.07%) (1.16%) (4.69%) (5.07%) (0.52%) (11.33%) (10.83%) (0.73%) (14.76%) (14.25%) (0.39%) (11.07%) (10.43%) (0.65%) (14.74%) (14.14%) (1.26%) (12.85%) (13.14%) (1.26%) (12.85%) (13.14%) (1.20%) (14.87%) (14.89%)	(4.46%) (24.62%) (17.63%) 8.62% (10.85%) (26.89%) (25.47%) - (9.91%) (26.50%) (25.17%) (0.81%) (3.92%) (13.17%) (13.30%) 0.01% (4.34%) (13.39%) (13.44%) (0.14%) (4.44%) (14.38%) (14.50%) (0.18%) (4.45%) (14.61%) (14.60%) (0.27%) (0.66%) (4.95%) (5.17%) - (0.66%) (4.95%) (5.17%) - (1.48%) (4.54%) (5.07%) 0.70% (1.16%) (4.69%) (5.07%) 0.99% (0.73%) (14.76%) (10.43%) - (0.39%) (11.07%) (10.43%) - (0.39%) (11.07%) (10.43%) - (0.65%) (14.74%) (14.14%) 1.57% (1.26%) (12.85%) (13.14%) - (1.26%) (12.85%) (13.14%) - (1.20%) (14.87%) (14.89%) 1.52%

Performance footnotes are detailed on page 21.



Manager & Composite Fiscal Year Returns

	6/2022- 9/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	(7.06%)	(15.85%)	41.59%	1.82%	5.64%
60% Russell 3000/40% ACWI ex US	(6.64%)	(16.06%)	40.77%	1.90%	5.92%
Domestic Equity	(4.53%)	(13.95%)	44.30%	6.40%	8.85%
Russell 3000 Index	(4.46%)	(13.87%)	44.16%	6.53%	8.98%
International Equity	(10.85%)	(18.97%)	37.78%	(4.71%)	0.67%
MSCI ACWI ex US	(9.91%)	(19.42%)	35.72%	(4.80%)	1.29%
Total Fixed Income	(3.92%)	(9.76%)	(0.27%)	8.79%	7.38%
Total Fixed Income Benchmark (1)	(4.34%)	(9.46%)	(0.26%)	8.28%	7.52%
Market Duration	(4.44%)	(10.55%)	(0.55%)	9.26%	7.77%
Colorado Treasurer's Portfolio (2)	(4.44%)	(10.55%)	(0.55%)	9.26%	7.77%
PSPF Custom Benchmark (3)	(4.75%)	(10.29%)	(0.33%)	8.74%	7.87%
Short Duration	(0.66%)	(4.33%)	2.33%	4.41%	-
Janus Henderson Short Duration	(0.66%)	(4.33%)	2.33%	4.41%	-
Blmbg Gov/Cred 1-3 Yr	(1.48%)	(3.56%)	0.44%	4.20%	4.27%
85% 1-3YR G/C; 15% 1-3YR BB (4)	(1.16%)	(3.83%)	1.70%	3.94%	4.59%
High Income Strategies	(0.52%)	(9.38%)	_	_	_
High Income Strategies Benchmark (5)	(0.73%)	(12.89%)	15.13%	0.46%	7.58%
High Yield Fixed Income	(0.39%)	(9.09%)	-	-	-
Mackay Shield US High Yield	(0.39%)	(9.09%)	-	-	-
Blmbg High Yield	(0.65%)	(12.81%)	15.37%	0.03%	7.48%
Preferred Securities	(1.26%)	(11.11%)	-	-	-
Principal Preferred Securities	(1.26%)	(11.11%)	-	-	-
ICE BofA US All Cap Secs	(1.20%)	(13.33%)	13.67%	2.86%	8.12%
Total Fund w/o CAI (6)	(4.54%)	(11.58%)	8.30%	7.37%	6.94%
Total Fund Benchmark (6)	(4.67%)	(11.64%)	7.98%	7.87%	7.49%



Performance Footnotes

- (1) Current quarter's Total Fixed Income Benchmark consists of 87.5% Bloomberg U.S. Aggregate and 12.5% Bloomberg Gov/Credit 1-3 Yrs.
- (2) Includes cash returns starting July 2017.
- (3) The PSPF Fixed Income Portfolio Custom Benchmark consisted of 37% U.S. Treasury 1-10 Year Index, 34% Mortgages 0-10 Year WAL Index, 19% AAA U.S. Agencies 1-10 Year Index and 10% U.S. Corporates AAA Rated 1-10 Years Index through March 31, 2017, 100% Bloomberg U.S. Aggregate, thereafter.
- (4) Benchmark consists of 85% Bloomberg 1-3 Year Government/Credit Index and 15% BofAML 1-3 Year BB US Cash Pay High Yield Index.
- (5) Benchmark consists of 85% Blmbg High Yield Index and 15% ICE BofA US All Cap Secs Index.
- (6) Current quarter's Total Fund Benchmark consists of 18.0% Russell 3000, 12.0% MSCI ACWI ex US, 52.5% Bloomberg U.S. Aggregate, 7.5% Bloomberg Gov/Credit 1-3 Yrs, 8.5% Bloomberg US High Yield and 1.5% ICE BofA U.S. All Capital Securities Index.
- *All composites and manager returns are shown gross-of-fees.



Callan

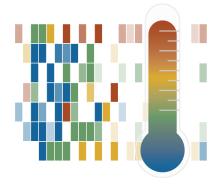
Callan Updates

Published Research Highlights from 3Q22

Research Café: Preliminary 2023 CMAs



Real Estate Indicators: Cool Enough or Too Hot?



On-Demand Webinars callan.com/ondemand-webinars



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Ever-Evolving
Glidepath

Dario Buechi

Additional Reading

Alternatives Focus quarterly newsletter
Active vs. Passive quarterly charts
Capital Markets Review quarterly newsletter
Monthly Updates to the Periodic Table
Market Pulse Flipbook quarterly markets update
Real Estate Indicators market outlook



Callan Institute Events

Upcoming conferences, workshops, and webinars

Callan College

Intro to Alternatives

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with alternative investments like private equity, hedge funds, and real estate and how they can play a key role in any portfolio. In our "Callan College" on Alternatives, you will learn about the importance of allocations to alternatives, and how to consider integrating, evaluating, and monitoring them.

Intro to Investments—Learn the Fundamentals

This course is for institutional investors, including trustees and staff members of public plans, corporate plans, and nonprofits. This session familiarizes trustees and staff with basic investment theory, terminology, and practices.

- -March 1-2, 2023 In Person Session Chicago
- -May 24-25, 2023 Virtual Session via Zoom

Please visit our website at <u>www.callan.com/events-education</u> as we add dates to our 2023 calendar!

Mark Your Calendar

Callan Institute's 2023 National Conference

April 2–4, 2023 Scottsdale, Arizona

Watch your email for further details and an invitation.

Webinars & Research Café Sessions

Webinar: Rebalancing During This Unusual Market Environment

November 9, 2022 – 9:30am (PT)



Content Calendar—Callan Institute



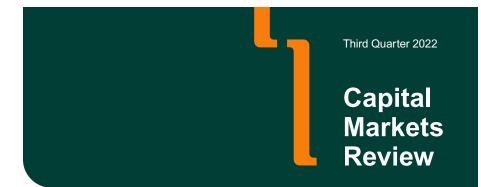


Callan

September 30, 2022
CO Public School Permanent Fund
Investment Measurement Service
Quarterly Review

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Mayhem Continues in the Capital Markets

ECONOMY

Mayhem continued to plague the capital markets, with both stocks and bonds falling through the first three quarters of the year. But the underlying U.S. economy remains strong, with an uptick in GDP in 3Q and the job market reaching its pre-pandemic level in August.

Bonds Hit Hard as Rates Rose Sharply

FIXED INCOME

The Bloomberg US
Aggregate saw its worst
nine-month return in its
history. The yield curve inverted
at quarter-end; the 10-year was
at 3.83% and 2-year at 4.22%.
Negative returns for global fixed
income were driven by broad interest rate increases.

Appeal for Investors in Low-Yield Climate

PRIVATE CREDIT

Clients moved away from new allocations to traditional sponsor-backed direct lending due to the increased competition and commoditization within the space. Demand has continued to be healthy for less-competitive areas of private credit with high barriers to entry.

Double-digit Declines for Last 12 Months

INSTITUTIONAL INVESTORS

Institutional investors saw double-digit losses over the year ending 9/30/22. Almost every asset class was down, and it was the worst start to a year for a 60/40 portfolio in decades. Despite inflation worries, the drop in stocks and bonds became the top concern of institutional investors.

NPI Shows Gains; REITs Lag Equities

REAL ESTATE/REAL ASSETS

The NCREIF Property Index rose 0.6% during 3Q22. The NCREIF Open-End Diversified Core Equity Index rose 0.5%. The FTSE EPRA Nareit Developed Asia Index (USD) fell 9.4%. The FTSE EPRA Nareit Developed Europe Index (USD) plunged 21.7%.

Managers in General Outpace Benchmarks

HEDGE FUNDS/MACs

Hedge funds fell but outperformed broader indices. The median member of the Callan Institutional Hedge Fund Peer Group rose 0.6%. The median manager of the Callan Multi-Asset Class (MAC) Style Groups saw lower returns, consistent with their underlying risk exposures.

First Three Quarters The Worst in Decades

EQUITY

The S&P 500 Index fell 4.9% in 3Q22, and equities are off to the worst three quarters in decades. All major U.S. indices across styles and market cap ranges were negative except for the Russell 2000 Growth. Global markets waned for three straight quarters as well.

Activity Reflects Pre-Pandemic Levels

PRIVATE EQUITY

All private equity activity measures dipped in 3Q22 compared to the previous quarter, except for an increase in IPOs. Steep year-to-date declines are largely in contrast to last year's stimulus-induced hyper-liquidity, with 2022 generally reflecting active prepandemic levels.

DC Index Sees Third-Worst Decline Ever

DEFINED CONTRIBUTION

The Callan DC Index™ fell 12.2% in 2Q22; the Age 45 Target Date Fund dropped 13.4%. Balances within the DC Index declined by 12.3%. Stable value received 47.7% of net flows, topping target date funds. U.S. large cap (25.1%) had the largest percentage decrease in allocation.

Broad Market Quarterly Returns

U.S. Equity Russell 3000



Global ex-U.S. Equity
MSCI ACWI ex USA



U.S. Fixed Income Bloomberg Agg



Global ex-U.S. Fixed Income Bloomberg Global Agg ex US



Sources: Bloomberg, FTSE Russell, MSCI

Mayhem in the Capital Markets

ECONOMY | Jay Kloepfer

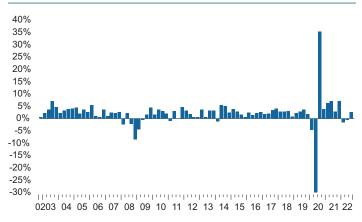
Capital markets abhor uncertainty, and we have seen nothing but uncertainty this year. The Russian invasion of Ukraine threw expectations for an orderly transition from the pandemic era out the window. Kinks in supply chains were expected to be smoothed, energy prices and inflation in general were projected to calm and subside after surging in 2021, and market participants anticipated an orderly transition from zero interest rate policy to a more "normal" yield curve. All these were key components to a consensus view that U.S. and global economies, and their capital markets, would slow gradually toward trend growth and reach the proverbial "Goldilocks" scenario: not too hot, not too cold. Like a soft landing for the Fed, the Goldilocks scenario is aspirational and has never really been achieved.

Instead, inflation is burning out of control. Global energy markets are surging and volatile. Geopolitical uncertainty is moving toward a level some experts liken to the period after World War II, when the United States and the Soviet Union were trying to figure out a new world order. This time, China represents a third axis of power with another agenda. Stock and bond markets around the globe are down together for three quarters in a row through September 2022. The S&P 500 plunged 24% year-to-date, and developed and emerging market equities are down a similar amount, punished by the strong dollar. While painful, such a drawdown in the equity markets is expected periodically. What is not expected is the 14.6% loss in the bond market (Bloomberg Aggregate) at the same time. The nine-month returns for the Aggregate are the worst in its history. There is no place to hide for a diversified portfolio.

The losses in both the bond and stock markets this year are primarily due to the sharp rise in interest rates. The lack of any yield cushion at the start of 2022 makes the rise in rates particularly painful for bonds. Rates have risen this much in the past, but the last time was during the regime change for monetary policy in the early 1980s. The giant capital losses were cushioned by yields as high as 14%. We began this year with the yield on the Aggregate at 1.75%; by Sept. 30, it reached 4.75%. With a duration of over

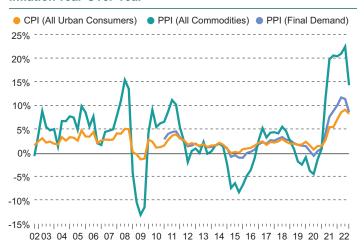
Quarterly Real GDP Growth

(20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

six years for the Aggregate, the capital loss implied by such a rate rise is close to 20%. The rising yield collected offsets some of this capital loss.

The Fed announced plans to raise rates aggressively in 2022, targeting a Fed Funds rate of 3.25% to 3.5% by December, but the market didn't really believe it until the Russian invasion in February. Then investors fully priced in the Fed's plans all at once. During the long period of zero interest rate policy over the past decade, we often mused that the best way to return to normal in the bond market would be to rip the "low-rate bandage" off and

move at once to the new normal. Get the pain over with, absorb the capital loss, and start collecting the higher yield. Be careful what you wish for.

Underneath this mayhem in the capital markets, the U.S. economy has been strong, with a particularly robust job market and healthy consumer spending. The economy added 263,000 jobs in September, down from the torrid pace set earlier this year, but for the guarter nonfarm employment increased by more than 1.1 million jobs. Even more importantly, we finally reached the prepandemic level for total employment in August 2022. Personal income growth has recovered from the withdrawal of pandemic support (transfer payments), rising 5.9% in 2Q and 5.5% in 3Q. Disposable income (after tax) rose by similar rates. However, inflation has taken a toll this year; real disposable income is 4% to 5% lower than the same month one year ago starting in May 2022, while real consumption expenditures are 6% to 7% higher.

Traditional measures of economic health are still out of whack as they often were during the pandemic. GDP is the biggest puzzle so far this year. GDP fell 1.6% in 1Q and another 0.6% in 2Q, while at the same time we generated more than 2 million new jobs. The GDP declines were deemed to be anomalies driven by inventory swings and net exports, not underlying economic weakness. Third quarter GDP grew by 2.6%, with strong contributions from exports, business fixed investment (equipment and intellectual property), and a resumption of government spending. However, fourth quarter GDP is now projected to fall. After all the mayhem, GDP growth will likely end up being positive in 2022-but it is projected to be negative in 2023, signaling more challenges ahead and the potential for a recession to extend through 2Q23.

The Long-Term View

		-		Ended	
Index	3Q22	1 Yr	5 Yrs	10 Yrs	25 Yrs
U.S. Equity					
Russell 3000	-4.5	-17.6	8.6	11.4	7.5
S&P 500	-4.9	-15.5	9.2	11.7	7.4
Russell 2000	-2.2	-23.5	3.6	8.6	6.7
Global ex-U.S. Equity					
MSCI EAFE	-9.4	-25.1	-0.8	3.7	3.5
MSCI ACWI ex USA	-9.9	-25.2	-0.8	3.0	
MSCI Emerging Markets	-11.6	-28.1	-1.8	1.0	
MSCI ACWI ex USA Small Cap	-8.4	-28.9	-0.6	4.4	5.6
Fixed Income					
Bloomberg Agg	-4.8	-14.6	-0.3	0.9	4.0
90-Day T-Bill	0.5	0.6	1.1	0.7	1.9
Bloomberg Long G/C	-9.0	-27.4	-1.2	1.4	5.5
Bloomberg Gl Agg ex US	-8.8	-24.8	-4.0	-2.4	2.4
Real Estate					
NCREIF Property	0.6	16.1	8.6	9.5	9.4
FTSE Nareit Equity	-9.9	-16.4	2.9	6.3	7.7
Alternatives					
CS Hedge Fund	0.4	1.1	4.5	4.3	5.9
Cambridge PE*	-5.6	3.3	18.2	15.9	14.7
Bloomberg Commodity	-4.1	11.8	7.0	-2.1	1.5
Gold Spot Price	-7.5	-4.8	5.4	-0.6	6.6
Inflation – CPI-U	0.2	8.2	3.8	2.5	2.5

*Data for most recent period lags. Data as of 6/30/22.

Sources: Bloomberg, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Recent Quarterly Economic Indicators

	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20
Employment Cost–Total Compensation Growth	5.0%	5.1%	4.5%	4.0%	3.7%	2.9%	2.6%	2.5%
Nonfarm Business–Productivity Growth	0.3%	-4.1%	-5.9%	4.4%	-2.4%	2.7%	3.0%	-3.9%
GDP Growth	2.6%	-0.9%	-1.6%	6.9%	2.3%	6.7%	6.3%	4.5%
Manufacturing Capacity Utilization	79.7%	79.5%	79.1%	78.6%	77.5%	76.8%	75.7%	75.0%
Consumer Sentiment Index (1966=100)	56.1	57.8	63.1	69.9	74.8	85.6	80.2	79.8

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Double-digit Declines for Last 12 Months

INSTITUTIONAL INVESTORS

Rough year but most investors topped benchmarks

- Institutional investors saw double-digit losses over the year ending 9/30/22.
- Corporate defined benefit (DB) plans had the lowest returns,
 Taft-Hartley plans the best.
- All investor types aside from corporate DB plans outperformed a 60% S&P 500/40% Bloomberg Aggregate benchmark.
- And all types but corporate DB plans also outperformed equity and bond benchmarks.
- Over longer time periods, all investor types generally underperformed the stocks/bonds benchmark.

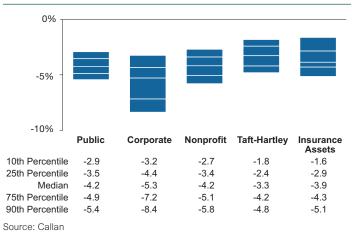
Major concern shifts

- Declines in both equities and fixed income replaced inflation as the greatest concern for institutional investors in 3Q22.
- Almost every asset class was down, and it was the worst start to a year for a 60/40 portfolio in decades.
- But ... inflation is still burning out of control. One ray of hope:
 month-to-month inflation flattened to zero starting in June.
- Institutional investors are starting to ask questions about what to do now:
 - How does a yield of 4% change the demand for yield substitutes: investment grade credit, bank loans, high yield, private credit? Real estate and infrastructure?

- Rebalancing is a natural outcome of a market downturn, except when everything goes down.
- · Alternatives are now over target allocations.
 - This stems from the denominator effect: the plunge in stocks and bonds is immediate but there is a delay in private market loss reporting, meaning the overweight is somewhat artificial.
 - This is not the time to hold back on re-upping private market commitments—the "overweight" will self-correct as appraisals reflect public market performance.

Quarterly Returns, Callan Database Groups

(9/30/22)



Callan Database Median and Index Returns* for Periods Ended 9/30/22

Database Group	Quarter	1 Year	3 Years	5 Years	10 Years	20 Years
Public Database	-4.2	-13.4	4.1	4.8	6.8	7.3
Corporate Database	-5.3	-17.8	0.8	3.0	5.6	6.9
Nonprofit Database	-4.2	-14.5	3.6	4.3	6.3	7.4
Taft-Hartley Database	-3.3	-11.1	4.8	5.4	7.2	7.1
Insurance Assets Database	-3.9	-11.8	0.7	2.3	3.8	4.8
All Institutional Investors	-4.3	-14.3	3.4	4.3	6.5	7.2
Large (>\$1 billion)	-4.2	-13.0	4.2	5.0	6.8	7.5
Medium (\$100mm - \$1bn)	-4.3	-14.7	3.4	4.4	6.6	7.1
Small (<\$100 million)	-4.3	-14.5	3.0	4.0	6.2	6.8
60% S&P 500/40% Bloomberg Agg	-4.8	-14.9	3.9	5.7	7.5	7.4

^{*}Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

Key issues for corporate DB plans

- Corporate plans are rethinking their approach to liabilitydriven investing (LDI). LDI portfolios were hammered by long duration exposure; the typical LDI plan treaded water in funded status.
- According to a survey of client activity, there was a big drop in concern about funded status in recent quarters; plans' interest in alternative asset classes dropped significantly.

Key issues for public DB plans

- Downward pressure on actuarial discount rates continued into 2022, with the typical rate at or below 7%. This trend may abate now as capital markets expectations rise following the market decline.
- Inflation impacts future liabilities through pressure on salary, and hits plans now with COLAs.
- According to our survey, return enhancement remains the top issue of concern; interest in adding to alternatives stayed steady.
- Clients plan to make few changes with allocations to most traditional asset classes.

The survey started tracking private credit in 3Q20, and since then interest in increasing allocations to the asset class has held steady, with no clients saying they plan to cut their allocations.

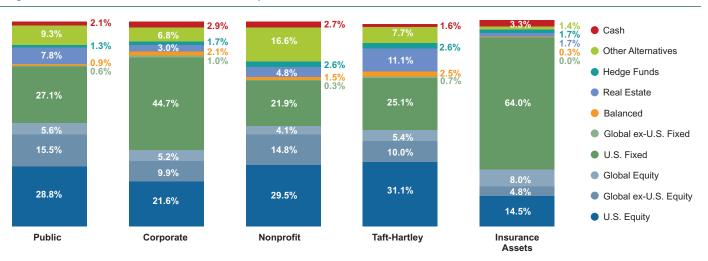
Key issues for defined contribution (DC) plans

- Use of passive target date funds hit an all-time high.
- Fees remained, as they have for years, the top issue, but some plans are focusing on participant communication amid the market turmoil.

Nonprofit priorities

- Nonprofits have expanded the depth and breadth of their private markets investments after a decade of high valuations in public markets growth assets. The inflation surge heightens concern about the erosion of the real values of their assets and distributions.
- According to our survey, there was a noticeable drop in their concerns about liquidity; interest in increasing private real estate allocations hit another high.
- There was also a significant decline in plans to increase private credit allocations between 1Q22 and 3Q22.

Average Asset Allocation, Callan Database Groups



Note: charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private credit, private equity, and real assets. Source: Callan

Equity

U.S. Equities

Worst three-quarter start to year in decades

- The S&P 500 Index fell 4.9% in 3Q22; all major U.S. indices across styles and market cap ranges were negative except for the Russell 2000 Growth Index, which gained 0.24%.
- During the quarter, all sectors posted negative returns except for Energy (+2%) and Consumer Discretionary (+4%). The return for Consumer Discretionary was aided by an exceptional July when the sector was up more than 18%. Returns for Real Estate and Communication Services were the worst, down 11% and 13%, respectively.
- Small cap (Russell 2000) outpaced large cap (Russell 1000) and growth outperformed value during the quarter, a reversal from previous quarters this year.
- Continued concerns around inflation and a potential recession, along with geopolitical headlines, contributed to a volatile and risk-averse environment.

More market difficulties; no place to hide

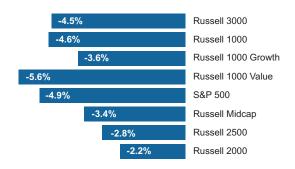
- The pullback of the U.S. equity markets was reminiscent of other periods marked by bearish sentiment, such as 2008 (Global Financial Crisis) and 2020 (start of pandemic).
- High inflation and interest rates continued to pressure the markets. While some inflationary data (particularly around energy) seemed to soften, other data points around food, shelter, and services remained elevated.
- U.S. equity did not provide a safe haven for investors. Like most other asset classes, it has not generated YTD gains and continues to be overshadowed by the outsized outperformance of commodities.

'Relief rally' but not for active managers

- The market experienced a "relief rally" in late June to August based on optimism that inflation had peaked, lessening the urgency for continued rate hikes.
- The rally was marked by a rebound of cyclical growth companies, and unprofitable companies outperformed profitable companies by wide margins across caps. Active managers underperformed significantly during this period.

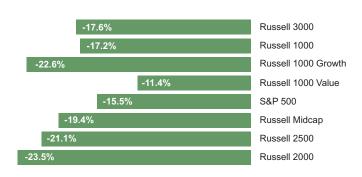
U.S. Equity: Quarterly Returns

(9/30/22)



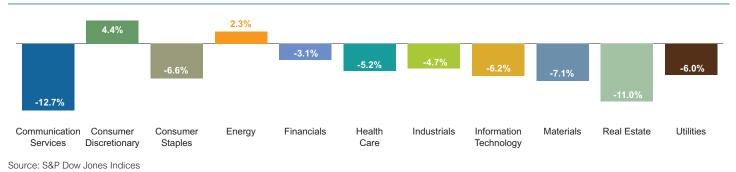
U.S. Equity: One-Year Returns

(9/30/22)



Sources: FTSE Russell and S&P Dow Jones Indices

Quarterly Performance of Industry Sectors (9/30/22)



Global Equity

Market turmoil around the world

Global and global ex-U.S. equity markets waned for three straight quarters due to inflation, rising rates, and fears of global recession.

Geopolitical and macro factors plague market

- Political instability in Italy and the U.K. as a result of prime minister departures weighed on the market.
- U.K. equities lost confidence as its newly elected prime minister Liz Truss announced her economic policy.
- China's COVID-19 lockdowns and growing concerns around the property sector sapped sentiment and economic activity.

Growth and value switch places globally

- Growth outpaced value in developed markets but lagged value in emerging markets.
- Rate-sensitive sectors in developed markets Communication Services and Real Estate) were challenged given the tightening cycle by global central banks.
- The profitability of Chinese internet companies has compressed due to lockdowns and regulation, and a cyclical downturn in electronics weakened Taiwan and Korean semiconductors.

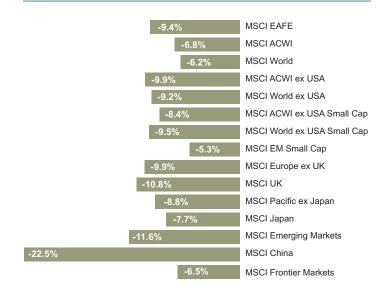
U.S. dollar vs. other currencies

- Growth and the interest rate differential as well as its safehaven status fueled the U.S. dollar to its highest level in decades.
- The dollar gained vs. the euro and the yen by about 6%.

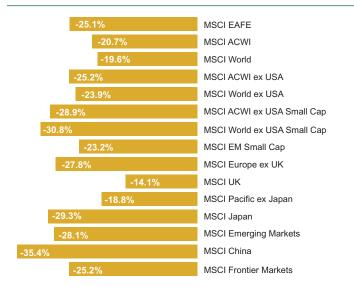
The case for global ex-U.S. equities

- Diversification: Global ex-U.S. equities remain a good diversifier to other public markets investments.
- Valuations/Yield: Valuation of U.S. stocks took off after the Global Financial Crisis (GFC); many of the tailwinds have dissipated—rates, inflation, and liquidity.
- Developed ex-U.S. stocks continue to be undervalued and currently provide a 1.6% yield premium to U.S. stocks (MSCI EAFE 3.5% vs. S&P 500 1.9%).

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar, 9/30/22)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar, 9/30/22)



Source: MSCI

- Economic exposure: Emerging market and developing economies' contribution to global GDP has increased while advanced economies' share has steadily decreased since
- U.S. companies do not provide significant exposure to non-U.S. economies

Fixed Income

U.S. Fixed Income

Bonds hit hard as rates rose sharply (again)

- Bloomberg US Aggregate saw its worst nine-month return in its history—as did trailing 1-, 3-, 5-, and 10-year returns!
- 10-year annualized return for Aggregate is a mere 0.9%.
- Yield curve inverted at quarter-end; 10-year at 3.83% and 2-year at 4.22%
- 10-year at 4% briefly in late September; first time since 2009
- TIPS underperformed nominal Treasuries, and 10-year breakeven spreads fell to 2.11% from 2.33% as of 6/30/22.
- Fed raised rates by 150 bps during the quarter, bringing target to 3.0% to 3.25%.
- Median expectation from Fed is 4.4% at year-end and 4.6% at the end of 2023.
- Longer-term expectations are much lower.
- Volatility climbed to levels not seen since early 2020.

Spread sectors underperformed

- Mortgages had worst month ever vs. like-duration U.S.
 Treasuries in September; underperformed by 169 bps for 3Q.
- Corporates also underperformed: 33 bps of excess return.
- Bloomberg Corporate Bond Index yield-to-worst 5.7%
- High yield fared better and loans posted a positive return.
- Bloomberg High Yield Corp yield-to-worst 9.7%

Municipal Bonds

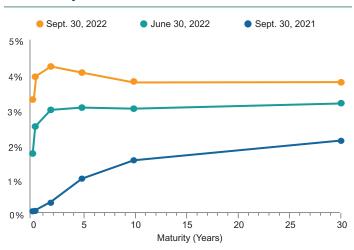
Municipal bond returns hurt by rising rates

- Lower quality continued to underperform.
- BBB: -4.1%; AAA: -3.5% (YTD BBB: -14.9%; AAA: -11.7%)

Valuations relative to U.S. Treasuries at fair value

- 10-year AAA Muni/10-year U.S. Treasury yield ratio roughly 87%; in line with 10-year average
- Municipal Bond Index after-tax yield = 6.8% (source: Morgan Stanley)

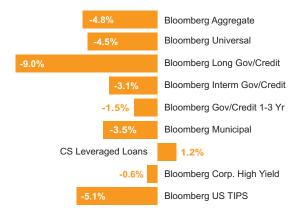
U.S. Treasury Yield Curves



Source: Bloomberg

U.S. Fixed Income: Quarterly Returns

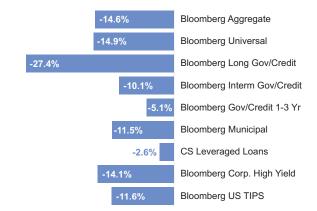
(9/30/22)



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns

(9/30/22)



Sources: Bloomberg and Credit Suisse

FIXED INCOME (Continued)

Supply/demand

- Outflows of \$91.5 billion YTD—highest cycle outflow since data series began in 1992
- YTD issuance down 14% vs. last year

Credit quality remains stable to improving

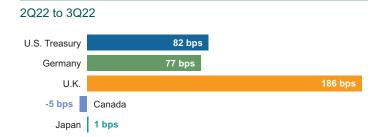
- State revenues up more than 18% vs. 2021
- Number of defaults lower than 2021 and concentrated in senior living and industrial revenue bonds

Global Fixed Income

Negative returns driven by broad interest rate increases

- U.S. dollar continued to appreciate vs. yen, euro, and pound
- Bank of Japan intervened to support currency for first time since 1998.
- Pound hit record low vs. U.S. dollar.
- Double-digit negative returns were widespread across developed markets.
- U.K. government bonds were hard-hit on U.K.'s "mini-budget" fiasco.
- ICE BofA U.K. Gilts Index -20.6% in 3Q
- Emerging market debt returns also sharply negative
- Most countries in the USD-denominated JPM EMBI Global Diversified Index posted negative returns, hurt by rising rates in the U.S.
- JPM GBI-EM Global Diversified also fell due largely to EM currency depreciation vs. the U.S. dollar.

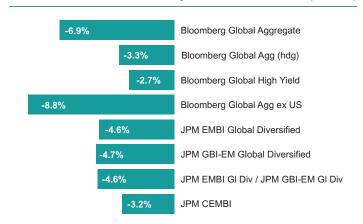
Change in 10-Year Global Government Bond Yields



Source: Bloomberg

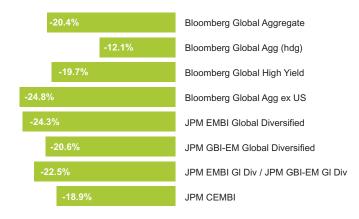
Global Fixed Income: Quarterly Returns

(9/30/22)



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns (9/30/22)



Sources: Bloomberg and JPMorgan Chase

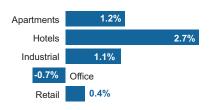
NPI Shows Gains but REITs Lag Equity Indices

REAL ESTATE/REAL ASSETS | Munir Iman

- The NCREIF Property Index, an unlevered measure of U.S. institutional real estate assets, rose 0.6% during 3Q22. The income return was 0.9%; the appreciation return was -0.4%.
- Hotels, which represent a small portion of the index, led property sector performance with a gain of 2.7%. Office finished last with a loss of 0.7%.
- Regionally, the South led with a 1.1% gain, while the Midwest was the worst performer but still rose 0.2%.
- The NCREIF Open-End Diversified Core Equity Index, representing equity ownership positions in U.S. core real estate with leverage, rose 0.3% during 3Q, with an income return of 0.6% and an appreciation return of -0.3%.
- U.S. REITs underperformed the S&P 500 (-4.9%) but exhibited strong performance relative to European REITs. Real estate securities underperformed on the cloudy economic outlook as well as a sizeable upward move in U.S. government bond yields.
- While all property sectors traded lower during the quarter, the sectors that were most resilient included self-storage and hotels amid strong fundamentals and pricing power.
 Malls also outperformed after being a meaningful laggard year to date.
- The poorest-performing sectors included data centers, due to fears around power costs and higher cost of capital; office,

Sector Quarterly Returns by Property Type

(9/30/22)



Source: NCREIF

due to sluggish return-to-office momentum; and health care, due to labor cost pressures in senior housing.

- The FTSE EPRA Nareit Developed Asia Index (USD) fell
 9.4% during the quarter.
- Australian REITs (-11.5%) were the weakest performers in the region, driven by concerns over slowing demand in office and cap rate expansion in industrial stocks.
- The FTSE EPRA Nareit Developed Europe Index (USD) fell 21.7% during the quarter, led by the United Kingdom (-25.9%), which lagged on the new government's approach to a debt-financed fiscal expansion that resulted in a sharp decline in the pound and government bonds.
- Continental Europe (-19.2%) performed better on a relative basis, but was still weighed down by currency headwinds, accelerating inflation, rate hike expectations, soaring energy prices, and continued conflict between Russia and Ukraine.

Callan Database Median and Index Returns* for Periods Ended 9/30/22

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	3.1	14.8	23.3	12.4	9.9	10.4	6.0
NFI-ODCE (value-weighted, net)	0.3	12.4	21.0	11.4	9.3	9.9	5.8
NCREIF Property	0.6	9.4	16.1	9.9	8.6	9.5	7.0
NCREIF Farmland	2.0	7.4	11.5	6.9	6.6	9.6	10.6
NCREIF Timberland	2.4	7.6	12.5	5.8	4.7	5.9	5.0
Public Real Estate							
Global Real Estate Style	-11.4	-29.9	-22.0	-3.7	2.0	5.1	2.8
FTSE EPRA Nareit Developed	-11.6	-29.9	-22.8	-6.5	-0.9	2.9	0.9
Global ex-U.S. Real Estate Style	-13.8	-32.0	-30.8	-8.6	-2.3	3.7	0.7
FTSE EPRA Nareit Dev ex US	-13.8	-31.4	-30.0	-10.1	-3.7	0.7	-1.2
U.S. REIT Style	-10.4	-28.3	-16.6	-0.4	4.5	7.1	5.8
FTSE EPRA Nareit Equity REITs	-9.9	-28.1	-16.4	-2.0	2.9	6.3	4.9

*Returns less than one year are not annualized. Sources: Callan, FTSE Russell, NCREIF

Persistence Amid Volatility

PRIVATE EQUITY | Gary Robertson

Private equity activity measures in 3Q22 fell from 2Q, although totals reflect reasonable pre-pandemic levels. The IPO market for both venture capital and buyouts increased, but dollar volumes remained miniscule.

Fundraising ▶ Based on preliminary data, private equity partnerships holding final closes in 3Q totaled \$226 billion, with 484 new partnerships formed (unless otherwise noted, all data are from PitchBook). The dollar volume fell 6% from 2Q22, and the number of funds holding final closes declined 9%. So far, capital raised is running only 2% behind YTD 2021, but the number of funds trails by 31%.

Buyouts ▶ New buyout transactions and dollar volume fell moderately. Funds closed 2,881 company investments with \$152 billion of disclosed deal value, a 10% decrease in count and a 7% drop in dollar value from 2Q22.

VC Investments ► New financing rounds in venture capital companies totaled 9,985, with \$97 billion of announced value. The number of investments was down 17% from the prior quarter, and the announced value plunged 32%.

Exits ► There were 594 private M&A exits of private equitybacked companies (excluding venture capital), with disclosed values totaling \$128 billion. Exits fell 3% from the prior quarter and announced dollar volume dropped 10%. There were 62 private equity-backed IPOs in 3Q raising \$11 billion, up from 46 totaling \$7 billion in 2Q.

Venture-backed M&A exits totaled 520 transactions with disclosed value of \$24 billion. The number of sales declined 26% but announced dollar volume fell only 4%. There were 104 VC-backed IPOs with a combined float of \$15 billion.

Returns ▶ With the strong 2Q retreat in public equity markets, private equity outperformance has widened given private equity's more gradual quarterly mark-to-market valuation methodology. While GPs have put forward persistently high valuations relative to public markets, continued declines are expected.

Funds Closed 1/1/22 to 9/30/22

Strategy	No. of Funds	Amt (\$mm)	Share
Venture Capital	1,030	222,528	32%
Growth Equity	106	81,859	12%
Buyouts	350	297,832	43%
Mezzanine Debt	13	24,423	3%
Distressed/Special Credit	29	36,121	5%
Energy	7	2,050	0%
Secondary and Other	81	29,338	4%
Fund-of-funds	20	5,807	1%
Totals	1,636	699,958	100%

Source: PitchBook (Figures may not total due to rounding.)

Private Equity Performance (%) (Pooled Horizon IRRs through 6/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	-8.5	0.8	29.2	25.2	19.5	14.0	12.1	22.6
Growth Equity	-7.6	-3.1	21.4	19.7	16.1	13.1	14.1	14.9
All Buyouts	-4.5	5.4	19.7	17.6	15.8	10.8	14.5	13.3
Mezzanine	-0.5	9.3	12.1	11.9	11.6	10.3	11.0	10.1
Credit Opportunities	-1.7	5.4	7.9	7.4	8.8	8.6	9.8	9.6
Control Distressed	-1.1	20.5	20.0	14.5	13.4	10.7	12.0	12.0
All Private Equity	-5.7	3.6	21.2	18.6	15.9	11.5	13.5	14.1
S&P 500	-16.1	-10.6	10.6	11.3	13.0	8.5	9.1	8.0
Russell 3000	-16.7	-13.9	9.8	10.6	12.6	8.4	9.1	8.1

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices *Most recent data available at time of publication

Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the Capital Markets Review and other Callan publications.

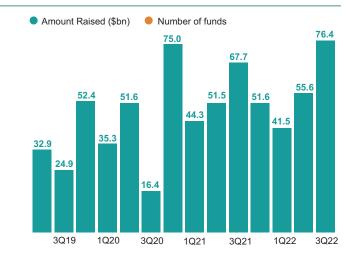
Appealing to Investors in Low-Yield Climate

PRIVATE CREDIT | Catherine Beard

Illiquidity premium close to zero

- There is continued strong private credit demand in a rising rate environment where the returns of floating-rate loans are bolstered.
- During 3Q22, clients moved away from new allocations to traditional sponsor-backed direct lending due to the increased competition and commoditization within the space.
- Demand has continued to be robust for less-competitive areas of private credit with high barriers to entry and attractive risk/reward opportunities.
 - Includes opportunistic lending, specialty finance, and industry or other niche-focused lending strategies such as venture debt and health care lending
- Limited partners (LPs) are seeking alternative structures designed to streamline the investment process while improving underlying liquidity. A number of general partners are launching evergreen structures as a response to LP interest.
- Private credit fundraising was robust leading into the COVID dislocation with a particular focus on direct lending, assetbased lending, and distressed strategies.
- Fundraising activity increased year-over-year, with \$68 billion in capital raised in 3Q21 vs. \$76 billion in 3Q22.
- The average fund size year-over-year increased from \$1.4 billion in 3Q21 to \$1.6 billion in 3Q22 as established managers grow fund sizes in response to strong LP demand.
- For mature private credit programs, demand is increasing for diversifying strategies like specialty finance and royalties' strategies to capture opportunities outside of traditional sponsor-backed direct lending.

Private Credit Fundraising (\$bn)





Source: Preqin

Private Credit Performance (%) (Pooled Horizon IRRs through 6/30/22*)

Strategy	Quarter	1 Year	3 Years	5 Years	8 Years	10 Years	15 Years	20 Years
Senior Debt	-2.2	0.0	5.3	6.3	6.3	6.5	6.8	6.7
Mezzanine	-0.5	9.3	12.1	11.9	11.1	11.6	10.3	11.0
Credit Opportunities	-1.7	5.4	7.9	7.4	6.4	8.8	8.6	9.8
Total Private Credit	-1.6	5.0	8.3	8.2	7.4	9.1	8.8	9.7

Source: Refinitiv/Cambridge

*Most recent data available at time of publication

Managers See Declines but Outpace Benchmarks

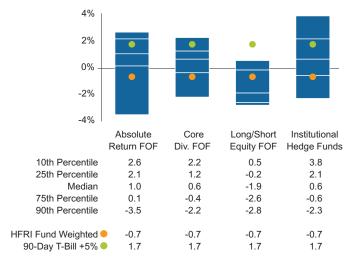
HEDGE FUNDS/MACs | Joe McGuane

Global markets were volatile throughout 3Q22, as persistent inflation, slowing economic growth, and interest rate hikes by central banks caused most asset classes to fall. The S&P 500 dropped 4.9% as U.S. equities ended 3Q back in bear market territory, reversing a bounce upward that began in the final weeks of 2Q. Within technology, the Nasdag ended the guarter down 4.0%, as the communication and media sectors fell meaningfully for the quarter, slightly offset by mega-cap stocks like Apple, Amazon, and Tesla. Credit markets remained choppy for the quarter as high yield bond prices whipsawed.

Hedge funds again finished the quarter lower but outperformed broader market indices, as equity hedge strategies that focused on growth spaces like tech, media, and telecom continued to be a drag on performance. Some of those declines were offset by managers that focused on the energy sector.

Hedge Fund Style Group Returns

(9/30/22)



Sources: Callan, Credit Suisse, Federal Reserve

Callan Peer Group Median and Index Returns* for Periods Ended 9/30/22

Hedge Fund Universe	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years
Callan Institutional Hedge Fund Peer Group	0.6	3.2	4.0	5.4	6.0	6.2
Callan Fund-of-Funds Peer Group	0.5	-3.4	-3.5	4.7	3.8	4.3
Callan Absolute Return FOF Style	1.0	3.0	3.0	5.9	4.3	4.6
Callan Core Diversified FOF Style	0.6	-4.3	-4.2	4.7	3.7	4.1
Callan Long/Short Equity FOF Style	-1.9	-13.5	-15.5	2.7	2.9	4.3
HFRI Fund-Weighted Index	-0.7	-6.3	-5.9	6.1	4.5	4.6
HFRI Fixed Convertible Arbitrage	0.9	-4.1	-2.6	6.0	4.8	5.0
HFRI Distressed/Restructuring	-1.4	-5.0	-4.3	7.1	4.8	5.0
HFRI Emerging Markets	-5.5	-16.9	-17.3	1.8	0.7	2.9
HFRI Equity Market Neutral	0.7	0.4	1.0	2.5	2.1	3.0
HFRI Event-Driven	-0.4	-7.7	-6.8	5.2	4.0	4.9
HFRI Relative Value	0.0	-2.1	-1.9	3.5	3.3	4.1
HFRI Macro	1.8	10.5	10.1	7.8	5.6	3.1
HFRI Equity Hedge	-2.3	-13.8	-13.2	6.2	4.4	5.3
HFRI Multi-Strategy	-1.7	-10.8	-11.9	4.2	2.0	3.0
HFRI Merger Arbitrage	2.3	0.3	1.9	6.1	5.2	4.5
90-Day T-Bill + 5%	1.7	4.3	5.6	5.6	6.1	5.7

*Net of fees. Sources: Callan, Credit Suisse, Hedge Fund Research

Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median member of the Callan Institutional Hedge Fund Peer Group rose 0.6%. Within this style group of 50 peers, the average rates manager gained 1.9%, driven by the continued volatility in interest rates. Meanwhile, hedged credit managers were slightly higher at 0.6%, as managers were actively trading around interest rate volatility. The average equity hedge manager gained 1.9%, as this group of managers was able to profit off dispersion in equity indices.

Within the HFRI indices, the best-performing strategy last quarter continued to be macro (+1.8%), aided by its exposure to commodities, currencies, and rates trading. Equity hedge had its third consecutive quarter of negative performance (-2.3%), as managers with a focus on growth sectors continued to be the main drag on performance.

Across the Callan Hedge FOF Database, the median Absolute Return FOF gained 1.0%, the median Callan Long-Short Equity FOF fell 1.9%, and the median Callan Core Diversified FOF rose 0.6%.

The Bloomberg GSAM Risk Premia Index increased 3.0% based upon a 6% volatility target. Within the underlying styles of the index's derivative-based risk premia, Bond Futures Value (+5.8%) and FX Trend (+4.7%) profited from the volatility in interest rates, along with commodity and currency exposures. The weakest risk premia strategy was FX G10 Value (-1.6%).

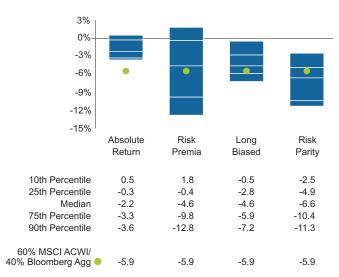
Within Callan's database of liquid alternative solutions, the median manager in the Callan Multi-Asset Class (MAC) Style Groups generated lower returns for the quarter, gross of fees, consistent with their underlying risk exposures. For example, the median Callan Long Biased MAC manager fell 4.6%, as exposure to equity and fixed income continued to be a drag on performance. The Callan Risk Parity MAC Index, which typically targets an equity risk-weighted allocation to the major asset classes with leverage, fell 6.6%.

MAC Style Group Returns

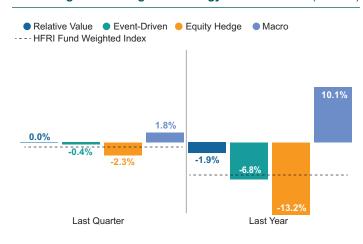
(9/30/22)

HFRI Hedge Fund-Weighted Strategy Returns

(9/30/22)



Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices



Source: HFRI

DC Index Sees Third-Worst Decline Ever

DEFINED CONTRIBUTION | Patrick Wisdom

Performance: Index dips again

- The Callan DC Index™ fell 12.2% in 2Q22, its third-largest quarterly decline ever.
- The Age 45 Target Date Fund fell 13.4%.

Growth Sources: Balances take a hit

Balances within the DC Index declined by 12.3% after a 5.4% decrease the previous quarter.

Turnover: Net transfers fall

Turnover (i.e., net transfer activity levels within DC plans) decreased to 0.37% from the previous quarter's 0.42%.

Net Cash Flow Analysis: Stable value takes top spot

- Bucking the trend of the last five quarters, TDFs (29.1% of net flows) took a back seat to stable value, which received 47.7% of net flows in perhaps a signal that some participants sought a flight to safety.
- Also of note, real return/TIPS (0.6%) did not attract a large share of flows, even as inflation has remained elevated.

Equity Allocation: Exposure drops sharply

- The Index's overall allocation to equity (69.8%) fell meaningfully from the previous quarter's level (72.0%), which had been within reach of the Index's high mark of 4Q07 (72.9%). The decrease was driven by a combination of investor outflows and declines in equity markets.

Asset Allocation: U.S. large cap equity falls

- U.S. large cap (25.1%) had the largest percentage decrease in allocation.
- Stable value (10.0%) had the largest percentage increase.

Prevalence of Asset Class: Balanced funds dip again

- The prevalence of a balanced fund (41.4%) decreased again to its lowest level since the inception of the Index in 2006.
- Other notable movements included a 1.1 percentage point decrease in the prevalence of a money market offering (49.6%); on the other hand, the prevalence of a real estate offering (21.8%) increased by 0.6 percentage points.

Underlying fund performance, asset allocation, and cash flows of more than 100 large defined contribution plans representing approximately \$400 billion in assets are tracked in the Callan DC Index.

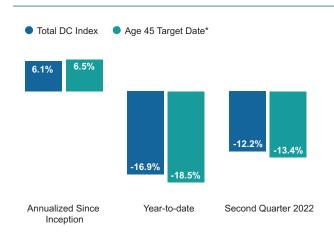
Investment Performance

Growth Sources

(6/30/22)

(6/30/22)

Second Quarter 2022



% Total Growth % Net Flows % Return Growth 1.3% -0.2% -0.1%

Year-to-date

Net Cash Flow Analysis (2Q22)

Annualized Since

Inception

(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Stable Value	47.7%
Target Date Funds	29.1%
U.S. Fixed Income	-19.5%
U.S. Large Cap	-48.1%
Total Turnover**	0.37%

Data provided here is the most recent available at time of publication.

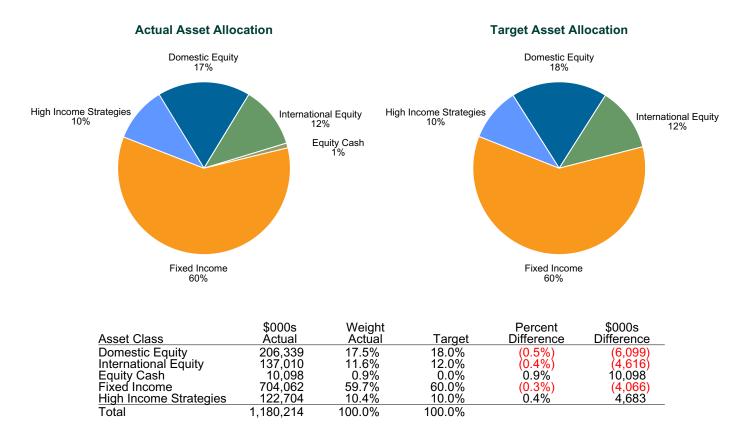
Source: Callan DC Index

Note: DC Index inception date is January 2006.

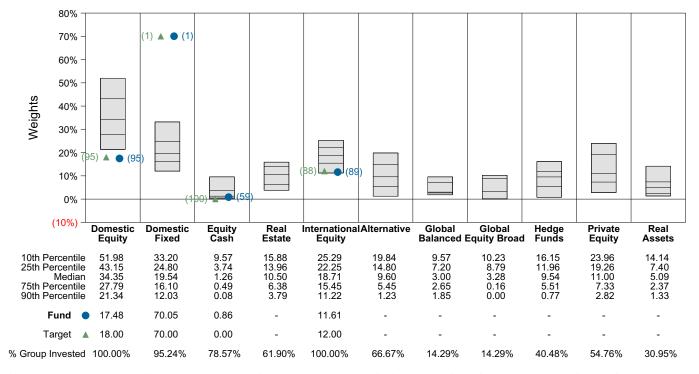
- The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.
- ** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

Actual vs Target Asset Allocation As of September 30, 2022

The top left chart shows the Fund's asset allocation as of September 30, 2022. The top right chart shows the Fund's target asset allocation as outlined in the investment policy statement. The bottom chart ranks the fund's asset allocation and the target allocation versus the Callan Endow/Foundation - Mid (100M-1B).



Asset Class Weights vs Callan Endow/Foundation - Mid (100M-1B)



^{*} Current Quarter Target = 52.5% Blmbg Aggregate, 18.0% Russell 3000 Index, 12.0% MSCI ACWI xUS, 8.5% Blmbg HY Corp, 7.5% Blmbg Gov/Cred 1-3 Yr and 1.5% ICE All US Cap Secs.



Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund's investment managers as of September 30, 2022, with the distribution as of June 30, 2022. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	September 3	0, 2022			June 30, 2	2022
	Market Value	Weight	Net New Inv.	Inv. Return	Market Value	Weight
(1) Total Equity	\$344,903,165	29.22%	\$17,424,284	\$(26,714,329)	\$354,193,210	29.35%
Domestic Equity	\$206,339,409	17.48%	\$3,252,075	\$(10,234,891)	\$213,322,225	17.68%
iShares S&P 1500 ETF	206,339,409	17.48%	3,252,075	(10,234,891)	213,322,225	17.68%
International Equity	\$137,009,748	11.61%	\$13,143,987	\$(16,482,972)	\$140,348,734	11.63%
iShares MSCI Emerging ETF	39,086,528	3.31%	3,823,217	(5,455,018)	40,718,329	3.37%
iShares MSCI Canada ETF	14,433,423	1.22%	1,535,406	(1,352,631)	14,250,648	1.18%
iShares Core MSCI EAFE ETF	83,489,798	7.07%	7,785,364	(9,675,323)	85,379,757	7.08%
Equity Cash	1,554,007	0.13%	1,028,222	3,534	522,251	0.04%
Total Fixed Income	\$704,062,393	59.66%	\$4,478,148	\$(28,695,385)	\$728,279,630	60.35%
Market Duration	\$602,631,645	51.06%	\$4,959,009	\$(28,020,394)	\$625,693,031	51.85%
Colorado Treasurer's Portfolio	602,631,645	51.06%	4,959,009	(28,020,394)	625,693,031	51.85%
Short Duration	\$101,430,748	8.59%	\$(480,861)	\$(674,990)	\$102,586,599	8.50%
(2) Janus Henderson	101,430,748	8.59%	(480,861)	(674,990)	102,586,599	8.50%
High Income Strategies	\$122,704,323	10.40%	\$252,462	\$(689,138)	\$123,141,000	10.20%
High Yield Fixed Income	\$104,242,042	8.83%	\$(492,850)	\$(393,507)	\$105,128,398	8.71%
(3) Mackay Shield US High Yield	104,242,042	8.83%	(492,850)	(393,507)	105,128,398	8.71%
Preferred Securities	\$18,462,282	1.56%	\$745,312	\$(295,631)	\$18,012,601	1.49%
(4) Principal Preferred Securities	\$18,462,282	1.56%	\$745,312	\$(295,631)	\$18,012,601	1.49%
Cash Available For Investing	\$8,543,724	0.72%	\$7,337,859	\$74,102	\$1,131,763	0.09%
Total Fund	\$1,180,213,605	100.0%	\$29,492,753	\$(56,024,750)	\$1,206,745,602	100.0%

⁽³⁾ Funded in July 2020.(4) Funded in July 2020.



⁽¹⁾ Funded in December 2017.

⁽²⁾ Funded in November 2018.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended September 30, 2022. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended September 30, 2022

	Last	Year to	Last	Last 5	Last 10
	Quarter	Date	Year	Years	Years
Total Equity	(7.06%)	(25.48%)	(20.84%)	-	-
60% Russell 3000/40% ACWI ex US	(6.64%)	(25.34%)	(20.64%)	4.81%	8.04%
Domestic Equity	(4.53%)	(24.71%)	(17.83%)	-	-
Russell 3000 Index	(4.46%)	(24.62%)	(17.63%)	8.62%	11.39%
International Equity	(10.85%)	(26.89%)	(25.47%)	-	-
MSCI ACWI ex US	(9.91%)	(26.50%)	(25.17%)	(0.81%)	3.01%
Total Fixed Income	(3.92%)	(13.17%)	(13.30%)	0.01%	1.11%
Total Fixed Income Benchmark (1)	(4.34%)	(13.39%)	(13.44%)	(0.14%)	0.77%
Market Duration	(4.44%)	(14.38%)	(14.50%)	(0.18%)	1.01%
Colorado Treasurer's Portfolio (2)	(4.44%)	(14.38%)	(14.50%)	(0.18%)	1.01%
PSPF Custom Benchmark (3)	(4.75%)	(14.61%)	(14.60%)	(0.27%)	0.70%
Short Duration	(0.66%)	(4.95%)	(5.17%)	-	-
Janus Henderson Short Duration	(0.66%)	(4.95%)	(5.17%)	-	-
Blmbg Gov/Cred 1-3 Yr	(1.48%)	(4.54%)	(5.07%)	0.70%	0.81%
85% 1-3YR G/C; 15% 1-3YR BB (4)	(1.16%)	(4.69%)	(5.07%)	0.99%	1.25%
High Income Strategies	(0.52%)	(11.33%)	(10.83%)	_	_
High Income Strategies Benchmark (5)	(0.73%)	(14.76%)	(14.25%)	1.57%	-
High Yield Fixed Income	(0.39%)	(11.07%)	(10.43%)	-	-
Mackay Shield US High Yield	(0.39%)	(11.07%)	(10.43%)	-	-
Blmbg High Yield	(0.65%)	(14.74%)	(14.14%)	1.57%	3.94%
Preferred Securities	(1.26%)	(12.85%)	(13.14%)	-	-
Principal Preferred Securities	(1.26%)	(12.85%)	(13.14%)	-	-
ICE BofA US All Cap Secs	(1.20%)	(14.87%)	(14.89%)	1.52%	-
Total Fund w/o CAI (6)	(4.54%)	(16.86%)	(15.38%)	0.78%	1.50%
Total Fund Benchmark (6)	(4.67%)	(17.15%)	(15.57%)	0.90%	1.29%
rotar runa Bononmant (0)	(4.07 70)	(17.1070)	(10.01 /0)	0.0070	1.23 /0

^{*}All composites and manager returns are shown gross-of-fees.



⁽¹⁾ Current quarter's Total Fixed Income Benchmark consists of 88.4% Bloomberg U.S. Aggregate and

^{11.6%} Bloomberg Gov/Credit 1-3 Yrs.

⁽²⁾ Includes cash returns starting July 2017.

⁽³⁾ The PSPF Fixed Income Portfolio Custom Benchmark consisted of 37% U.S. Treasury 1-10 Year Index, 34% Mortgages

⁰⁻¹⁰ Year WAL Index, 19% AAA U.S. Agencies 1-10 Year Index and 10% U.S. Corporates AAA Rated 1-10

Years Index through March 31, 2017, 100% Bloomberg U.S. Aggregate, thereafter.

⁽⁴⁾ Benchmark consists of 85% Bloomberg 1-3 Year Government/Credit Index and 15% BofAML

¹⁻³ Year BB US Cash Pay High Yield Index.

⁽⁵⁾ Benchmark consists of 85% Blmbg High Yield Index and 15% ICE BofA US All Cap Secs Index.

⁽⁶⁾ Current quarter's Total Fund Benchmark consists of 18% Russell 3000, 12% MSCI ACWI ex US,

^{52.5%} Bloomberg U.S. Aggregate, 7.5% Bloomberg Gov/Credit 1-3 Yrs, 8.5% Bloomberg

US High Yield and 1.5% ICE BofA U.S. All Capital Securities Index. See pg. 22 for full benchmark history.

The Total Fund return calculations do not include Cash Available for Investing.

Investment Manager Returns

The table below details the rates of return for the Fund's investment managers over various time periods ended June 30. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

	6/2022-				
	9/2022	FY 2022	FY 2021	FY 2020	FY 2019
Total Equity	(7.06%)	(15.85%)	41.59%	1.82%	5.64%
60% Russell 3000/40% ACWI ex US	(6.64%)	(16.06%)	40.77%	1.90%	5.92%
Domestic Equity	(4.53%)	(13.95%)	44.30%	6.40%	8.85%
Russell 3000 Index	(4.46%)	(13.87%)	44.16%	6.53%	8.98%
International Equity	(10.85%)	(18.97%)	37.78%	(4.71%)	0.67%
MSCI ACWI ex US	(9.91%)	(19.42%)	35.72%	(4.80%)	1.29%
Total Fixed Income	(3.92%)	(9.76%)	(0.27%)	8.79%	7.38%
Total Fixed Income Benchmark (1)	(4.34%)	(9.46%)	(0.26%)	8.28%	7.52%
Market Duration	(4.44%)	(10.55%)	(0.55%)	9.26%	7.77%
Colorado Treasurer's Portfolio (2)	(4.44%)	(10.55%)	(0.55%)	9.26%	7.77%
PSPF Custom Benchmark (3)	(4.75%)	(10.29%)	(0.33%)	8.74%	7.87%
Short Duration	(0.66%)	(4.33%)	2.33%	4.41%	-
Janus Henderson Short Duration	(0.66%)	(4.33%)	2.33%	4.41%	-
Blmbg Gov/Cred 1-3 Yr	(1.48%)	(3.56%)	0.44%	4.20%	4.27%
85% 1-3YR G/C; 15% 1-3YR BB (4)	(1.16%)	(3.83%)	1.70%	3.94%	4.59%
High Income Strategies	(0.52%)	(9.38%)	-	-	_
High Income Strategies Benchmark (5)	(0.73%)	(12.89%)	15.13%	0.46%	7.58%
High Yield Fixed Income	(0.39%)	(9.09%)	-	-	-
Mackay Shield US High Yield	(0.39%)	(9.09%)	-	-	-
Blmbg High Yield	(0.65%)	(12.81%)	15.37%	0.03%	7.48%
Preferred Securities	(1.26%)	(11.11%)	-	-	-
Principal Preferred Securities	(1.26%)	(11.11%)	-	-	-
ICE BofA US All Cap Secs	(1.20%)	(13.33%)	13.67%	2.86%	8.12%
Total Fund w/o CAI (6)	(4.54%)	(11.58%)	8.30%	7.37%	6.94%
Total Fund Benchmark (6)	(4.67%)	(11.64%)	7.98%	7.87%	7.49%
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^{*}All composites and manager returns are shown gross-of-fees.



⁽¹⁾ Current quarter's Total Fixed Income Benchmark consists of 88.4% Bloomberg U.S. Aggregate and

^{11.6%} Bloomberg Gov/Credit 1-3 Yrs.

⁽²⁾ Includes cash returns starting July 2017.

⁽³⁾ The PSPF Fixed Income Portfolio Custom Benchmark consisted of 37% U.S. Treasury 1-10 Year Index, 34% Mortgages

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Years Index through March 31, 2017, 100% Bloomberg U.S. Aggregate, thereafter.

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⁽⁶⁾ Current quarter's Total Fund Benchmark consists of 18% Russell 3000, 12% MSCI ACWI ex US,

^{52.5%} Bloomberg U.S. Aggregate, 7.5% Bloomberg Gov/Credit 1-3 Yrs, 8.5% Bloomberg

US High Yield and 1.5% ICE BofA U.S. All Capital Securities Index. See pg. 22 for full benchmark history.

The Total Fund return calculations do not include Cash Available for Investing.

Total Fund Benchmark Definition

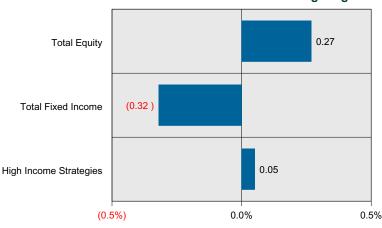
Inception to Dec 31, 2017	DECE Finally D. 1.	1000
Market Duration	PFSF Fixed Income Benchmark	100%
January 1st, 2018 - December 31	th, 2018	
US Equity	Russell 3000 Index	12.00%
International Equity	MSCI ACWI ex US	8.00%
Market Duration	Bloomberg Barclays Aggregate	72.00%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	8.00%
January 1st, 2019 - September 3	0th. 2020	
US Equity	Russell 3000 Index	12.00%
International Equity	MSCI ACWI ex US	8.00%
Market Duration	Bloomberg Barclays Aggregate	72.00%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	8.00%
October 1st, 2020 - March 31st, 2	2021	
US Equity	Russell 3000 Index	12.00%
International Equity	MSCI ACWI ex US	8.00%
Market Duration	Bloomberg Barclays Aggregate	67.50%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	7.50%
High Yield	Bloomberg Barclays US High Yield	4.25%
Preferred Securities	ICE BofA U.S. All Capital Securities Index	0.75%
April 1st, 2021 - June 30th, 2021		
US Equity	Russell 3000 Index	14.70%
International Equity	MSCI ACWI ex US	9.80%
Market Duration	Bloomberg Barclays Aggregate	61.50%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	7.50%
High Yield	Bloomberg Barclays US High Yield	5.50%
Preferred Securities	ICE BofA U.S. All Capital Securities Index	1.00%
July 1st, 2021 - September 30, 202	21	
US Equity	Russell 3000 Index	16.35%
International Equity	MSCI ACWI ex US	10.90%
Market Duration	Bloomberg Barclays Aggregate	57.00%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	7.50%
High Yield	Bloomberg Barclays US High Yield	7.00%
Preferred Securities	ICE BofA U.S. All Capital Securities Index	1.25%
October 1st, 2021 - Current		
US Equity	Russell 3000 Index	18.00%
International Equity	MSCI ACWI ex US	12.00%
Market Duration	Bloomberg Barclays Aggregate	52.50%
Short Duration	Bloomberg Barclays Gov/Cred 1-3 Yr	7.50%
Short Duration		
High Yield	Bloomberg Barclays US High Yield	8.50%



Quarterly Total Fund Relative Attribution - September 30, 2022

The following analysis approaches Total Fund Attribution from the perspective of relative return. Relative return attribution separates and quantifies the sources of total fund excess return relative to its target. This excess return is separated into two relative attribution effects: Asset Allocation Effect and Manager Selection Effect. The Asset Allocation Effect represents the excess return due to the actual total fund asset allocation differing from the target asset allocation. Manager Selection Effect represents the total fund impact of the individual managers excess returns relative to their benchmarks.

Asset Class Under or Overweighting



Actual vs Target Returns

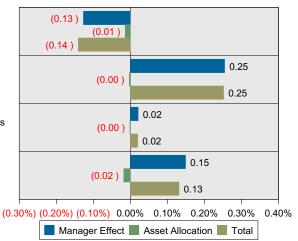
(5%)

Actual Target

(7.06) **Total Equity** (0.01)(6.64) (0.14)(3.92)Total Fixed Income (0.00)(4.34)(0.52)High Income Strategies (0.00)(0.73)(4.54)Total (0.02)(4.67)

0%

Relative Attribution by Asset Class



Relative Attribution Effects for Quarter ended September 30, 2022

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Total Equity Total Fixed Income High Income Strategie	30% 60% es 10%	30% 60% 10%	(7.06%) (3.92%) (0.52%)	(6.64%) (4.34%) (0.73%)	(0.13%) 0.25% 0.02%	(0.01%) (0.00%) (0.00%)	(0.14%) 0.25% 0.02%
Total			(4.54%) =	(4.67%) +	0.15% +	(0.02%)	0.13%

^{*} Current Quarter Target = 52.5% Blmbg Aggregate, 18.0% Russell 3000 Index, 12.0% MSCI ACWI xUS, 8.5% Blmbg HY Corp, 7.5% Blmbg Gov/Cred 1-3 Yr and 1.5% ICE All US Cap Secs.

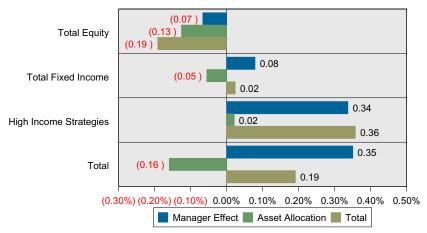


(10%)

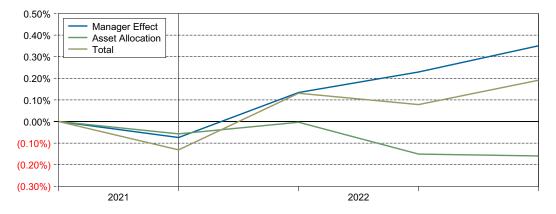
Cumulative Total Fund Relative Attribution - September 30, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

One Year Relative Attribution Effects



Cumulative Relative Attribution Effects



One Year Relative Attribution Effects

Asset Class Total Equity Total Fixed Income High Income Strategie	Effective Actual Weight 30% 60% s 10%	Effective Target Weight 30% 60% 10%	Actual Return (20.84%) (13.30%) (10.83%)	Target Return (20.64%) (13.44%) (14.25%)	Manager Effect (0.07%) 0.08% 0.34%	Asset Allocation (0.13%) (0.05%) 0.02%	Total Relative Return (0.19%) 0.02% 0.36%
Total			(15.38%) =	(15.57%) +	0.35% +	(0.16%)	0.19%

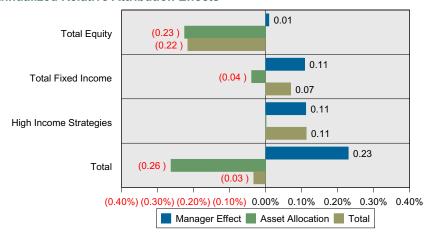
^{*} Current Quarter Target = 52.5% Blmbg Aggregate, 18.0% Russell 3000 Index, 12.0% MSCI ACWI xUS, 8.5% Blmbg HY Corp, 7.5% Blmbg Gov/Cred 1-3 Yr and 1.5% ICE All US Cap Secs.



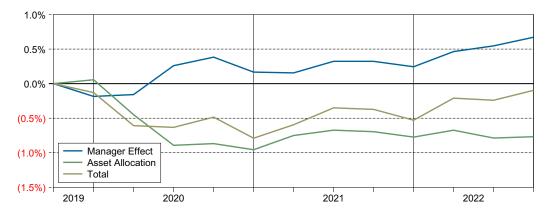
Cumulative Total Fund Relative Attribution - September 30, 2022

The charts below accumulate the Total Fund Attribution Analysis (shown earlier) over multiple periods to examine the cumulative sources of excess total fund performance relative to target. These cumulative results quantify the longer-term sources of total fund excess return relative to target by asset class. These relative attribution effects separate the cumulative sources of total fund excess return into Asset Allocation Effect and Manager Selection Effect.

Three Year Annualized Relative Attribution Effects



Cumulative Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

Asset Class Total Equity Total Fixed Income High Income Strategie	Effective Actual Weight 25% 70% es 6%	Effective Target Weight 24% 70% 5%	Actual Return 4.03% (2.74%)	Target Return 3.98% (2.88%)	Manager Effect 0.01% 0.11% 0.11%	Asset Allocation (0.23%) (0.04%) 0.00%	Total Relative Return (0.22%) 0.07% 0.11%
Total			(1.22%) =	(1.19%) +	0.23%	· (0.26%)	(0.03%)

^{*} Current Quarter Target = 52.5% Blmbg Aggregate, 18.0% Russell 3000 Index, 12.0% MSCI ACWI xUS, 8.5% Blmbg HY Corp, 7.5% Blmbg Gov/Cred 1-3 Yr and 1.5% ICE All US Cap Secs.



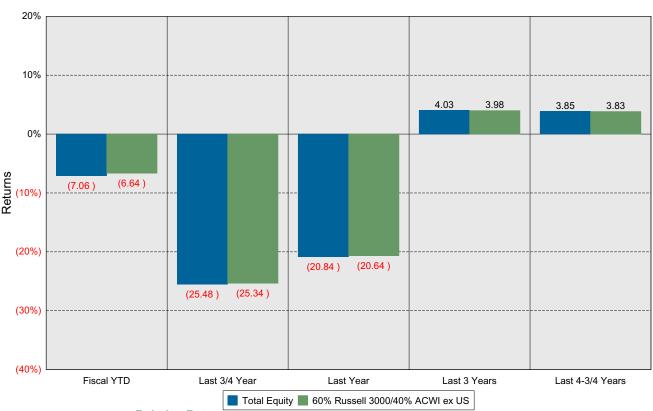
Total Equity Period Ended September 30, 2022

Inception Date

Parametric was funded December 12th, 2017.

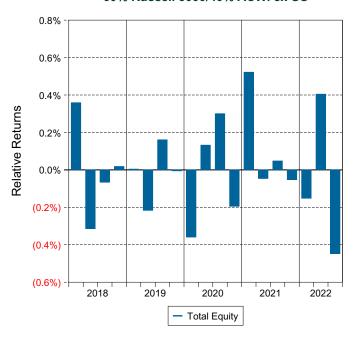
Quarterly Summary and Highlights

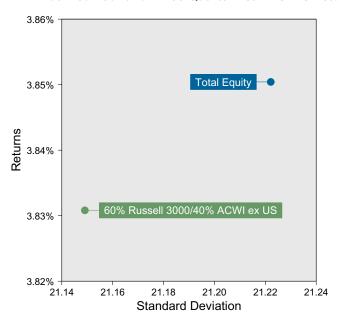
• Total Equity's portfolio underperformed the 60% Russell 3000/40% ACWI ex US by 0.42% for the quarter and underperformed the 60% Russell 3000/40% ACWI ex US for the year by 0.20%.



Relative Returns vs 60% Russell 3000/40% ACWI ex US

Annualized Four and Three-Quarter Year Risk vs Return





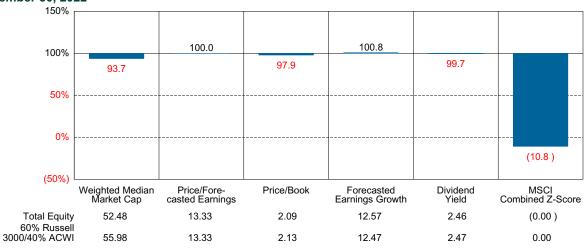


Total Equity Equity Characteristics Analysis Summary

Portfolio Characteristics

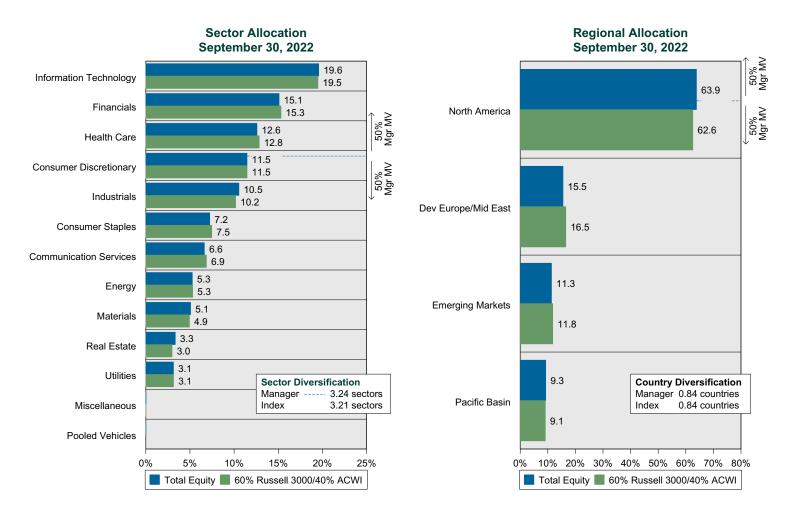
This graph compares the manager's portfolio characteristics relative to the benchmark's portfolio characteristics.

Portfolio Characteristics Relative to 60% Russell 3000/40% ACWI as of September 30, 2022



Sector Weights

The graph below contrasts the manager's sector weights for the most recent quarter with those of the benchmark. The regional allocation chart also compares the manager's geographical region weights with those of the benchmark.





Domestic Equity Period Ended September 30, 2022

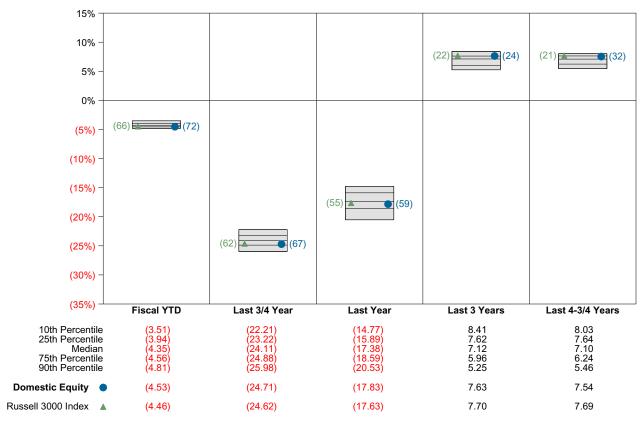
Inception Date

Parametric was funded December 12th, 2017.

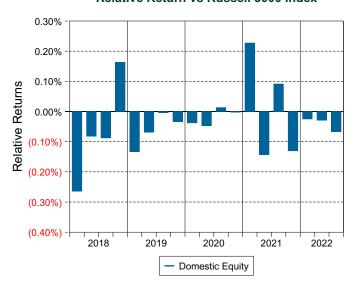
Quarterly Summary and Highlights

- Domestic Equity's portfolio posted a (4.53)% return for the quarter placing it in the 72 percentile of the EF- Domestic Equity group for the quarter and in the 59 percentile for the last year.
- Domestic Equity's portfolio underperformed the Russell 3000 Index by 0.06% for the quarter and underperformed the Russell 3000 Index for the year by 0.21%.

Performance vs EF- Domestic Equity (Gross)

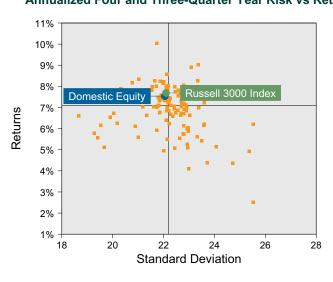


Relative Return vs Russell 3000 Index



EF- Domestic Equity (Gross)

Annualized Four and Three-Quarter Year Risk vs Return



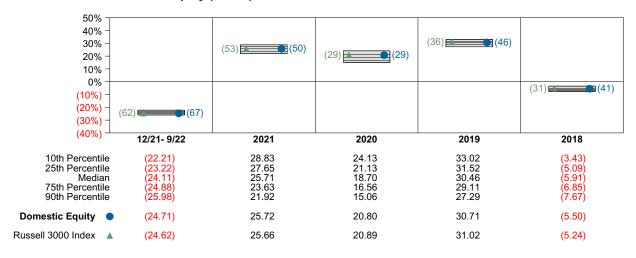


Domestic Equity Return Analysis Summary

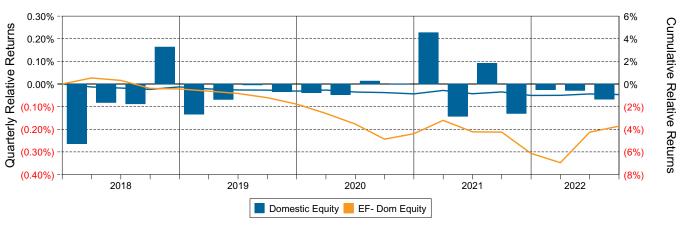
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

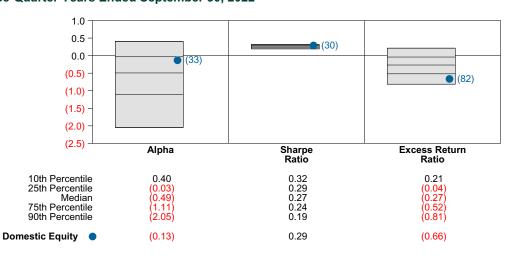
Performance vs EF- Domestic Equity (Gross)



Cumulative and Quarterly Relative Returns vs Russell 3000 Index



Risk Adjusted Return Measures vs Russell 3000 Index Rankings Against EF- Domestic Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022



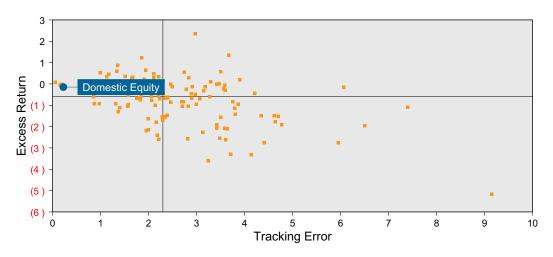


Domestic Equity Risk Analysis Summary

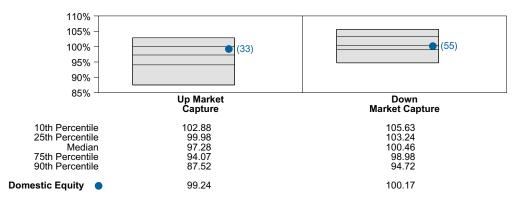
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

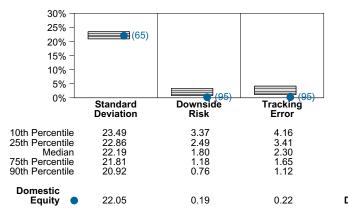
Risk Analysis vs EF- Domestic Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022

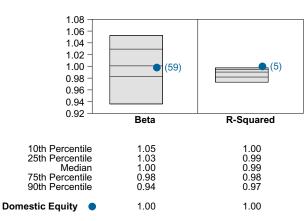


Market Capture vs Russell 3000 Index Rankings Against EF- Domestic Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022



Risk Statistics Rankings vs Russell 3000 Index Rankings Against EF- Domestic Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022





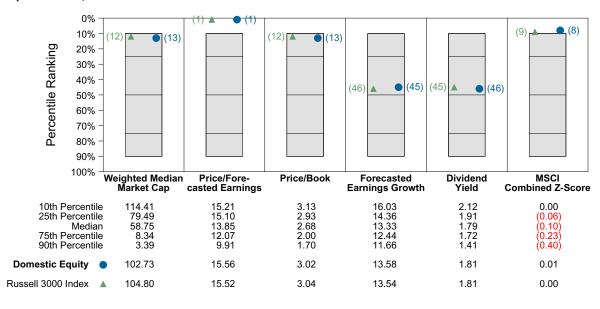


Domestic Equity Equity Characteristics Analysis Summary

Portfolio Characteristics

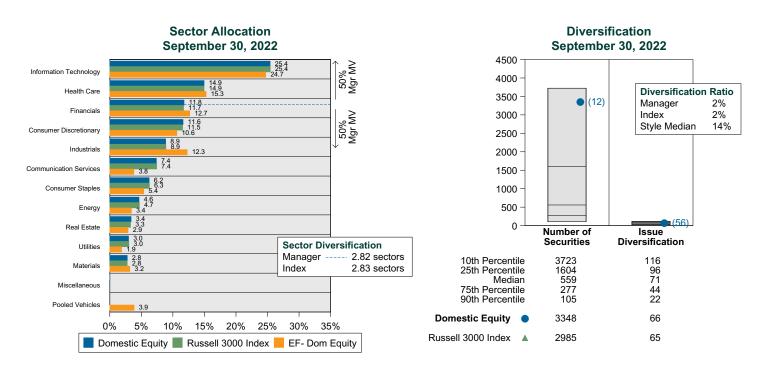
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against EF- Domestic Equity as of September 30, 2022



Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. Diversification by number and concentration of holdings are also compared to the benchmark and peer group. Issue Diversification represents by count, and Diversification Ratio by percent, the number of holdings that account for half of the portfolio's market value.





International Equity Period Ended September 30, 2022

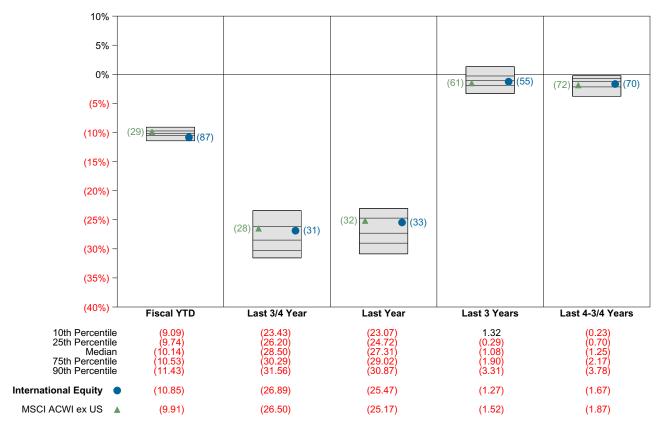
Inception Date

Parametric was funded December 12th, 2017.

Quarterly Summary and Highlights

- International Equity's portfolio posted a (10.85)% return for the quarter placing it in the 87 percentile of the EF-International Equity group for the quarter and in the 33 percentile for the last year.
- International Equity's portfolio underperformed the MSCI ACWI ex US by 0.94% for the quarter and underperformed the MSCI ACWI ex US for the year by 0.30%.

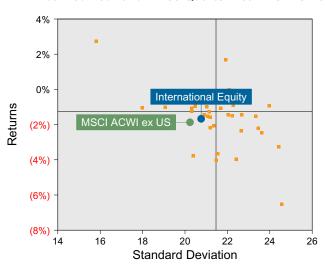
Performance vs EF- International Equity (Gross)



Relative Return vs MSCI ACWI ex US



EF- International Equity (Gross) Annualized Four and Three-Quarter Year Risk vs Return



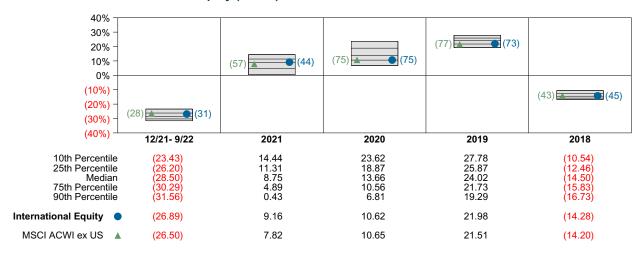


International Equity Return Analysis Summary

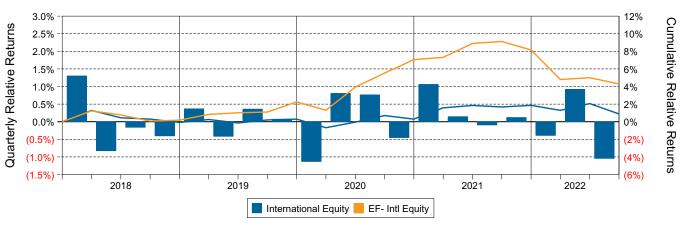
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

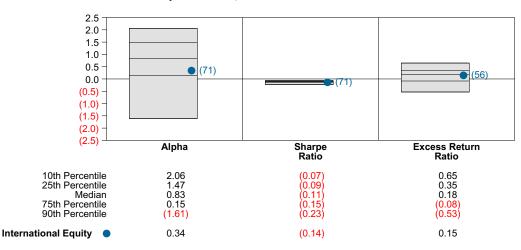
Performance vs EF- International Equity (Gross)



Cumulative and Quarterly Relative Returns vs MSCI ACWI ex US



Risk Adjusted Return Measures vs MSCI ACWI ex US Rankings Against EF- International Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022



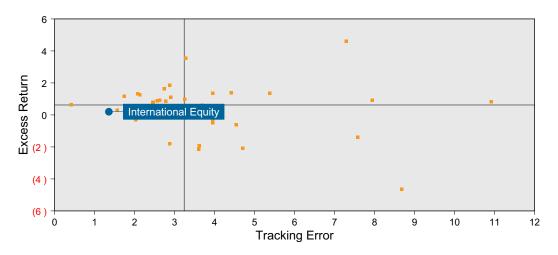


International Equity Risk Analysis Summary

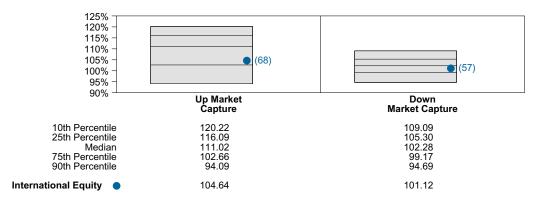
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows Up and Down Market Capture. The last two charts show the ranking of the manager's risk statistics versus the peer group.

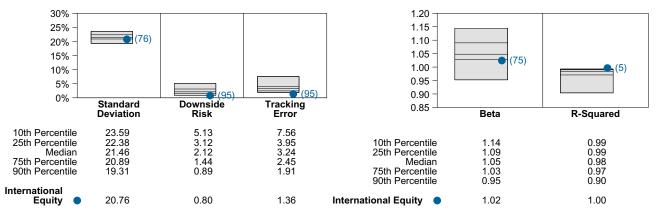
Risk Analysis vs EF- International Equity (Gross)
Four and Three-Quarter Years Ended September 30, 2022



Market Capture vs MSCI ACWI ex US Rankings Against EF- International Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022



Risk Statistics Rankings vs MSCI ACWI ex US Rankings Against EF- International Equity (Gross) Four and Three-Quarter Years Ended September 30, 2022



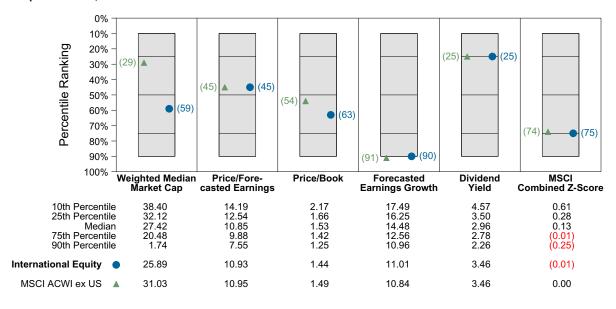


International Equity Equity Characteristics Analysis Summary

Portfolio Characteristics

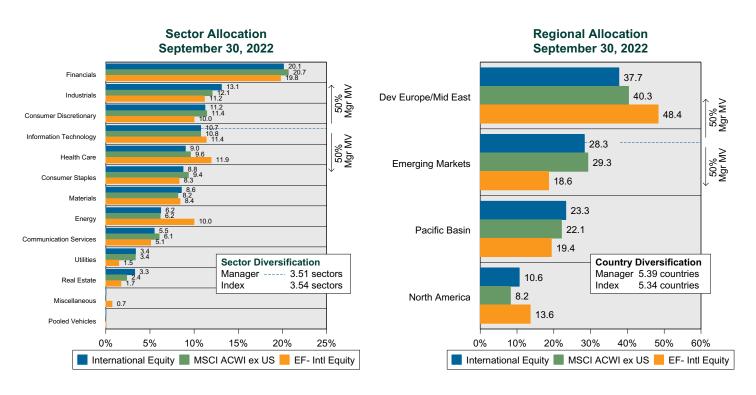
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Portfolio Characteristics Percentile Rankings Rankings Against EF- International Equity as of September 30, 2022



Sector Weights

The graph below contrasts the manager's sector weights with those of the benchmark and median sector weights across the members of the peer group. The magnitude of sector weight differences from the index and the manager's sector diversification are also shown. The regional allocation chart compares the manager's geographical region weights with those of the benchmark as well as the median region weights of the peer group.





Total Fixed Income Period Ended September 30, 2022

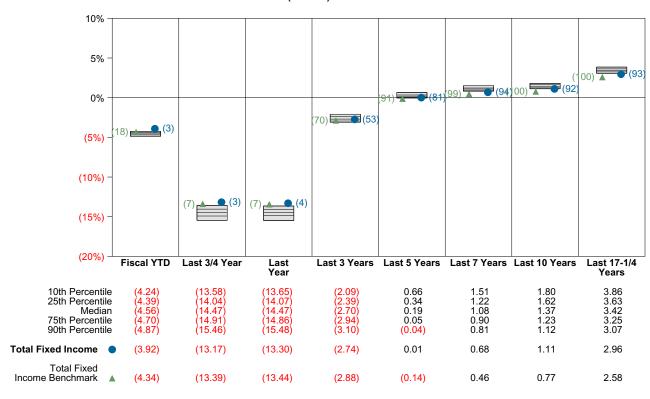
Benchmark Definition

Total Fixed Income Benchmark consists of 100% PFSF Fixed Income Benchmark through December 31, 2018, 90% Bloomberg U.S. Aggregate and 10% Bloomberg Gov/Credit 1-3 Yrs through March 31, 2021, 89% Bloomberg U.S. Aggregate and 11% Bloomberg Gov/Credit 1-3 Yrs through June 30, 2021 and 88% Bloomberg U.S. Aggregate and 12% Bloomberg Gov/Credit 1-3 Yrs, thereafter.

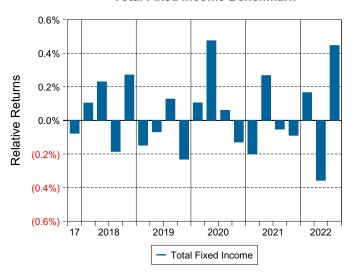
Quarterly Summary and Highlights

- Total Fixed Income's portfolio posted a (3.92)% return for the quarter placing it in the 3 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 4 percentile for the last year.
- Total Fixed Income's portfolio outperformed the Total Fixed Income Benchmark by 0.43% for the quarter and outperformed the Total Fixed Income Benchmark for the year by 0.14%.

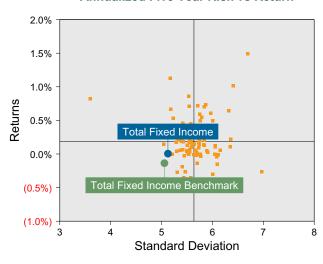
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Returns vs Total Fixed Income Benchmark



Callan Core Bond Fixed Income (Gross)
Annualized Five Year Risk vs Return



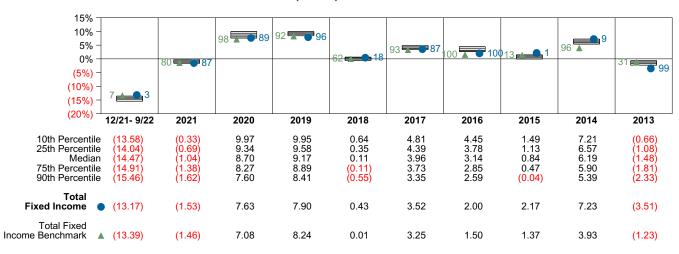


Total Fixed Income Return Analysis Summary

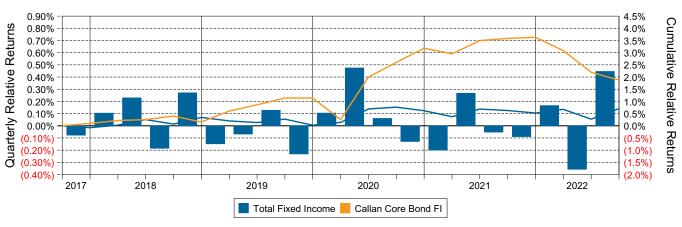
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Bond Fixed Income (Gross)



Cumulative and Quarterly Relative Returns vs Total Fixed Income Benchmark



Risk Adjusted Return Measures vs Total Fixed Income Benchmark Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



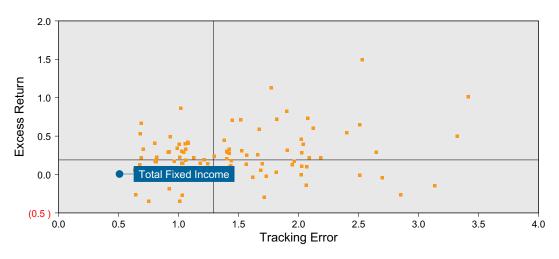


Total Fixed Income Risk Analysis Summary

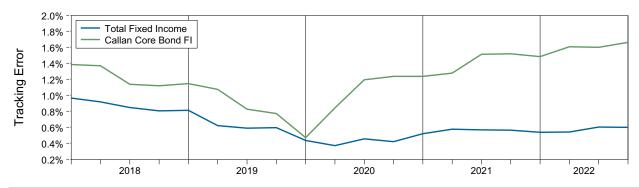
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

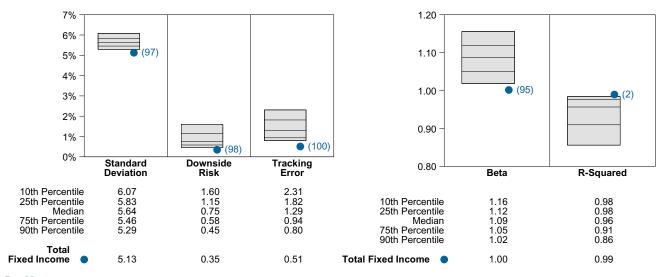
Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



Rolling 12 Quarter Tracking Error vs Total Fixed Income Benchmark



Risk Statistics Rankings vs Total Fixed Income Benchmark Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



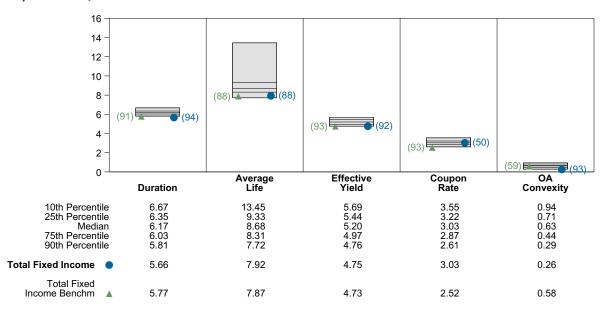


Total Fixed Income Bond Characteristics Analysis Summary

Portfolio Characteristics

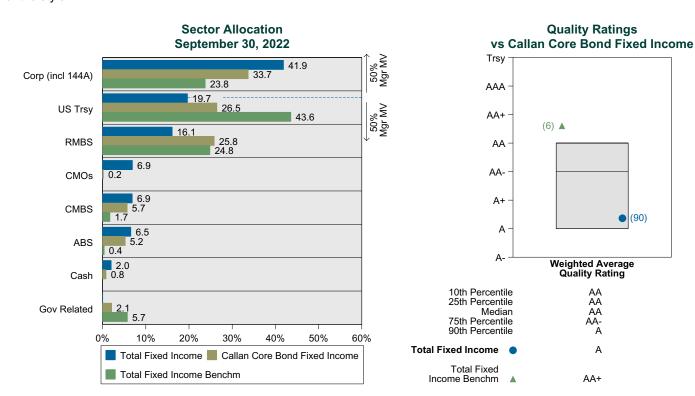
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

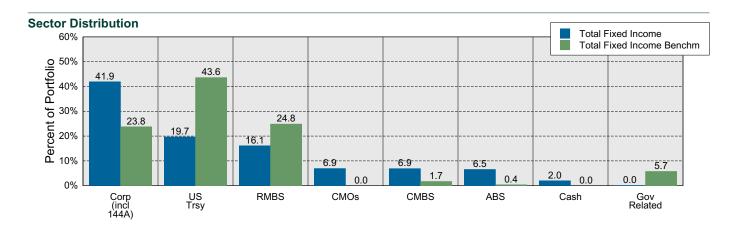


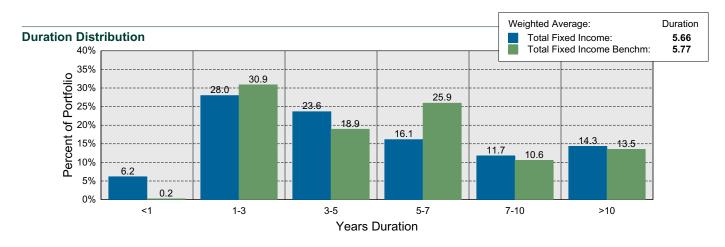


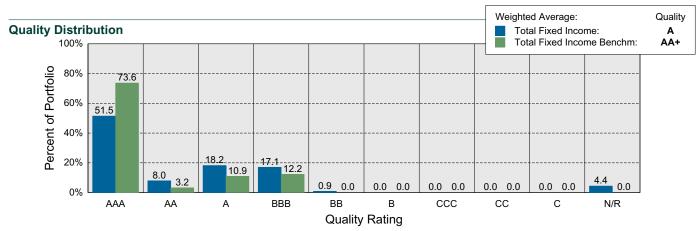
Total Fixed Income Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.









Colorado Treasurer's Portfolio Period Ended September 30, 2022

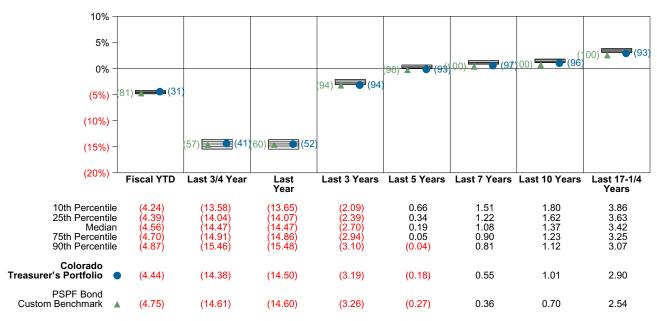
Investment Philosophy

The Fixed Income Portfolio is managed by the Colorado State Treasury and was initially funded in 3Q 2005. The PSPF Custom Benchmark consisted of 37% U.S. Treasury 1-10 Year Index, 34% Mortgages 0-10 Year WAL Index, 19% AAA U.S. Agencies 1-10 Year Index and 10% U.S. Corporates AAA Rated 1-10 Years Index through March 31, 2017 and the Bloomberg U.S. Aggregate thereafter. It is important to note that the Fixed Income Portfolio has historically been managed under a buy and hold mandate for investment yield. The Callan Core Bond Fixed Income Manager Universe used to construct the floating bar chart exhibit below, representing 77 core fixed income managers and products, is largely composed of products following a total return mandate. The School Fund bond portfolio is subject to statutorily imposed net loss restrictions. As such, relative performance comparison of the Fixed Income Portfolio to this universe may not be entirely representative of relative performance.

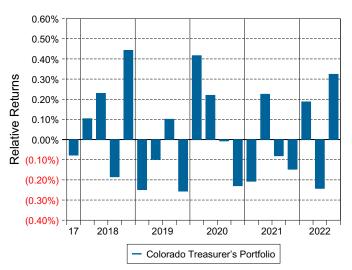
Quarterly Summary and Highlights

- Colorado Treasurer's Portfolio's portfolio posted a (4.44)% return for the quarter placing it in the 31 percentile of the Callan Core Bond Fixed Income group for the quarter and in the 52 percentile for the last year.
- Colorado Treasurer's Portfolio's portfolio outperformed the PSPF Bond Custom Benchmark by 0.31% for the quarter and outperformed the PSPF Bond Custom Benchmark for the year by 0.10%.

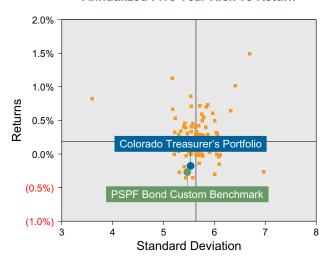
Performance vs Callan Core Bond Fixed Income (Gross)



Relative Returns vs PSPF Bond Custom Benchmark



Callan Core Bond Fixed Income (Gross)
Annualized Five Year Risk vs Return



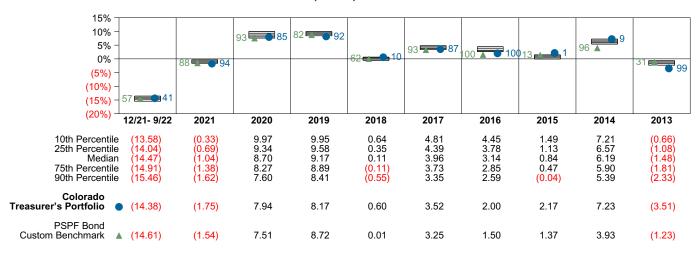


Colorado Treasurer's Portfolio Return Analysis Summary

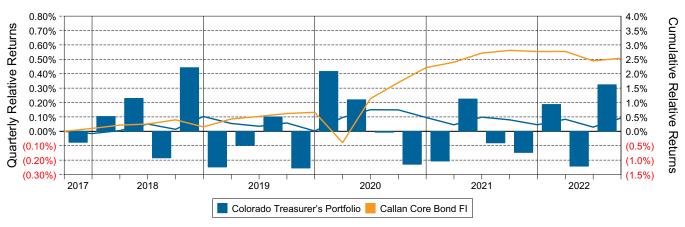
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

Performance vs Callan Core Bond Fixed Income (Gross)



Cumulative and Quarterly Relative Returns vs PSPF Bond Custom Benchmark



Risk Adjusted Return Measures vs PSPF Bond Custom Benchmark Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



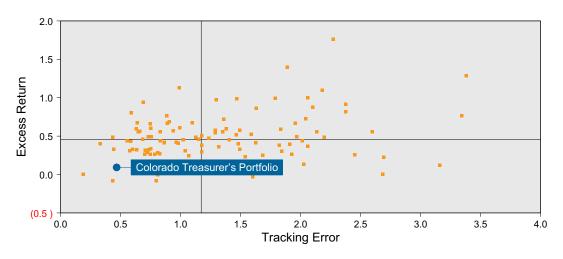


Colorado Treasurer's Portfolio Risk Analysis Summary

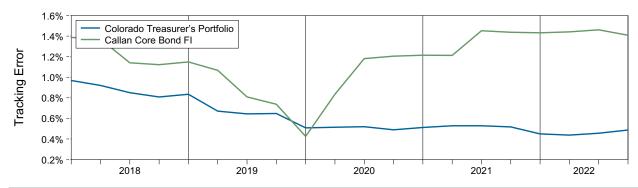
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

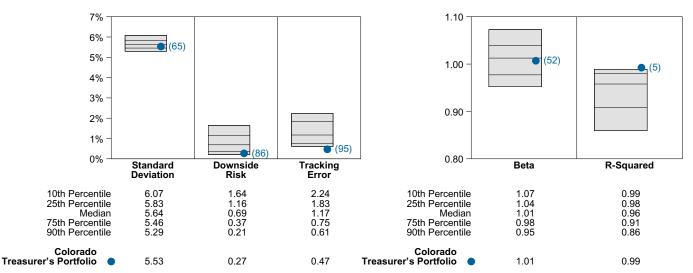
Risk Analysis vs Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



Rolling 12 Quarter Tracking Error vs PSPF Bond Custom Benchmark



Risk Statistics Rankings vs PSPF Bond Custom Benchmark Rankings Against Callan Core Bond Fixed Income (Gross) Five Years Ended September 30, 2022



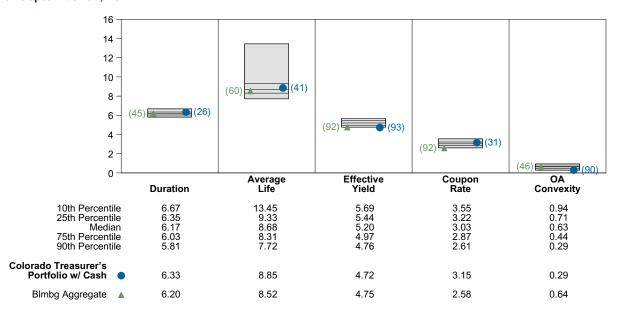


Colorado Treasurer's Portfolio w/ Cash Bond Characteristics Analysis Summary

Portfolio Characteristics

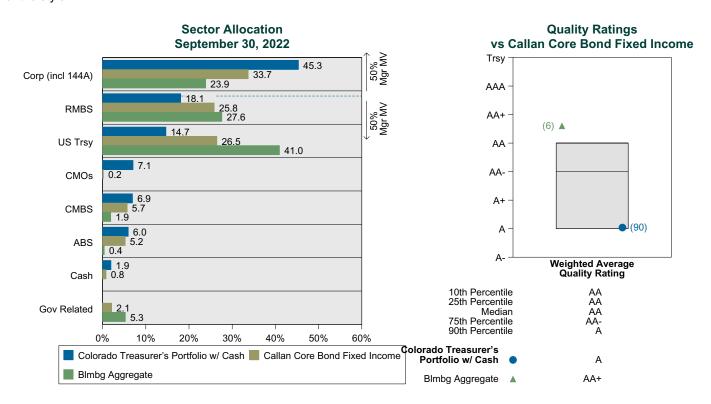
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style. Fixed Income Portfolio characteristics includes Cash Pool allocation.

Fixed Income Portfolio Characteristics Rankings Against Callan Core Bond Fixed Income as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

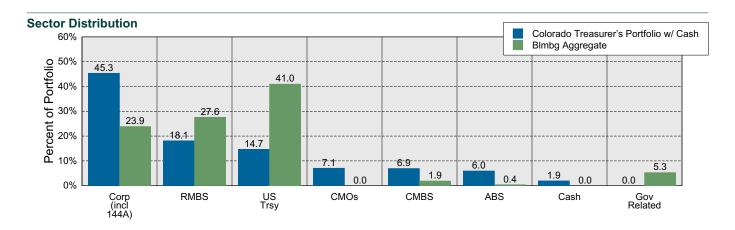


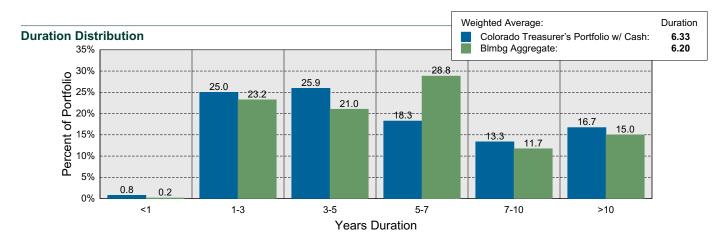


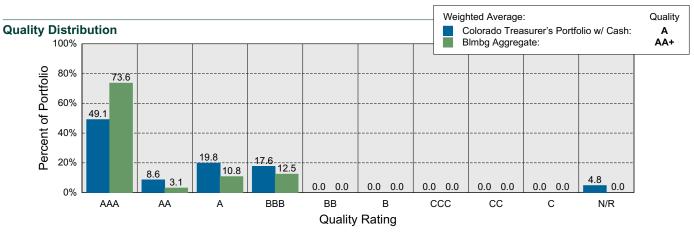
Colorado Treasurer's Portfolio w/ Cash Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.









Janus Henderson Short Duration Period Ended September 30, 2022

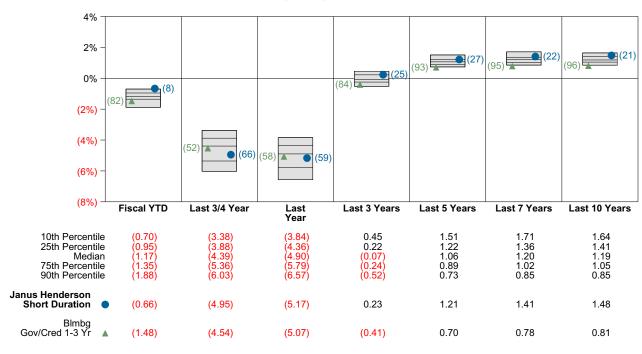
Investment Philosophy

Janus Henderson believes a bottom-up, fundamentally driven investment process that focuses on credit-oriented investments can generate risk-adjusted outperformance over time. A comprehensive bottom-up view drives decision-making at a macro level, enabling them to make informed decisions about allocations to all sectors of the fixed income universe. The Short Duration Fixed Income strategy emphasizes risk-adjusted performance and capital preservation with value generated principally from prudent credit selection and credit sector positioning. The Janus Henderson short duration portfolio was funded November 9th, 2018. Prior returns represent the manager's composite returns.

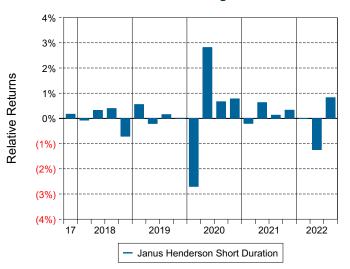
Quarterly Summary and Highlights

- Janus Henderson Short Duration's portfolio posted a (0.66)% return for the quarter placing it in the 8 percentile of the Callan Short Term Fixed Income group for the quarter and in the 59 percentile for the last year.
- Janus Henderson Short Duration's portfolio outperformed the Blmbg Gov/Cred 1-3 Yr by 0.81% for the quarter and underperformed the Blmbg Gov/Cred 1-3 Yr for the year by 0.10%.

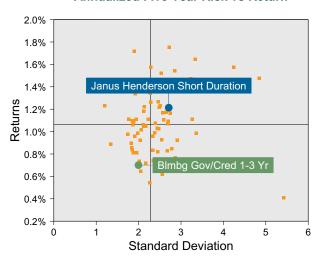
Performance vs Callan Short Term Fixed Income (Gross)



Relative Return vs Blmbg Gov/Cred 1-3 Yr



Callan Short Term Fixed Income (Gross) Annualized Five Year Risk vs Return



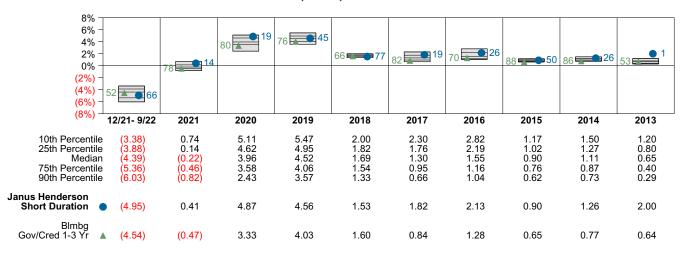


Janus Henderson Short Duration Return Analysis Summary

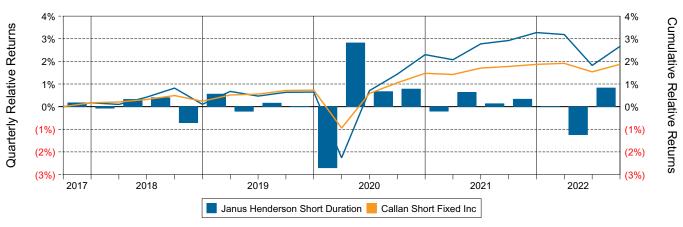
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

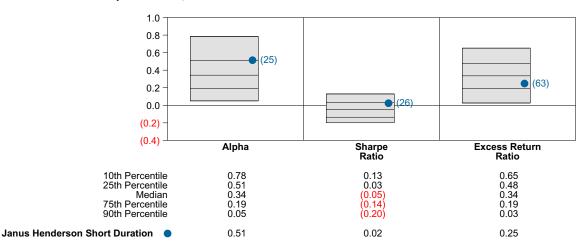
Performance vs Callan Short Term Fixed Income (Gross)



Cumulative and Quarterly Relative Returns vs Blmbg Gov/Cred 1-3 Yr



Risk Adjusted Return Measures vs Blmbg Gov/Cred 1-3 Yr Rankings Against Callan Short Term Fixed Income (Gross) Five Years Ended September 30, 2022



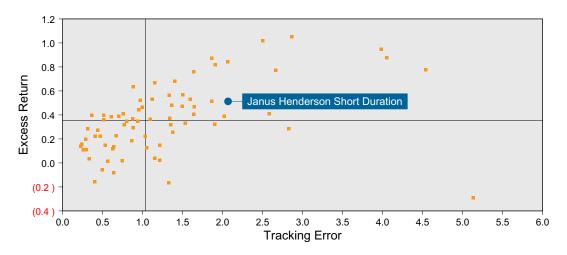


Janus Henderson Short Duration Risk Analysis Summary

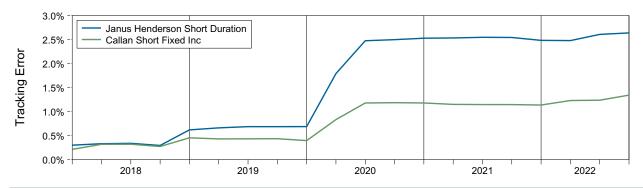
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

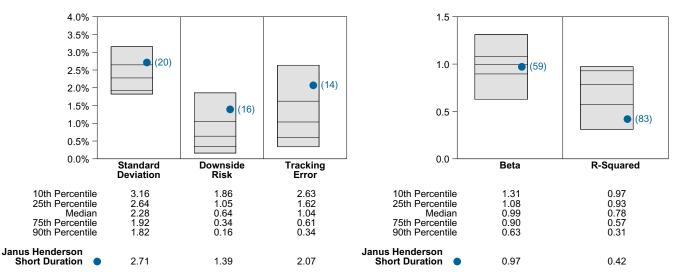
Risk Analysis vs Callan Short Term Fixed Income (Gross) Five Years Ended September 30, 2022



Rolling 12 Quarter Tracking Error vs Blmbg Gov/Cred 1-3 Yr



Risk Statistics Rankings vs Blmbg Gov/Cred 1-3 Yr Rankings Against Callan Short Term Fixed Income (Gross) Five Years Ended September 30, 2022



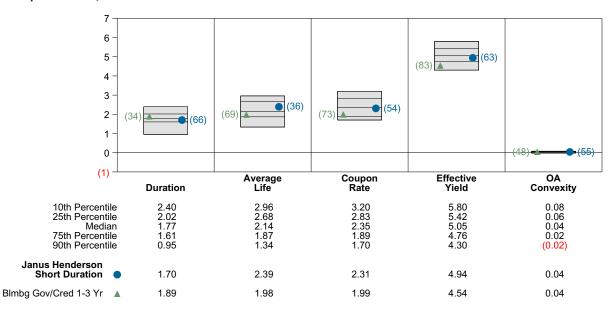


Janus Henderson Short Duration Bond Characteristics Analysis Summary

Portfolio Characteristics

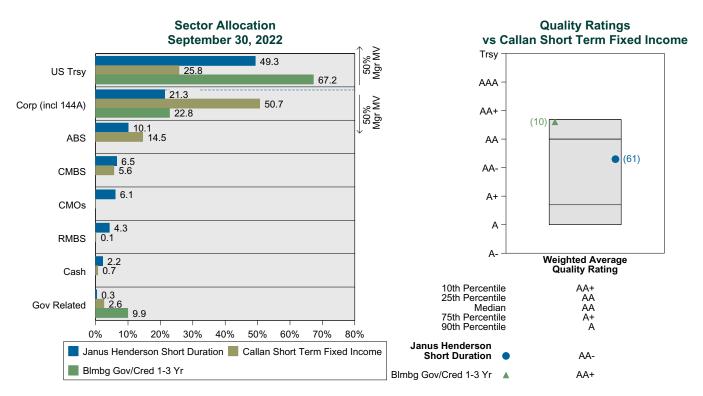
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style. Fixed Income Portfolio characteristics includes Cash Pool allocation.

Fixed Income Portfolio Characteristics Rankings Against Callan Short Term Fixed Income as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.

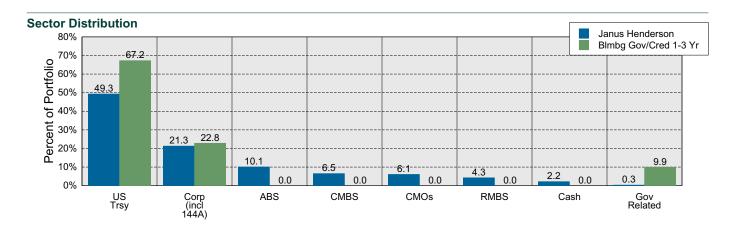


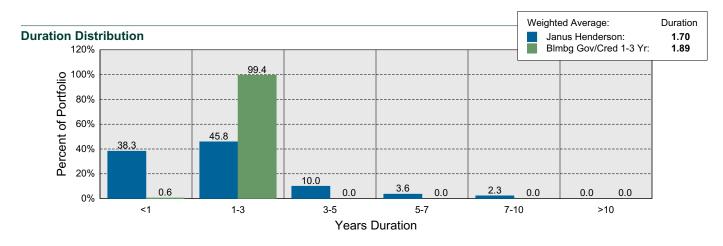


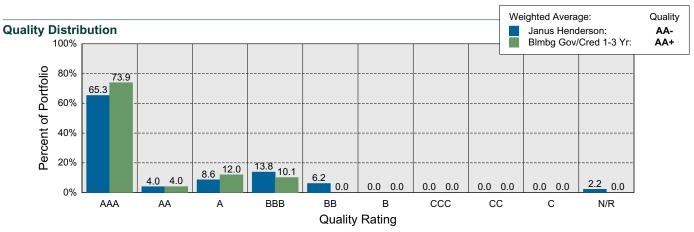
Janus Henderson Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.









High Income Strategies Period Ended September 30, 2022

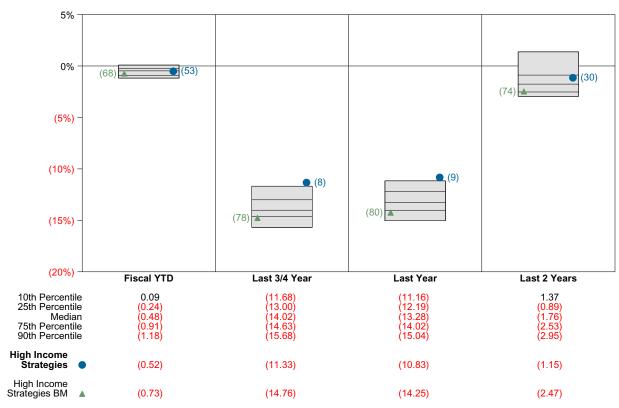
Benchmark Definition

The High Income Strategies Benchmark consists of 85% Blmbg High Yield Index and 15% ICE BofA US All Cap Secs Index.

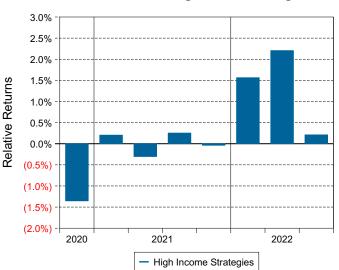
Quarterly Summary and Highlights

- High Income Strategies's portfolio posted a (0.52)% return for the quarter placing it in the 53 percentile of the Callan High Yield Fixed Income group for the quarter and in the 9 percentile for the last year.
- High Income Strategies's portfolio outperformed the High Income Strategies BM by 0.21% for the quarter and outperformed the High Income Strategies BM for the year by 3.42%.

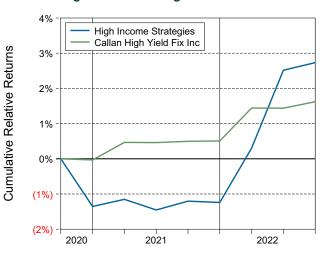
Performance vs Callan High Yield Fixed Income (Gross)



Relative Return vs High Income Strategies BM



Cumulative Returns vs High Income Strategies BM



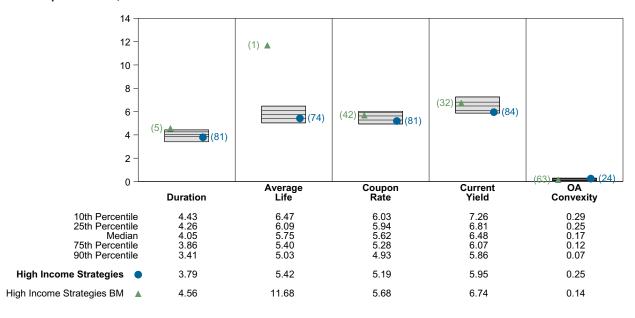


High Income Strategies Bond Characteristics Analysis Summary

Portfolio Characteristics

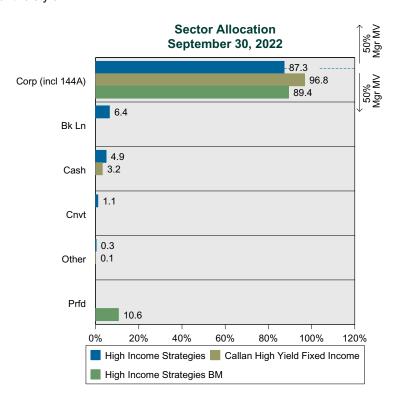
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style. Fixed Income Portfolio characteristics includes Cash Pool allocation.

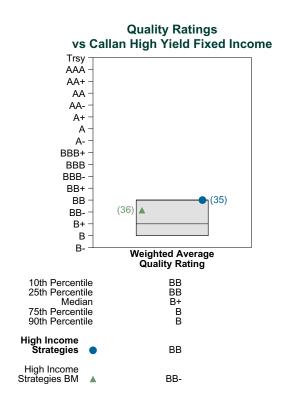
Fixed Income Portfolio Characteristics Rankings Against Callan High Yield Fixed Income as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



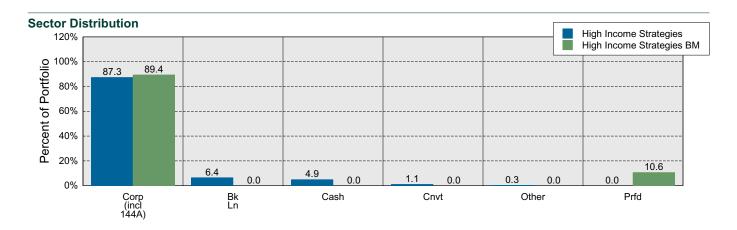


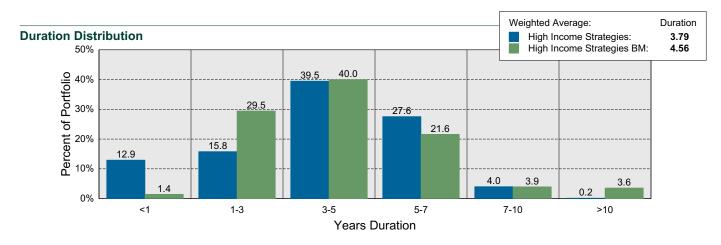


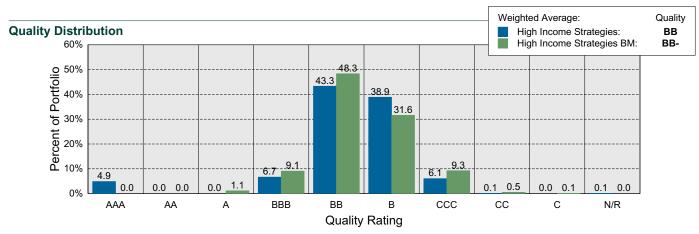
High Income Strategies Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.









Mackay Shield US High Yield Period Ended September 30, 2022

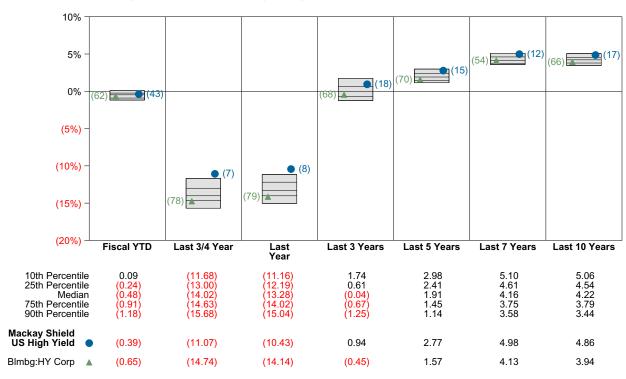
Investment Philosophy

MacKay relies on rigorous fundamental analysis to select companies with strong free cash flow and asset coverage in its quest to maximize yield, adjusted for default risk. The strategy is well diversified with sector and quality weights a residual of the security selection process. MacKay believes that long-term value is best created by avoiding downside risk (i.e. defaults) while selecting companies with attractive valuations and a catalyst for spread compression. Mackay Shield US High Yield was funded July 24, 2020. Returns prior to inception reflect the manager's high yield composite returns.

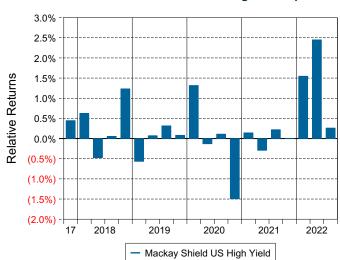
Quarterly Summary and Highlights

- Mackay Shield US High Yield's portfolio posted a (0.39)% return for the quarter placing it in the 43 percentile of the Callan High Yield Fixed Income group for the quarter and in the 8 percentile for the last year.
- Mackay Shield US High Yield's portfolio outperformed the Blmbg:HY Corp by 0.26% for the quarter and outperformed the Blmbg:HY Corp for the year by 3.70%.

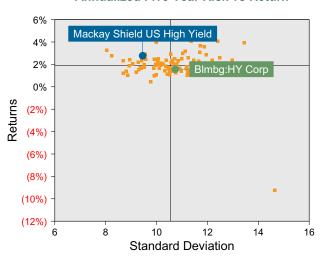
Performance vs Callan High Yield Fixed Income (Gross)



Relative Return vs Blmbg:HY Corp



Callan High Yield Fixed Income (Gross) Annualized Five Year Risk vs Return



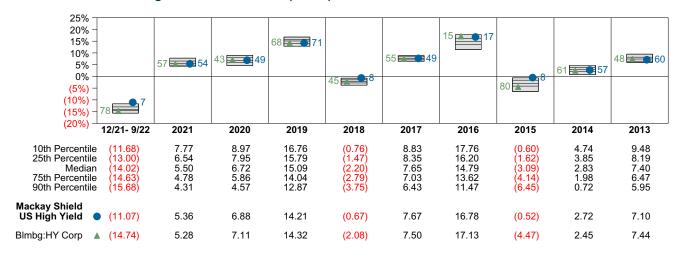


Mackay Shield US High Yield Return Analysis Summary

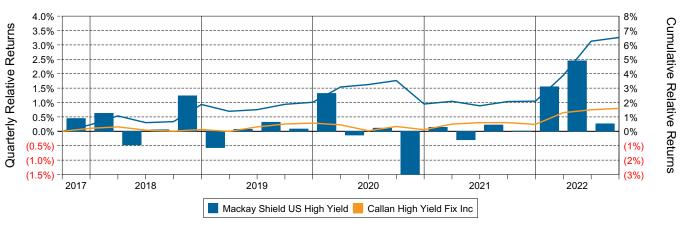
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

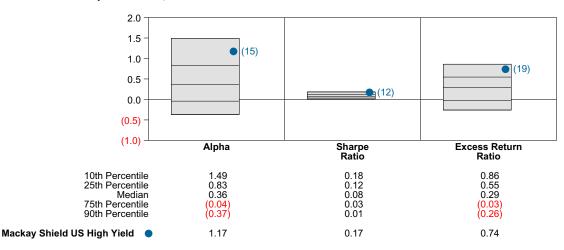
Performance vs Callan High Yield Fixed Income (Gross)



Cumulative and Quarterly Relative Returns vs Blmbg:HY Corp



Risk Adjusted Return Measures vs Blmbg:HY Corp Rankings Against Callan High Yield Fixed Income (Gross) Five Years Ended September 30, 2022



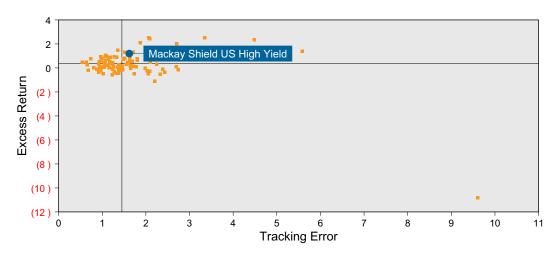


Mackay Shield US High Yield Risk Analysis Summary

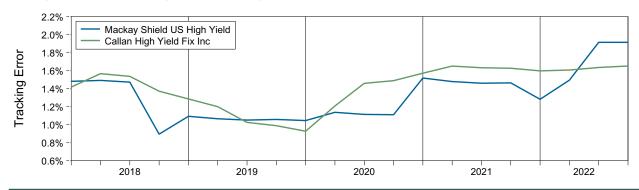
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

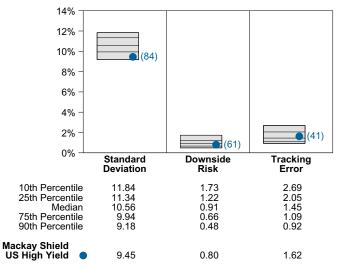
Risk Analysis vs Callan High Yield Fixed Income (Gross) Five Years Ended September 30, 2022

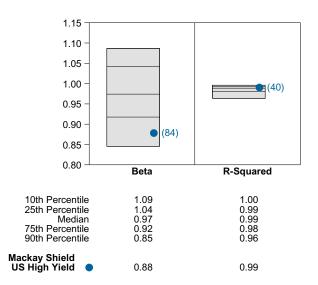


Rolling 12 Quarter Tracking Error vs Blmbg:HY Corp



Risk Statistics Rankings vs Blmbg:HY Corp Rankings Against Callan High Yield Fixed Income (Gross) Five Years Ended September 30, 2022





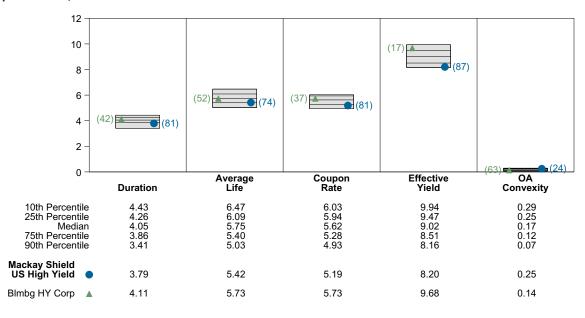


Mackay Shield US High Yield Bond Characteristics Analysis Summary

Portfolio Characteristics

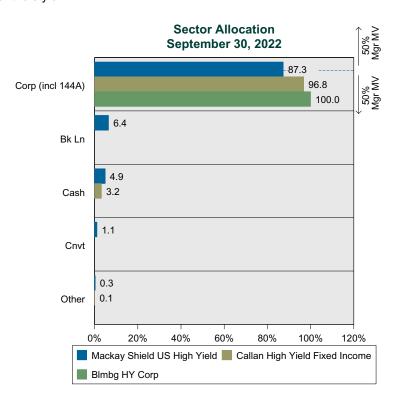
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style. Fixed Income Portfolio characteristics includes Cash Pool allocation.

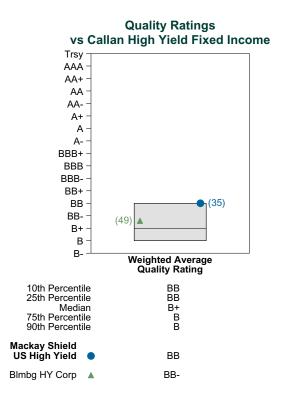
Fixed Income Portfolio Characteristics Rankings Against Callan High Yield Fixed Income as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector allocation with the average allocation across all the members of the manager's style. The second graph compares the manager's weighted average quality rating with the range of quality ratings for the style.



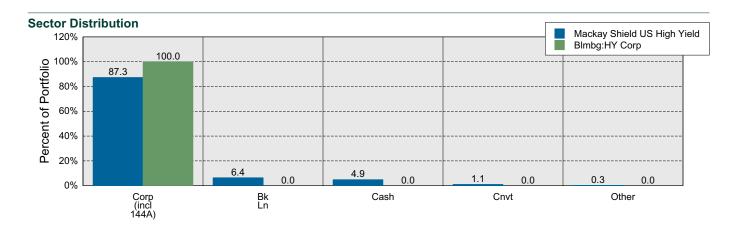


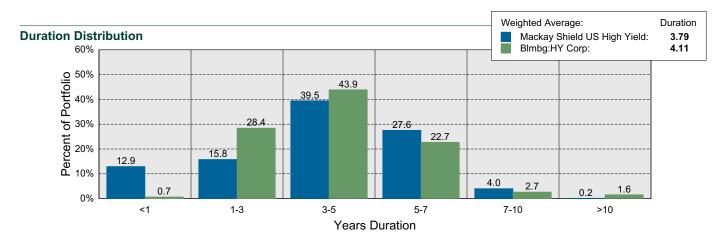


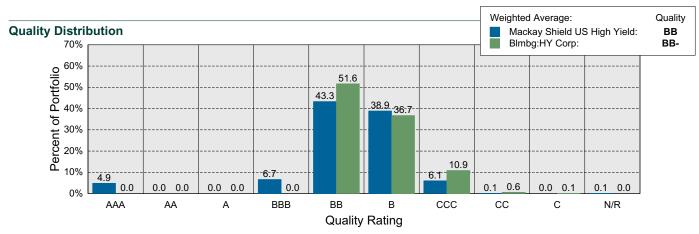
Mackay Shield US High Yield Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.









Principal Preferred Securities Period Ended September 30, 2022

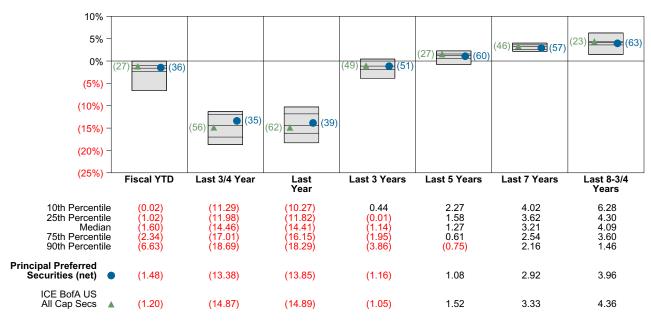
Investment Philosophy

Spectrum is a wholly owned subsidiary of Principal Global Investors. The firm has an exclusive focus on preferred securities globally. The firm employs an active approach to managing this sector with an emphasis on income as well as total return. Preferred securities are structurally subordinated fixed income investments that come in many flavors, each with unique structures and with many different labels. Common characteristics, however, are that they are subordinate to senior investment grade debt, pay a specified coupon, and are callable by the issuer. Credit quality typically ranges from BBB+ to BB. Coupon payments can be deferrable, non-deferrable and cumulative or non-cumulative. These attributes make the instruments complex and active management requires skill and experience in this sector. Principal Preferred Securities was funded July 30, 2020. Returns prior to inception reflect the Principal Preferred Securities mutual fund historical returns.

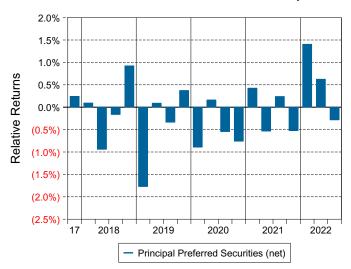
Quarterly Summary and Highlights

- Principal Preferred Securities (net)'s portfolio posted a (1.48)% return for the quarter placing it in the 36 percentile of the Morningstar Preferred Stock Funds group for the quarter and in the 39 percentile for the last year.
- Principal Preferred Securities (net)'s portfolio underperformed the ICE BofA US All Cap Secs by 0.28% for the quarter and outperformed the ICE BofA US All Cap Secs for the year by 1.04%.

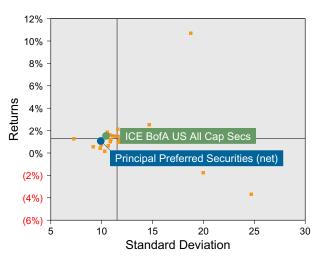
Performance vs Morningstar Preferred Stock Funds (Net)



Relative Return vs ICE BofA US All Cap Secs



Morningstar Preferred Stock Funds (Net) Annualized Five Year Risk vs Return



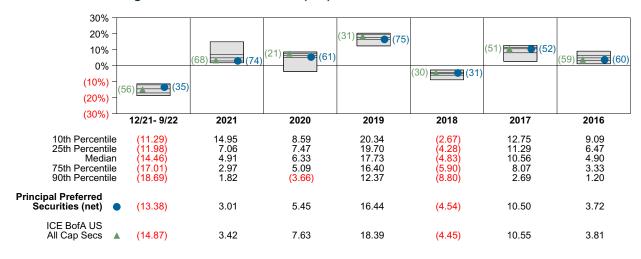


Principal Preferred Securities (net) Return Analysis Summary

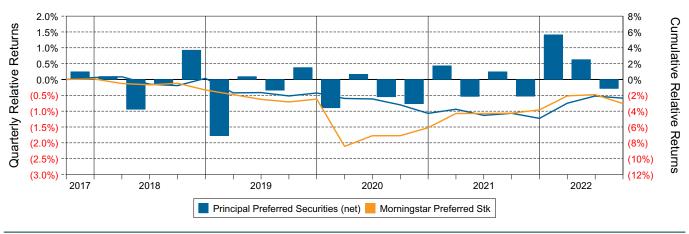
Return Analysis

The graphs below analyze the manager's return on both a risk-adjusted and unadjusted basis. The first chart illustrates the manager's ranking over different periods versus the appropriate style group. The second chart shows the historical quarterly and cumulative manager returns versus the appropriate market benchmark. The last chart illustrates the manager's ranking relative to their style using various risk-adjusted return measures.

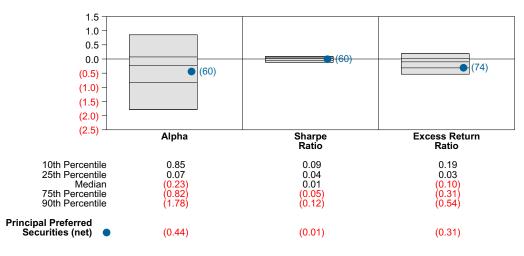
Performance vs Morningstar Preferred Stock Funds (Net)



Cumulative and Quarterly Relative Returns vs ICE BofA US All Cap Secs



Risk Adjusted Return Measures vs ICE BofA US All Cap Secs Rankings Against Morningstar Preferred Stock Funds (Net) Five Years Ended September 30, 2022



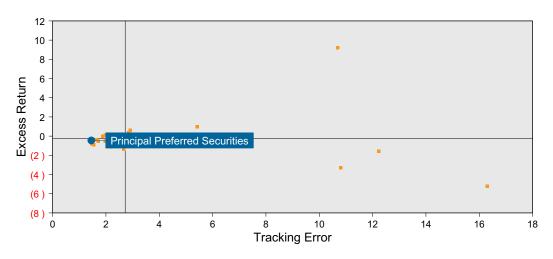


Principal Preferred Securities Risk Analysis Summary

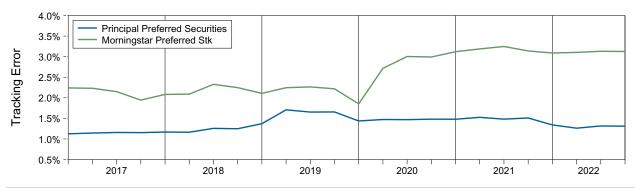
Risk Analysis

The graphs below analyze the risk or variation of a manager's return pattern. The first scatter chart illustrates the relationship, called Excess Return Ratio, between excess return and tracking error relative to the benchmark. The second chart shows tracking error patterns versus the benchmark over time. The last two charts show the ranking of the manager's risk statistics versus the peer group.

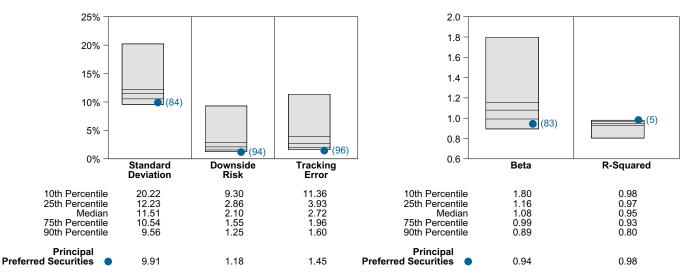
Risk Analysis vs Morningstar Preferred Stock Funds (Net) Five Years Ended September 30, 2022



Rolling 12 Quarter Tracking Error vs ICE BofA US All Cap Secs



Risk Statistics Rankings vs ICE BofA US All Cap Secs Rankings Against Morningstar Preferred Stock Funds (Net) Five Years Ended September 30, 2022



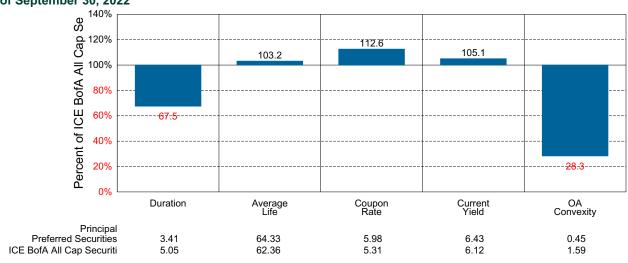


Principal Preferred Securities Bond Characteristics Analysis Summary

Portfolio Characteristics

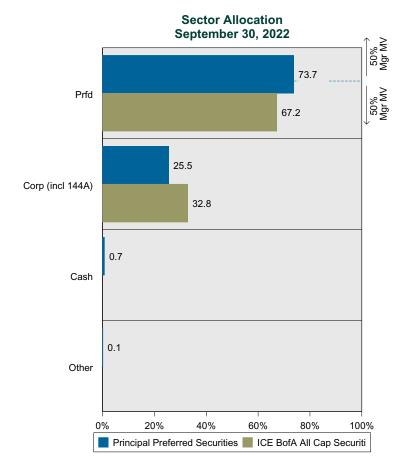
This graph compares the manager's portfolio characteristics with the range of characteristics for the portfolios which make up the manager's style group. This analysis illustrates whether the manager's current holdings are consistent with other managers employing the same style. Fixed Income Portfolio characteristics includes Cash Pool allocation.

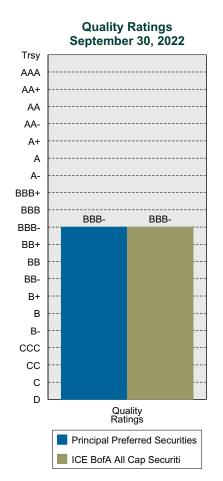
Portfolio Characteristics Relative to ICE BofA All Cap Securiti as of September 30, 2022



Sector Allocation and Quality Ratings

The first graph compares the manager's sector weights for the most recent quarter with those of the benchmark. The second graph compares the manager's weighted average quality rating with those of the benchmark.



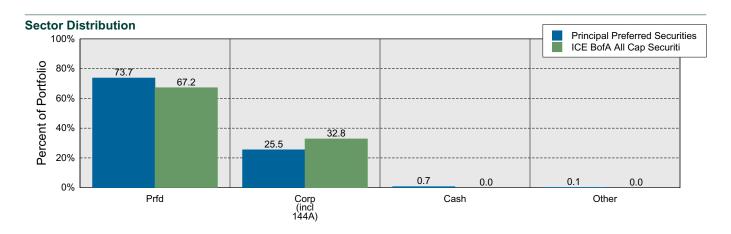


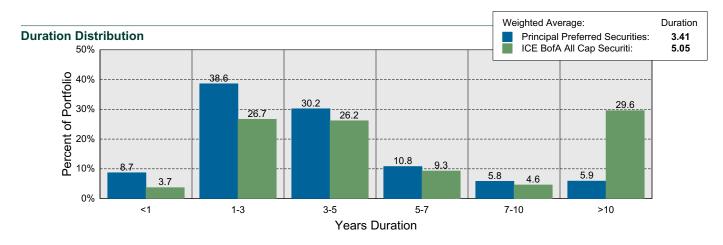


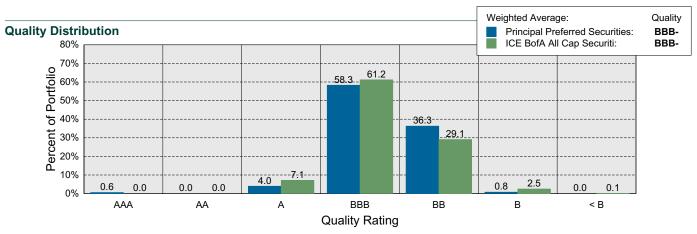
Principal Preferred Securities Portfolio Characteristics Summary As of September 30, 2022

Portfolio Structure Comparison

The charts below compare the structure of the portfolio to that of the index from the three perspectives that have the greatest influence on return. The first chart compares the two portfolios across sectors. The second chart compares the duration distribution. The last chart compares the distribution across quality ratings.













3rd Quarter 2022

Quarterly Highlights

The Callan Institute provides research to update clients on the latest industry trends and carefully structured educational programs to enhance the knowledge of industry professionals. Visit www.callan.com/research-library to see all of our publications, and www.callan.com/blog to view our blog. For more information contact Barb Gerraty at 415-274-3093 / institute@callan.com.

New Research from Callan's Experts

Research Cafe: Preliminary Mid-Year Capital Markets

Assumptions | In this coffee break session, our experts, Jay

Kloepfer and Adam Lozinski, describe our preliminary 2023-2032

Capital Markets Assumptions, discuss the process and rationale behind the adjustments of these long-term projections, and explain the potential implications for strategic recommendations.

Is Financial Wellness the Right Prescription for Your DC Plan?

Jana Steele discusses what financial wellness is and how it can be incorporated effectively into a defined contribution (DC) plan.

Blog Highlights

Do Active Core Plus Fixed Income Managers Add Value With Sector Rotation? | To help answer this question, we used benchmark indices and risk-adjusted them to disentangle an active manager's contribution to performance from a strategic overweight to credit vs. the contribution added by true sector rotation. This provides a quantitative framework for evaluating potential performance, which can be balanced against other considerations, including fees and expenses, complexity, and desired risk and performance patterns.

<u>Bubbles Bursting Everywhere</u> | The S&P 500 posted its worst sixmonth return in over 50 years to start the year. Inflation is surging, hitting 40-year highs in the United States. At the same time, interest rates are rising, and, to top it off, a recession may be on the horizon. For institutional investors, navigating these treacherous cross-currents requires an understanding of just how we arrived at this point.

The Fading Unicorn: How Volatility, Inflation, and Rate Hikes Impact Venture Capital | With Fed rate hikes, skyrocketing prices, and a Nasdaq selloff, venture capital (VC) limited partners have no shortage of worries. The unicorn stampede of the past decade has begun to fade, with many technology companies drastically declining

in value in the public markets. By understanding venture capital's relationship with interest rates, inflation, and the public markets, institutional investors can better navigate the effect on their portfolios in 2022 and beyond.

Target Date Funds and the Ever-Evolving Glidepath | In 2021 and the first half of 2022, multiple target date fund (TDF) providers announced changes to their strategic TDF glidepaths. The timing of these changes was unique, as capital markets adjusted to a post-pandemic world and a vastly different global outlook.

Quarterly Periodicals

<u>Private Equity Update</u>, <u>2Q22</u> | A high-level summary of private equity activity in the quarter through all the investment stages

<u>Active vs. Passive Charts, 2Q22</u> | A comparison of active managers alongside relevant benchmarks over the long term

Market Pulse, 2Q22 | A quarterly market reference guide covering trends in the U.S. economy, developments for institutional investors, and the latest data on the capital markets

<u>Capital Markets Review, 2Q22</u> | Analysis and a broad overview of the economy and public and private markets activity each quarter across a wide range of asset classes

<u>Hedge Fund Update, 2Q22</u> | Commentary on developments for hedge funds and multi-asset class (MAC) strategies

Real Assets Update, 2Q22 | A summary of market activity for real assets and private real estate during the quarter

<u>Private Credit Update, 2Q22</u> | A review of performance and fundraising activity for private credit during the quarter

Events

A complete list of all upcoming events can be found on our website: callan.com/events-education.

Please mark your calendar and look forward to upcoming invitations:

2023 Capital Markets Projections Webinar Jan. 18, 2023 – Virtual

2023 National Conference

April 2-4, 2023 - Scottsdale, AZ

For more information about events, please contact Barb Gerraty: 415-274-3093 / gerraty@callan.com

Education: By the Numbers

Unique pieces of research the Institute generates each year

Attendees (on average) of the Institute's annual National Conference

3,700 Total attendees of the "Callan College" since 1994

Education

Founded in 1994, the "Callan College" offers educational sessions for industry professionals involved in the investment decision-making process.

Introduction to Investments

March 1-2 – Chicago

May 23-25 – Virtual

This program familiarizes institutional investor trustees and staff and asset management advisers with basic investment theory, terminology, and practices. Our virtual session is held over three days with virtual modules of 2.5-3 hours, while the in-person session lasts one-and-a-half days. This course is designed for individuals with less than two years of experience with asset-management oversight and/or support responsibilities. Virtual tuition is \$950 per person and includes instruction and digital materials. In-person tuition is \$2,350 per person and includes instruction, all materials, breakfast and lunch on each day, and dinner on the first evening with the instructors.

Additional information including registration can be found at: callan.com/events-education



"Research is the foundation of all we do at Callan, and sharing our best thinking with the investment community is our way of helping to foster dialogue to raise the bar across the industry."

Greg Allen, CEO and Chief Research Officer







Callan

Quarterly List as of September 30, 2022

List of Callan's Investment Manager Clients

Confidential - For Callan Client Use Only

Callan takes its fiduciary and disclosure responsibilities to clients very seriously. We recognize that there are numerous potential conflicts of interest encountered in the investment consulting industry, and that it is our responsibility to manage those conflicts effectively and in the best interest of our clients. At Callan, we employ a robust process to identify, manage, monitor, and disclose potential conflicts on an ongoing basis.

The list below is an important component of our conflicts management and disclosure process. It identifies those investment managers that pay Callan fees for educational, consulting, software, database, or reporting products and services. We update the list quarterly because we believe that our fund sponsor clients should know the investment managers that do business with Callan, particularly those investment manager clients that the fund sponsor clients may be using or considering using. Please note that if an investment manager receives a product or service on a complimentary basis (e.g., attending an educational event), they are not included in the list below. Callan is committed to ensuring that we do not consider an investment manager's business relationship with Callan, or lack thereof, in performing evaluations for or making suggestions or recommendations to its other clients. Please refer to Callan's ADV Part 2A for a more detailed description of the services and products that Callan makes available to investment manager clients through our Institutional Consulting Group, Independent Adviser Group, and Fund Sponsor Consulting Group. Due to the complex corporate and organizational ownership structures of many investment management firms, parent and affiliate firm relationships are not indicated on our list.

Fund sponsor clients may request a copy of the most currently available list at any time. Fund sponsor clients may also request specific information regarding the fees paid to Callan by particular fund manager clients. Per company policy, information requests regarding fees are handled exclusively by Callan's Compliance department.

Manager Name
abrdn (Aberdeen Standard Investments)
Acadian Asset Management LLC
Adams Street Partners, LLC
AEGON USA Investment Management Inc.
AllianceBernstein
Allianz
Allspring Global Investments
American Century Investments
Amundi US, Inc.
Antares Capital LP
AQR Capital Management
Ares Management LLC
Ariel Investments, LLC
Aristotle Capital Management, LLC
Atlanta Capital Management Co., LLC
AXA Investment Managers
Baillie Gifford International, LLC
Baird Advisors

Manager Name
Barings LLC
Baron Capital Management, Inc.
Barrow, Hanley, Mewhinney & Strauss, LLC
BentallGreenOak
BlackRock
Blackstone Group (The)
BNY Mellon Asset Management
Boston Partners
Brandes Investment Partners, L.P.
Brandywine Global Investment Management, LLC
Brookfield Asset Management Inc.
Brown Brothers Harriman & Company
Capital Group
Carillon Tower Advisers
CastleArk Management, LLC
Chartwell Investment Partners
ClearBridge Investments, LLC
Cohen & Steers Capital Management, Inc.

Manager Name

Columbia Threadneedle Investments North America

Credit Suisse Asset Management, LLC

Crescent Capital Group LP

DePrince, Race & Zollo, Inc.

Dimensional Fund Advisors L.P.

Doubleline

Duff & Phelps Investment Management Co.

DWS

EARNEST Partners, LLC

Epoch Investment Partners, Inc.

Fayez Sarofim & Company

Federated Hermes, Inc.

Fidelity Institutional Asset Management

Fiera Capital Corporation

First Hawaiian Bank Wealth Management Division

First Sentier Investors

Fisher Investments

Franklin Templeton

Fred Alger Management, LLC

GAM (USA) Inc.

GlobeFlex Capital, L.P.

GoldenTree Asset Management, LP

Goldman Sachs

Golub Capital

Guggenheim Investments

GW&K Investment Management

Harbor Capital Group Trust

Hardman Johnston Global Advisors LLC

Heitman LLC

Hotchkis & Wiley Capital Management, LLC

Impax Asset Management LLC

Income Research + Management

Insight Investment

Intech Investment Management LLC

Intercontinental Real Estate Corporation

Invesco

J.P. Morgan

Janus

Jennison Associates LLC

Jobs Peak Advisors

Manager Name

KeyCorp

Lazard Asset Management

LGIM America

Lincoln National Corporation

Longview Partners

Loomis, Sayles & Company, L.P.

Lord Abbett & Company

LSV Asset Management

MacKay Shields LLC

Macquarie Asset Management

Manning & Napier Advisors, LLC

Manulife Investment Management

Marathon Asset Management, L.P.

McKinley Capital Management, LLC

Mellon

MetLife Investment Management

MFS Investment Management

MidFirst Bank

MLC Asset Management

Mondrian Investment Partners Limited

Montag & Caldwell, LLC

Morgan Stanley Investment Management

MUFG Union Bank, N.A.

Natixis Investment Managers

Neuberger Berman

Newton Investment Management

Ninety One North America, Inc.

Northern Trust Asset Management

Nuveen

P/E Investments

Pacific Investment Management Company

Pantheon Ventures

Parametric Portfolio Associates LLC

Partners Group (USA) Inc.

Pathway Capital Management, LP

Peregrine Capital Management, LLC

PFM Asset Management LLC

PGIM Fixed Income

PGIM Quantitative Solutions LLC

Pictet Asset Management



Manager Name

PineBridge Investments

Polen Capital Management, LLC

Principal Global Investors

Putnam Investments, LLC

Raymond James Investment Management

RBC Global Asset Management

Regions Financial Corporation

Richard Bernstein Advisors LLC

Robeco Institutional Asset Management, US Inc.

Rothschild & Co. Asset Management US

S&P Dow Jones Indices

Schroder Investment Management North America Inc.

Segall Bryant & Hamill

SLC Management

Smith Graham & Co. Investment Advisors, L.P.

State Street Global Advisors

Strategic Global Advisors, LLC

T. Rowe Price Associates, Inc.

Manager Name

The TCW Group, Inc.

Thompson, Siegel & Walmsley LLC

Thornburg Investment Management, Inc.

Tri-Star Trust Bank

UBS Asset Management

VanEck

Versus Capital Group

Victory Capital Management Inc.

Virtus Investment Partners, Inc.

Vontobel Asset Management

Voya

Walter Scott & Partners Limited

WCM Investment Management

Wellington Management Company, LLP

Western Asset Management Company LLC

Westfield Capital Management Company, LP

William Blair & Company LLC



Important Disclosures

Information contained in this document may include confidential, trade secret and/or proprietary information of Callan and the client. It is incumbent upon the user to maintain such information in strict confidence. Neither this document nor any specific information contained herein is to be used other than by the intended recipient for its intended purpose.

The content of this document is particular to the client and should not be relied upon by any other individual or entity. There can be no assurance that the performance of any account or investment will be comparable to the performance information presented in this document.

Certain information herein has been compiled by Callan from a variety of sources believed to be reliable but for which Callan has not necessarily verified for accuracy or completeness. Information contained herein may not be current. Callan has no obligation to bring current the information contained herein. This content of this document may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact. The opinions expressed herein may change based upon changes in economic, market, financial and political conditions and other factors. Callan has no obligation to bring current the opinions expressed herein.

The statements made herein may include forward-looking statement regarding future results. The forward-looking statement herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties. Actual results may vary, perhaps materially, from the future result projected in this document. Undue reliance should not be placed on forward-looking statements.

Callan disclaims any responsibility for reviewing the risks of individual securities or the compliance/non-compliance of individual security holdings with a client's investment policy guidelines.

This document should not be construed as legal or tax advice on any matter. You should consult with legal and tax advisers before applying any of this information to your particular situation.

Reference to, or inclusion in this document of, any product, service or entity should not necessarily be construed as recommendation, approval, or endorsement or such product, service or entity by Callan. This document is provided in connection with Callan's consulting services and should not be viewed as an advertisement of Callan, or of the strategies or products discussed or referenced herein.

The issues considered and risks highlighted herein are not comprehensive and other risks may exist that the user of this document may deem material regarding the enclosed information. Any decision you make on the basis of this document is sole responsibility of the client, as the intended recipient, and it is incumbent upon you to make an independent determination of the suitability and consequences of such a decision.

Callan undertakes no obligation to update the information contained herein except as specifically requested by the client.

Past performance is no quarantee of future results.

Rebalancing Recommendation: \$40.6 million in Cash Available For Investing

Asset values as of November 4, 2022

				Proposed	Post Rebalance Mkt		% Difference from
Asset Classes	Market Value	%MV	Target	Rebalance	Value	Post Rebalance %	Target
Equity	\$ 364,366,639.31	30.0%	30.0%	\$0.00	\$ 364,366,639.31	30.0%	0.0%
Janus	\$ 100,419,347.39	8.3%	7.5%	\$0.00	\$ 100,419,347.39	8.3%	0.8%
MacKay Shields	\$ 104,063,207.55	8.6%	8.5%	\$0.00	\$ 104,063,207.55	8.6%	0.1%
Spectrum Preferred	\$ 18,291,106.72	1.5%	1.5%	\$0.00	\$ 18,291,106.72	1.5%	0.0%
Treasury Bond Portfolio	\$ 586,478,086.21	48.3%	52.5%	\$40,117,609.00	\$ 626,595,695.21	51.6%	-0.9%
Cash	\$40,617,609	3.3%	0.0%	(\$40,117,609.00)	\$ 500,000.00	0.0%	0.0%
Total	\$ 1,214,235,996.18	100.0%	100.0%	\$0.00	\$1,214,235,996.18	100.0%	0.0%

- Callan and the Portfolio Administrator have reviewed the asset allocation and recommend that the Cash Available for Investing be deployed into the Treasury Bond Portfolio as shown above.
- The rebalanced allocation deviates slightly from the Target as minor overweights to Janus and McKay Shields are deemed not worth the transactions costs to rebalance.
- \$500,000 is held back in cash per Treasury to assist with timing issues regarding income earned and bond price amortizations.



Conflict of Interest

Purpose:

The Public School Fund Investment Board ("Board") is governed by Statute (Title 24, article 18 "Standards of Conduct") with regards to conflict of interest. This policy is intended to define conflict of interest for Board members and its staff.

Principles

Each Board member shares the responsibility for maintaining the beneficiaries' trust. This responsibility for fairness and integrity must be fulfilled through individual compliance with the spirit as well as the letter of the law governing state agencies and by careful and thoughtful adherence to a strict code of ethical behavior. The standards set out in this section are guiding principles, which must be used along with one's good judgment.

Conflicts of interest arise when a Board member takes part in Board decisions in which the Board member may be unable to remain impartial, maintain objectivity or fulfill the Board member's duty of loyalty in choosing between the interests of the Board's beneficiaries and the Board member's personal interests. In some cases, it may be a simple conflict of loyalties. In others, the person concerned (or a relative or partner etc.) has a financial interest in the decision. Overall, each Board member must act with honesty, fairness and integrity in all aspects of business and personal conduct with full disclosure - erring on the side of caution - in any situations that are, or may become, conflicts of interest.

Board members are expected to play active roles in their communities. Combined with friendships, family involvement and business relationships, potential conflicts of interest or the appearance of such conflicts will inevitably arise from time to time. The Board will address potential conflicts in an open and appropriate manner that includes full disclosure, abstention from participation, and proper recording in the Board's records.

Guidelines

With these principles in mind, the Board has adopted the following guidelines with respect to staff and Board members:

 Board members and staff shall not knowingly take any action, make any statement, take advantage of a vendor relationship or otherwise influence the conduct of the Board's affairs in such a way as to confer a financial benefit upon him/her or a member of his/her family or business interest.

- Board members shall not perform an official act that may have a direct economic benefit on a business or other entity in which the Board member has a direct or substantial financial interest.
- In the event that there comes before the Board a matter for consideration or decision that raises a conflict of interest for any Board member, the Board member shall disclose the conflict of interest as soon as he/she becomes aware of it and shall abstain from further participation and voting on the matter. Such disclosure and abstention shall be recorded in the meeting minutes and the presence of the Board member with a conflict of interest shall not be counted toward a quorum with respect to that matter.
- In the event that a Board member is in doubt regarding a potential conflict of interest, the Board member shall seek consultation from the Board chair and the Assistant Attorney General representing the Board before engaging in discussion and/or voting.
- Board members and staff shall annually disclose that they have adhered to the Board's conflict of interest policies, including full disclosure of their dealings with the Board or its vendors (other than compensation and reimbursement of approved expenses).

STATE OF COLORADO PUBLIC SCHOOL FUND INVESTMENT REVIEW

NOVEMBER 14, 2022

Representing MacKay Shields

JOSEPH MAIETTA, CFA

Managing Director High Yield Team

THERESE M. HERNANDEZ

Managing Director Institutional Business Development

MARY ELLEN SADIM

Director Client Service Representative

ALEXANDRIA JONKE

Analyst Client Service Representative



MacKay Shields



Independent boutique founded in 1938

Acquired by New York Life Insurance Company in 1984

Over 200 employees in New York, Princeton, Los Angeles, London and Dublin

\$126 billion in AUM¹

Signatory of UN Principles for Responsible Investment Initiative (PRI)

Separate and distinct investment groups within MacKay Shields



FIXED INCOME — EQUITY

Municipal Managers	High Yield	Global Fixed Income	Global Credit & Emerging Markets Debt	Convertibles	Fundamental Equity
\$64 Bn	\$27 Bn	\$20 Bn	\$10 Bn	\$4 Bn	\$1 Bn

Due to rounding the sum of items may not equal stated totals.

^{1.} AUM as of September 30, 2022, includes MacKay Shields LLC and its subsidiaries. Of the \$126 billion, quantitative fixed income is \$71 million. Figures may be rounded.

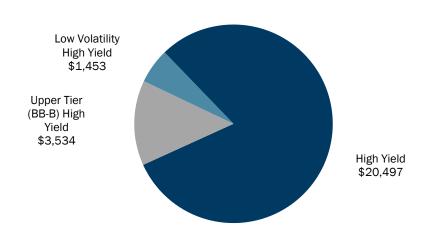
MacKay Shields High Yield Team Overview



- Managing US high yield portfolios since 1991
- 59 accounts managed for clients across US, Canada, Europe, Middle East and Asia

High Yield Composite	3	5	7	10
(as of Sept. 30, 2022)	Years	Years	Years	Years
eVestment Percentile1	26 th	16 th	14 th	13 th

High Yield Team \$27 billion AUM²



- Subadvisor to open-end US mutual funds
- MainStay MacKay High Yield Corporate Bond Fund Class I ★★★Morningstar Overall Rating^{TM,3}
- MainStay MacKay Short Duration High Yield Fund³
- Class I ★★★★ Morningstar Overall Rating^{TM,3}

This does not constitute an offer to sell or a solicitation of an offer to purchase shares in a fund. Mutual funds are offered by prospectus only through a registered broker/dealer.

- 1. Gross of fees, Source: eVestment Alliance; eVestment Universe: US High Yield Fixed Income. Run date October 28, 2022. Provided as supplemental to the GIPS reports in the Appendix.
- 2. AUM and other data shown on this page is as of September 30, 2022. Due to rounding the sum of the items may not equal 100% or any expressed totals as applicable.
- 3. Morningstar ratings and rankings are published for both the MainStay MacKay High Yield Corporate Bond Fund and the MainStay MacKay Short Duration High Yield Fund. Morningstar does not have a separate universe for short duration high yield bond funds and includes the MainStay MacKay Short Duration High Yield Fund in the overall high yield bond fund universe. Please see disclosure pages in this presentation for important Morningstar disclosures. Morningstar star ratings are as of September 30, 2022.

Our Approach to High Yield Investing



Focused

- Pure focus on US high yield market
- Bottom-up approach; lenders to companies we invest in
- Only credit selection matters we do not index

Disciplined

- Consistent investment process since 1991
- · Long-term outlook
- · Constant attention to risk vs. reward and "downside protection"

Experienced

- Seasoned team of high yield credit experts
- Flat, non-bureaucratic "partnership" culture

Experienced Team and Ownership Culture



Investment Professional	Years of Experience	Years at Firm	Education & Investment Experience
Andrew Susser Lead Portfolio Manager	32	16	JD/MBA, UPenn Wharton GoldenTree, Salomon Brothers, BofA Securities
Ryan Bailes, CFA Healthcare, Homebuilders	27	7	BS, University of Kansas BofA Securities, Nomura (NCRAM)
Dohyun Cha, CFA Energy	25	17	BS, Boston College Credit Suisse; CIBC World Markets
Won Choi, CFA Metals/Mining, Financials ESG Coordinator	26	20	BA, Yale University Fenway Partners, Salomon Smith Barney
Nate Hudson, CFA Automotive, Services	31	14	BA, Yale University BofA Securities, Nomura (NCRAM)
Thomas Metcalf, CFA Retail, Consumer/Food, Leisure	12	11	MS, University of Durham
Parul Miglani Chemicals, Aerospace/Defense, Technology	16	<1	MBA, Columbia University Muzinich & Co.; H.I.G. Bayside Capital
Maureen O'Callaghan Telecom, Media, Cable	35	3	MBA, Fordham University Stone Harbor Investment Partners
John Pace, CFA Airlines, Building Materials, Gaming, Manufacturing, Packaging, Paper	31	1	MBA, University of Chicago Symetra Investment Management
Richard Lee, CFA Utilities	8	8	BS, Georgetown University
May Wong, CFA Generalist Analyst	8	6	BA, Columbia University
Gabriela Pérez, CFA Generalist Analyst	7	7	MBA, Pace University
Riley Osborn Generalist Analyst	1	1	BA, University of Chicago
J. Alex Leites Trading	29	21	BS, New York University Lazard, Prudential
Scott Mallek Trading	26	20	BA, Fairfield University Salomon Smith Barney
Debbie Akua Boadu Trading	3	3	MS, Fairleigh Dickinson University
Joseph Maietta, CFA Client Portfolio Manager	14	8	MS, NYU/HKUST ∮ PIMCO, JPMorgan

Culture

- Cohesive, disciplined
- Efficient, non-bureaucratic
- Compensation incentives based on long-term contribution to the team

Team

- 26 years average investment experience across senior investment professionals
- Senior members lead research responsibilities and have accountability for specific sectors
- Longstanding relationships with high yield market participants

As of September 30, 2022.

CFA Institute Certificate in ESG Investing.

Margin-of-Safety Analysis Is Key to Our Credit Selection



High Yield Investment Process

HIGH YIELD UNIVERSE OF 1,000+ ISSUERS

Minimum Spread of 200bps Over Treasuries

MARGIN-OF-SAFETY ANALYSIS

Minimum of 1.5x Asset Coverage Free Cash Flow Generation

BUSINESS JUDGEMENT

Focus on High Quality Strategic Businesses
Capital Structure & Covenant Analysis
Management Assessment
ESG Analysis

CATALYST FOR TOTAL RETURN

Credit Improvement
Positive Event Potential

Focus List

Default-Adjusted Spread Analysis

Client Objectives

High Yield Portfolio

Portfolio Construction — Proper Compensation for Risk



Every security is categorized into a Risk Group based on strength of asset coverage and potential for default

Portfolio construction is determined by the default-adjusted spread and relative value between Risk Groups

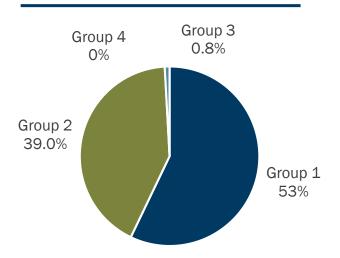
Group 1 – Highest Quality	Initial Spread	Default Adjustment	Required Minimum Spread
Strongest credit profileLowest volatility	100 bps	+ 100 bps = (1% Long Term Default Rate)	= 200 bps





Group 2 - Seasoned Issuers

Significant equity value
 Strong credit statistics
 100 bps + 200 bps = 300 bps
 (2% Long Term Default Rate)



Group 3 - Risk Credits

Trading at discount
 More research intensive
 100 bps + 400 bps = 500 bps
 (4% Long Term Default Rate)

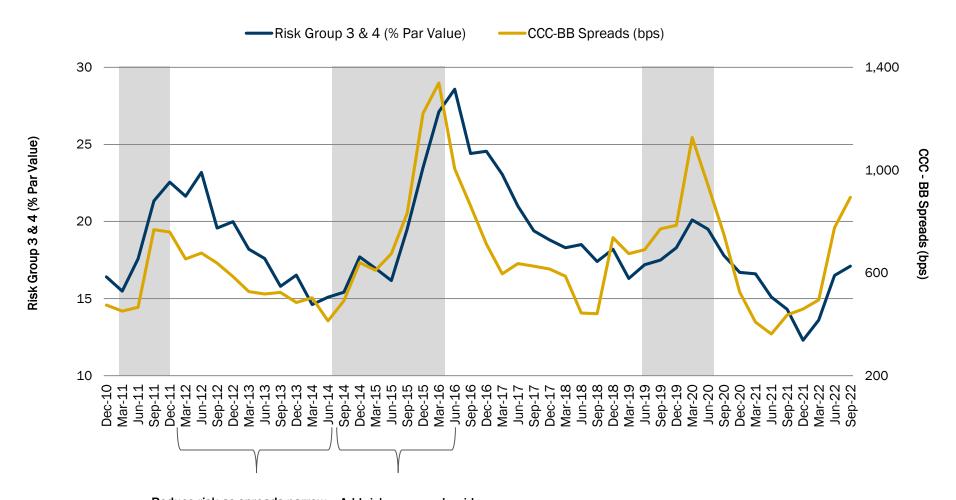


Significant discount to asset value

Disciplined through Market Environments



The strategy seeks to opportunistically increase (decrease) exposure to Risk Groups 3 & 4 when credit risk becomes more (less) attractive



Reduce risk as spreads narrow Add risk as spreads widen

Interest Rate Concerns Turned into Interest Rate and Growth Concerns

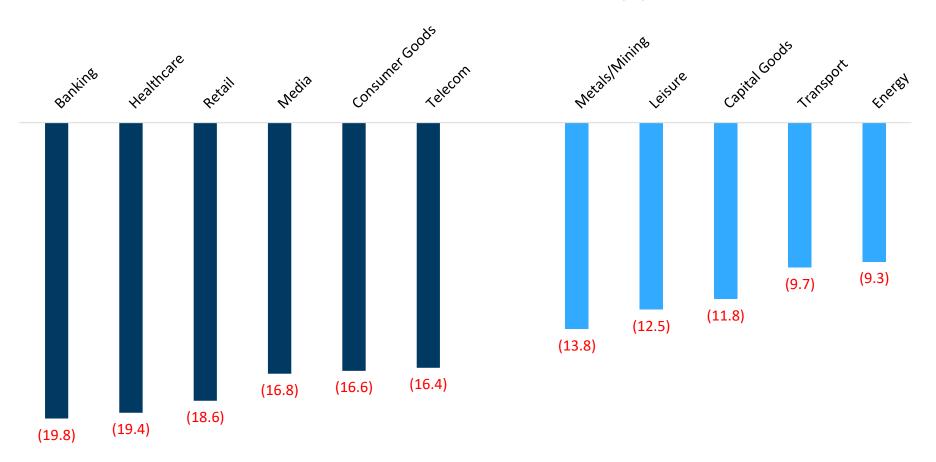




Cost Pressures & Rate Sensitive Sectors Lag; Commodities Perform Relatively Well



YTD to Q3'22 Total Return (%)

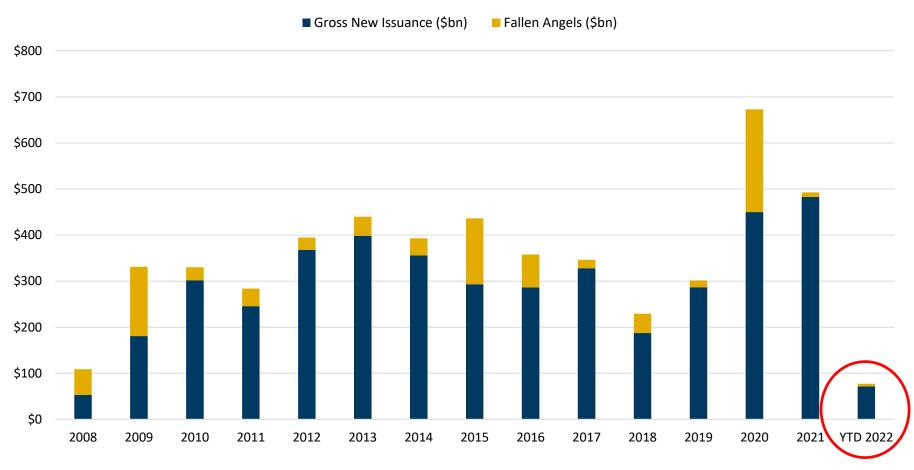


Low Supply Has Supported Secondary Market



YTD 2022 Supply is Lowest Since 2008



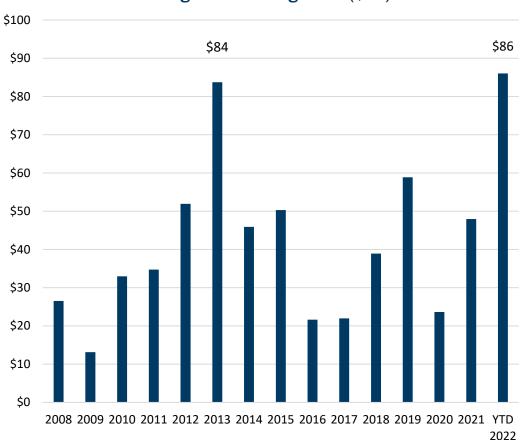


Source: JP Morgan As of July 31, 2022

YTD 2022 Rising Star Volume Has Already Eclipsed Previous Annual Record







Top 10 2022 Rising Stars	Par Amount (\$bn)	% of ICE BofA US HY Index
Kraft Heinz	17.1	1.2
HCA Inc.	12.1	0.9
T-Mobile	11.8	0.8
Freeport-McMoRan	8.3	0.6
Targa Resources	6.0	0.4
CDW	5.0	0.4
VICI Properties	4.8	0.3
EQT Corp.	4.4	0.3
CIT Group	2.7	0.2
Toll Brothers	2.0	0.1
Total (All Rising Stars)	\$86.0	6.1%

State of Colorado Public School Fund



Historical Rates of Return (%)

Periods Ending September 30, 2022

	State of Colorado Gross of Fees	State of Colorado Net of Fees	Bloomberg High Yield Index
3Q 2022	(0.32)	(0.43)	(0.65)
Year to Date	(11.15)	(11.44)	(14.74)
One Year	(10.51)	(10.89)	(14.14)
Since Inception – Annualized (9/1/2020)	(1.25)	(1.67)	(2.65)

Portfolio Attribution — Sector



Portfolio		3Q 2022			YTD September 30, 2022			
Sector	Allocation (bps)	Selection (bps)	Total (bps)	Allocation (bps)	Selection (bps)	Total (bps)		
Automotive	4	0	4	5	0	5		
Banking	(1)	5	4	1	9	10		
Basic Industry	(1)	1	(0)	(3)	9	5		
Capital Goods	(2)	3	1	(5)	8	2		
Consumer Goods	3	(0)	3	14	44	58		
Energy	1	(9)	(8)	(1)	46	46		
Financial Services	(6)	12	6	(9)	74	65		
Healthcare	(0)	4	4	(1)	7	6		
Insurance	(0)	9	9	1	54	56		
Leisure	(1)	(0)	(1)	4	2	6		
Media	0	3	3	(1)	5	4		
Real Estate	0	0	0	0	0	0		
Retail	(0)	3	3	0	17	17		
Services	(0)	(0)	(1)	(1)	(5)	(5)		
Technology & Electronics	0	0	0	(0)	0	(0)		
Telecommunications	0	(1)	(1)	(1)	1	0		
Transportation	0	(0)	(0)	0	16	16		
Utility	(1)	1	0	(1)	8	6		
Cash/Other			2			49		
Total	(3)	29	28	3	293	348		

Portfolio Attribution — Quality



Portfolio	3Q 2022			YTD September 30, 2022		
Sector	Allocation (bps)	Selection (bps)	Total (bps)	Allocation (bps)	Selection (bps)	Total (bps)
BB & Higher	30	(15)	15	13	140	154
В	0	(6)	(6)	2	74	78
CCC & Lower	(2)	16	14	25	44	70
Not Rated	0	3	3	0	(2)	(2)
Cash/Other			2			49
Total	29	(2)	28	40	256	348

State of Colorado Public School Fund



Market Value: \$106,516,775 (as of October 31, 2022)

Statistics

	Portfolio	Index1
Current Yield (%)	5.97	6.70
Yield to Worst (%)	7.89	9.00
Modified Duration (years)	3.95	4.54
Average Credit Quality	ВВ	B+

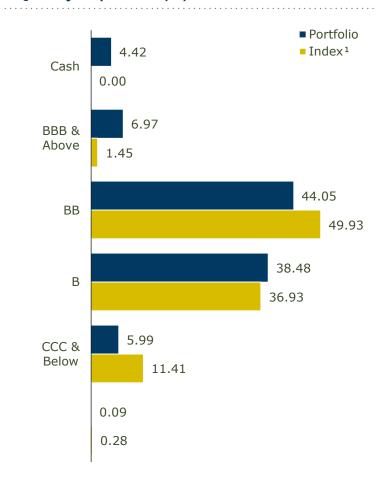
Top Ten Issuers (%)

	Portfolio
Charter Communications	2.35
Carnival Corporation	1.87
Yum! Brands	1.53
TransDigm Group	1.41
Schaeffler GmbH & Co.	1.34
T-Mobile	1.32
HCA Inc.	1.26
Clarivate	1.18
Churchill Downs	1.13
Lamar Media	1.01



²Using median rating of three. If only two are available, the lower rating (Bloomberg Rating Methodology) is used.

Quality Exposure (%)²



State of Colorado Public School Fund



As of October 31, 2022

Duration to Worst (%)

	Portfolio	Index ¹
0 to 3	29.62	22.62
3 to 7	66.54	70.39
7 to 10	3.68	5.35
Greater than 10	0.16	1.64

Sector (%)

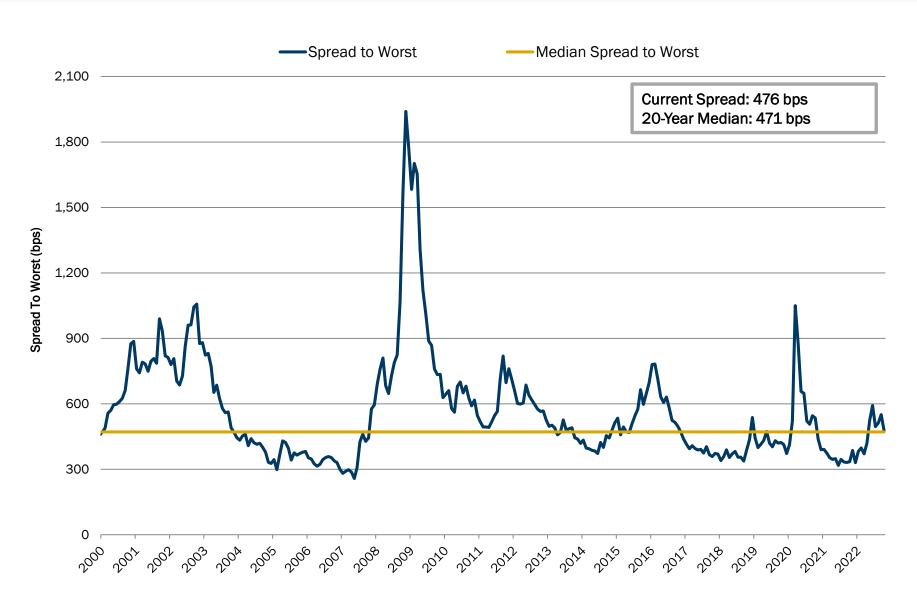
	Portfolio	Index1
Banking	0.00	1.18
Basic Industry	6.70	4.74
Brokerage/Asset Managers	1.92	0.89
Capital Goods	6.40	9.30
Communications	11.51	16.22
Consumer Cyclical	24.31	22.14
Consumer Non-Cyclical	13.79	11.01
Electric	2.31	2.43
Energy	12.41	12.82
Finance Companies	0.41	2.58
Insurance	2.12	2.61
Natural Gas	0.00	0.01
Other Financial	1.75	1.19
Other Industrial	1.01	1.34
Owned No Guarantee	0.27	0.00
REITS	1.00	1.95
Technology	7.39	6.98
Transportation	2.28	2.61

High Yield Market Overview



US High Yield Market Spreads

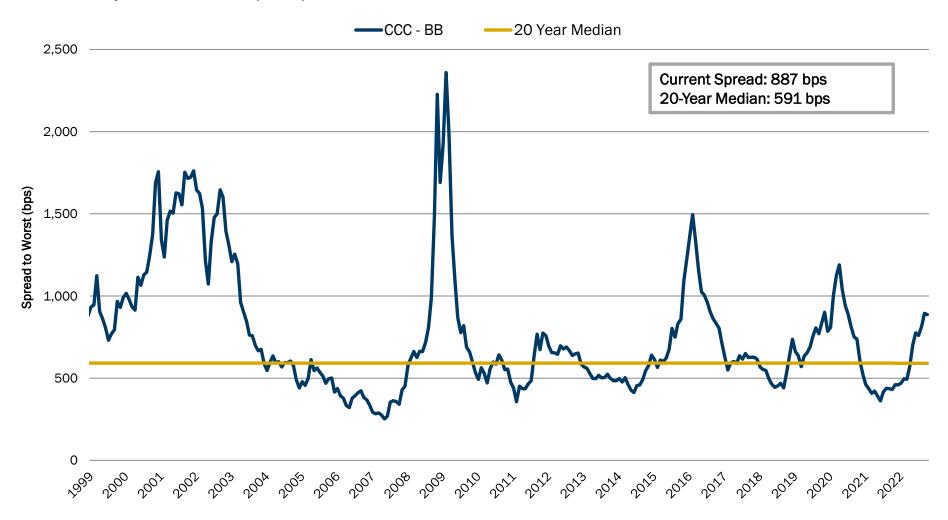




US High Yield Quality Spreads



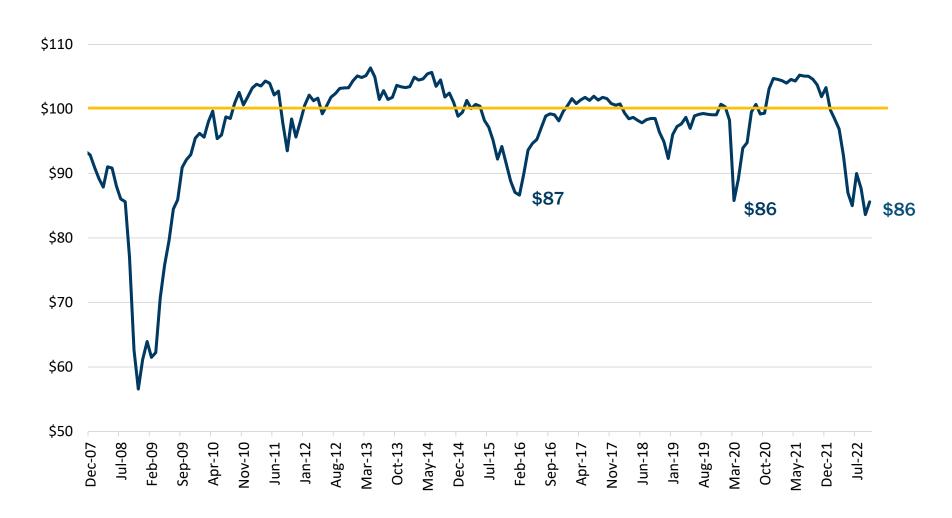
CCC - BB Spread to Worst (STW) Difference



Average Price of US High Yield Now Below Par; Potential For Upside



Average \$ Price of ICE BofA US High Yield Index



Historical Forward Index Return by Price Bucket



Month End Avg. \$ of HY Index Last 20 Yrs. ¹	% of Monthly Observations	Median Subsequent 1-Year Return (Ann.) %	Median Subsequent 2-Year Return (Ann.) %	Median Subsequent 3-Year Return (Ann.) %
Price Above \$100	43%	4.4	5.7	5.3
Price Between \$95 and \$100	34%	9.1	6.9	6.6
Price Between \$90 and \$95	10%	12.8	9.4	9.6
Price Between \$80 and \$90	8%	21.5	13.6	12.5
Price Below \$80	6%	33.1	23.8	16.6

Month End Avg. \$ of HY Index 20 Yrs. ¹	Last	% of time Subsequent 1-Year Return (Ann.) Greater than 7%	% of time Subsequent 2-Year Return (Ann.) Greater than 7%	% of time Subsequent 3-Year Return (Ann.) Greater than 7%
Price Above \$100		34%	48%	42%
Price Between \$95 and \$100		65%	49%	49%
Price Between \$90 and \$95		70%	83%	96%
Price Between \$80 and \$90		83%	94%	100%
Price Below \$80		100%	100%	100%

As of May 31, 2022

It is not possible to invest directly into an index. Please see disclosures at the end of this presentation for important benchmark information, including disclosures related to comparisons to an index and index descriptions.

Past performance is not indicative of future performance.

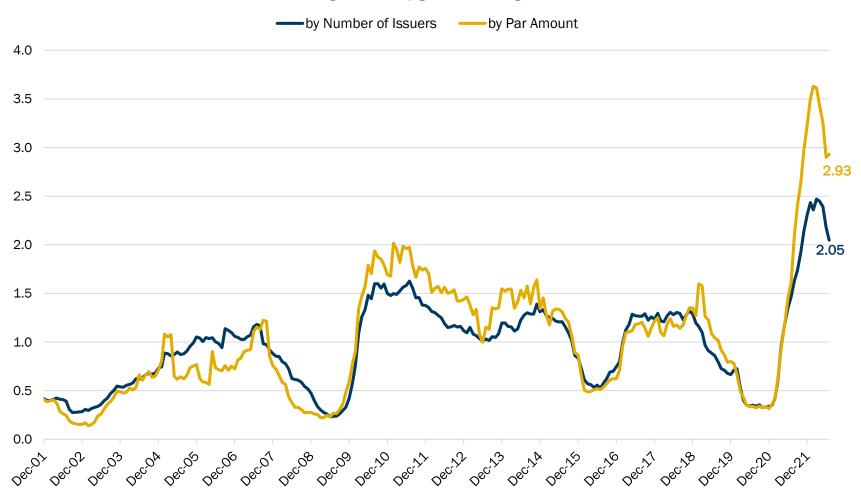
Source: ICE Data, MacKay Shields

^{1.} ICE BofA US High Yield Index. Monthly observations since May 20, 2002.

US High Yield Rating Upgrades Continue to Significantly Outpace Downgrades



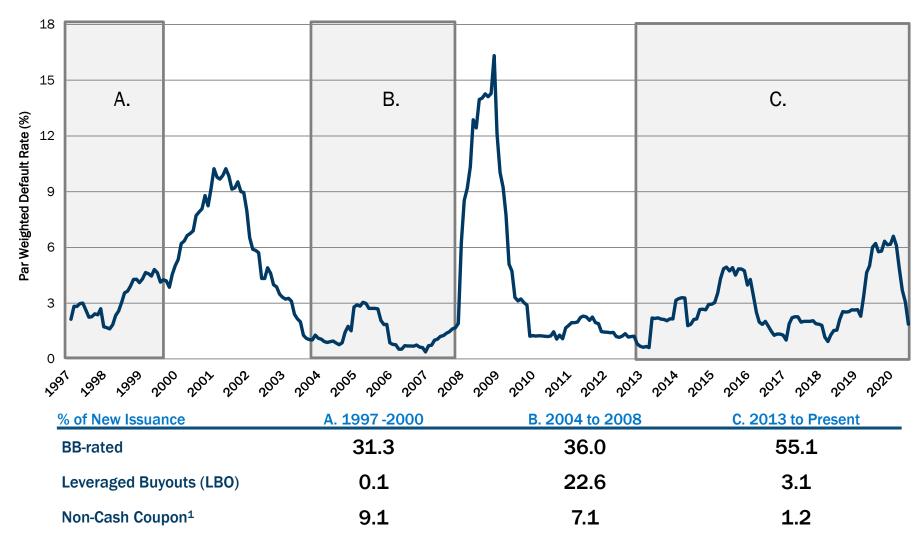
LTM US High Yield Upgrade-Downgrade Ratio



Aggressive Issuance Not Evident In Current Environment



—US HY Par Weighted Default Rate



As of March 31, 2022

Source: JP Morgan, ICE Data. Default rate includes distressed exchanges.

1. Non-Cash Coupon Issuance includes Zero Coupon bonds, Pay-in-Kind (PIK) bonds, or PIK Toggle bonds

Timeframes A: 1/1/1997 to 12/31/2000; B: 1/1/2004 to 12/31/2008; C: 1/1/2013 to 3/31/2022. Please see disclosures pages for the ICE BofA Credit Rating Disclosure.

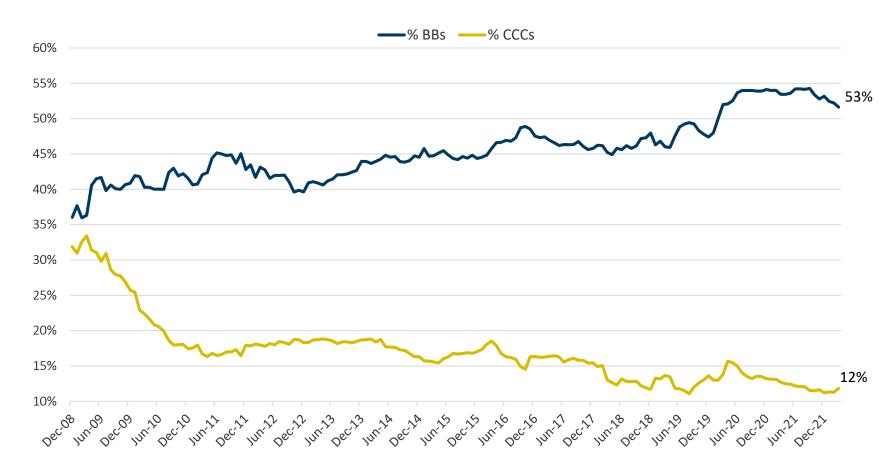
US High Yield Has Trended Towards Higher Quality, Public Companies



BB-rated credits have increased as a proportion of the US High Yield Market, alongside a decrease in CCC-bonds

25% of the ICE BofA US High Yield Index is now comprised of companies in the S&P 500 Index

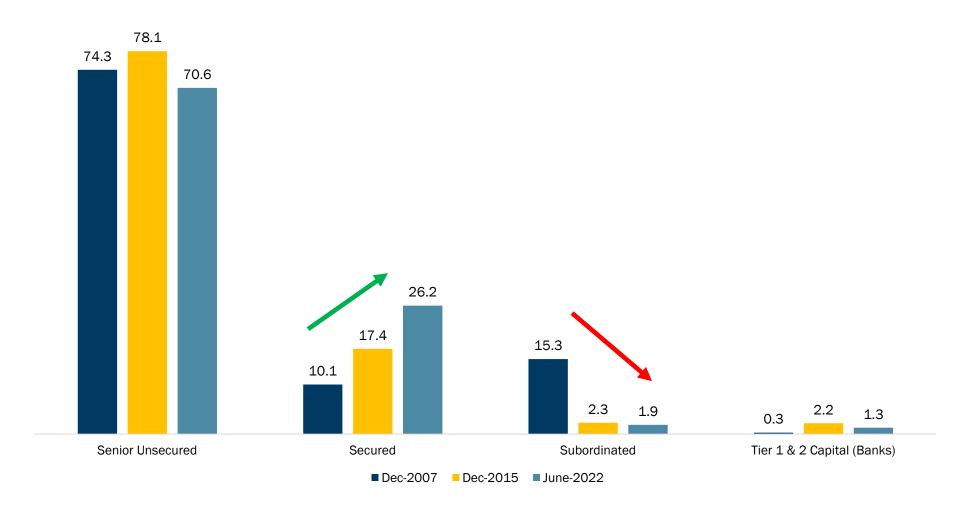
% in Par Value of ICE BofA US High Yield Index



Secured Bonds are a Growing Part of the US High Yield Market



% of ICE BofA US High Yield Index (by Par)

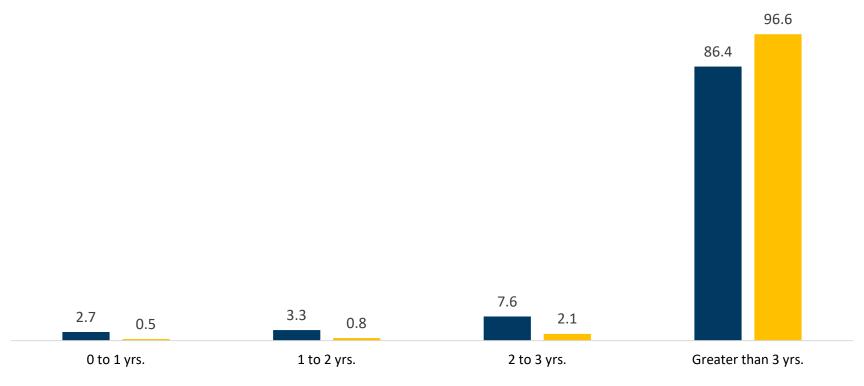


High Yield Issuers Have Termed Out Debt



% of US HY Market Maturing - by Par Value

■ ICE BofA US HY Index ■ B3 & CCC -rated

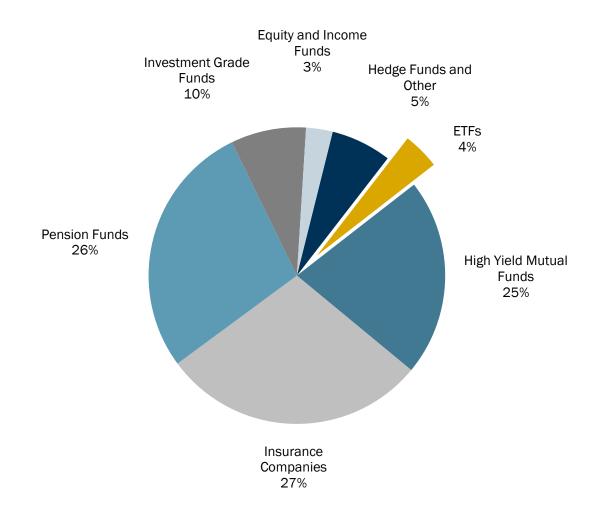


Years to Maturity

High Yield Investor Base Is Diverse and Unleveraged



High Yield Investor Base 2021



Appendix



State of Colorado Public School Fund



Investment Guidelines

Objective/Reference Benchmark

The objective of this portfolio is to provide high yield fixed income exposure benchmarked against the Bloomberg US Corporate High Yield Index and to invest assets in a manner that complies with the INVESTMENT BOARD's Investment Policy Statement, the Uniform Prudent Investor Act (§ 15-1.1-101, et seq., C.R.S.), Colorado statues and constitutional provisions governing the Fund (§ 22-41-101, et seq., C.R.S. & Colorado Constitution art. IX, § 3).

Realized Gain/Loss

The Contractor will coordinate with the PSPF Portfolio Administrator, Investment Consultant, Colorado Treasurer's Office, and other third party service providers to aggregate and monitor realized and unrealized gains and losses to ensure that net realized losses are minimized and, when they do occur, immediately coordinate efforts to activate plans to offset such losses with realized gains from other aspects of the Fund, in order to ensure compliance with § 22-41-102 and 104, C.R.S.

Earned Income

Earned income, not including capital gains, on the portfolio shall be swept from the account on a monthly basis. Sufficient liquidity must be maintained to ensure that all operational requirements are met and that the overall quality and marketability of the portfolio is maintained.

Credit Quality Guidelines

Invest in a diversified portfolio of high yield debt securities which are primarily in the lower rating categories of recognized rating agencies:

Moody's: Baa1 to Caa3 or S&P: BBB+ to CCC-

For temporary defensive and cash management purposes, the portfolio may invest in cash and debt securities (including cash equivalents) rated A- or higher.

Ratings for compliance purposes will be calculated on the middle rating of the available ratings by S&P, Moody's, and Fitch. If only two of the three agencies are available, the lower rating will be used (Bloomberg Rating Methodology). These ratings will be applied to both the portfolio and the benchmark.

Permitted Investments

Debt securities in which the portfolio may invest include all types of debt obligations such as bonds, debentures, notes, bank debt, bank loan participations, commercial paper and US Government securities (including obligations, such as repurchase agreements, secured by such instruments).

Convertible bonds are considered as fixed income hybrids whose properties more closely resemble bonds subject to the limit below.

The portfolio may not hold single name common stock or preferred stock.

The portfolio may invest in public and private placement securities, including Rule 144As with and without registration rights.

The portfolio may invest in securities of non-US issuers if they are denominated in US dollars.



Investment Guidelines (continued)

Concentration Limits

Unrated securities must be considered to be of comparable quality by MacKay Shields and would not comprise more than 15% of the portfolio.

Securities rated CCC+ or below or of comparable quality will not exceed the greater of 1.5x the Index weight or 15% of the portfolio.

Foreign Securities will not exceed the greater of 2.0 times the Index weight or 25% of the portfolio. Emerging market securities, defined as those in which the issuer has a Country of Risk that is not included in the Developed Market countries list by the Bloomberg Indices, will not exceed 10% of the portfolio. Foreign Securities will be identified by the issuer's Country of Risk as defined by Bloomberg.

The portfolio may hold up to 5% in hybrid securities as described above.

The portfolio may participate, purchase, obtain, or exchange for a security (except for common stock and preferred stock) as part of a corporate action, reorganization, or workout.

The maximum holding for any single issuer will be 4% of the portfolio at the time of purchase (excluding government and agency issuers).

The maximum exposure to a single industry (measured on a Bloomberg Level 4 basis) will be the greater of 10% the portfolio's market value or 1.5x the Index weight.

Compliance

If the portfolio is not in full compliance with (i) the Contract, (ii) the Statement of Work, (iii) the Investment Policy Statement for the INVESTMENT BOARD and (iv) these Investment Guidelines, the Contractor shall immediately notify the Chair of the INVESTMENT BOARD, the INVESTMENT BOARD's administrator, and investment consultant and provide plans to move into compliance. The Contractor shall work with the notified parties to establish a reasonable timeline for getting into compliance, keeping in mind the best interests of the Fund.





High Yield Team

Andrew Susser

Executive Managing Director Head of High Yield

Andrew Susser is an Executive Managing Director and Head of High Yield, responsible for the group's implementation of its investment process. Prior to joining MacKay Shields in 2006, he was a Portfolio Manager with GoldenTree Asset Management. Previously, he was a Managing Director and Head of High Yield Bond Research at Banc of America Securities covering the gaming, lodging and leisure sectors. From 1999 to 2004, Andrew was named to the Institutional Investor All-America Fixed Income Research Team; from 2002 to 2004, he was ranked by Institutional Investor as the No. 1 analyst in the high yield sector. Andrew also worked as a Fixed Income Analyst for Salomon Brothers, as a Senior Analyst at Moody's Investors Service and as a Market Analyst and Institutional Trading Liaison for Merrill Lynch Capital Markets. He began his career as a Corporate Finance and M&A Attorney at Shearman & Sterling in their New York office.

Andrew received a BA from Vassar College, an MBA from the Wharton Graduate School of Business and a JD from the University of Pennsylvania Law School. He has been working in the investment industry since 1986.

Ryan Bailes, CFA

Managing Director

Ryan Bailes is a Managing Director on the High Yield Team, where he follows the healthcare and home building. Prior to joining MacKay Shields in 2015, he was an Executive Director at Nomura Corporate Research and Asset Management where his research focus over time included the healthcare, forest products and home building sectors. Previously, Ryan was a Vice President at Banc of America Securities where he was ranked #3 in Institutional Investor Magazines' 2005 All American High Yield Fixed Income Research poll in the Metals and Mining sector. Ryan also worked as an analyst at Duma Capital and ING Barings Furman Selz.

Ryan received a BS from the University of Kansas and is a CFA Charterholder. He has been working in the investment industry since 1996.

Dohyun Cha, CFA

Managing Director

Dohyun Cha is a Managing Director on the High Yield Team, where he follows the energy sector. Prior to joining MacKay Shields in 2006, he was a Vice President at Credit Suisse, where he was an equity analyst covering the basic materials sector. Previously, he was a Financial Analyst in the Investment Banking Division of CIBC World Markets.

Dohyun received a BS from Boston College and is a CFA Charterholder. He has been working in the investment industry since 1997.

Institutional Investor Award Disclosures

For more than 30 years, Institutional Investor has recognized people and firms in the financial service industry for excellence. Institutional Investor Research is the premier source of survey-based rankings, identifying top analysts covering equity and fixed-income markets in the United States, Europe, Asia, Japan and Latin America. Awards are determined by Institutional Investor using a proprietary methodology which incorporates polling leading asset management firms from around the world which are listed in Institutional Investor's proprietary database. Both individual-based rankings and team rankings are determined solely by numerical score. For additional information about Institutional Investor's rankings and awards, please visit: https://www.institutionalinvestor.com/Research-FAQs#6. Receipt of any award is not indicative of future performance and no representation is being made by MacKay Shields LLC at the time the awards were received.

The analysts were not employed by MacKay Shields LLC at the time the awards were received.



High Yield Team

Won Choi, CFA

Managing Director

Won Choi is a Managing Director on the High Yield Team, where he follows the financials and metals & mining sectors. He is also the Team's ESG Coordinator. Prior to joining MacKay Shields in 2002, he was an Associate at Fenway Partners, Inc, a middle market private equity firm. Previously, he was a Financial Analyst in the Investment Banking Division of Salomon Smith Barney.

Won received a BA from Yale University and is a CFA Charterholder. He has been working in the investment industry since 1997.

Nate Hudson, CFA

Managing Director

Nate Hudson is a Managing Director on the High Yield Team, where he follows the automotive and services sectors. Prior to joining MacKay Shields in 2008, he was a Senior Analyst of High Yield Credit in Strategic Capital's (White Ridge Advisors) proprietary investment group at Banc of America Securities. Previously, he was a sell-side High Yield Analyst at Banc of America Securities and a High Yield Credit Analyst at Nomura Corporate Research & Asset Management (NCRAM).

Nate received a BA from Yale University and is a CFA Charterholder. He has been working in the investment industry since 1991.

Maureen O'Callaghan

Managing Director

Maureen O'Callaghan is a Managing Director on the High Yield Team, where she follows the telecommunications and media sectors. Prior to joining MacKay Shields in 2019, she was a senior global credit analyst and partner at Stone Harbor Investment Partners since the firm's inception in 2006, managing telecom, media and technology (TMT) investments across global high yield, leveraged loans, and emerging market debt, as well as domestic housing and building materials investments. Maureen was a Managing Director and high yield credit analyst covering TMT and gaming at Citigroup Asset Management and Salomon Brothers Asset Management prior to the team's founding of Stone Harbor.

Maureen received a BS and an MBA in Finance from Fordham. She has been working in the investment industry since 1987.



High Yield Team	
Thomas Metcalf, CFA Managing Director	Tom Metcalf is a Managing Director on the High Yield Team, where he follows the retail, consumer/food, and leisure sectors. Prior to joining MacKay Shields in 2011, he was a Content Publisher at iO Global Ltd. Tom received a BS and an MS from the University of Durham and is a CFA charterholder. He has been working in the investment industry since 2011.
John Pace, CFA Director	John Pace is a Director on the High Yield Team, where he follows the airlines, building products, gaming, manufacturing, and paper sectors. Prior to joining MacKay Shields in 2021, John was a Partner at Stone Harbor Investment Partners and credit analyst within their Global High Yield and Leveraged Loan Team. Most recently, John served as a Director and credit analyst at Symetra Investment Management.
	John earned a MBA from the University of Chicago and a BA from Kenyon College. He is a CFA Charterholder and has been in the investment management industry since 1997.
Parul Miglani Director	Parul Miglani is a Director on the High Yield Team, where she follows the aerospace/defense, chemicals, and technology sectors. Prior to joining MacKay Shields in 2021, Parul was a Senior Credit Analyst at Muzinich & Co. for the firm's high yield, leveraged loans, and hedge fund strategies. Prior to Muzinich, she was a Senior Analyst at H.I.G. Bayside Capital focusing on stressed and distressed investments across the capital structure. Prior to H.I.G Bayside, she worked as an Associate in Leveraged Finance at Lehman Brothers (now Barclays Capital).
	Parul earned a BS from the University of Mumbai and a MBA from Columbia University. She has been working in the investment industry since 2006.
Richard Lee, CFA Associate Director	Richard Lee is an Associate Director on the High Yield Team where he follows the utilities sector. Prior to joining MacKay Shields in 2014, Richard was an Equity Derivatives intern at GFI Group. Richard received a BS in finance and accounting from Georgetown University's McDonough School of Business.
May Wong, CFA Associate Director	May Wong is an Associate Director and generalist analyst on the High Yield Team. Prior to joining Mackay Shields, May was a Reconciliation Associate and worked on system analysis for client and product onboarding in Middle Office Solutions at BNY Mellon.
	May received a BA in Economics from Columbia University. She is a CFA Charterholder and has been working in the investment industry since 2014.



High Yield Team	
Gabriela Pérez, CFA Director	Gabriela Pérez is a generalist analyst on the High Yield Team. Gabriela joined the firm in 2015 and previously served as a member of the firm's Client Service group and Investment Operations. Prior to joining MacKay Shields, Gabriela was an accountant at Nardello & Co.
	Gabriela received a BA in Classical Philology from Bard College and an MBA in Financial Management from Pace University. She is a CFA Charterholder and has been in the investment industry since 2015.
Riley Osborn Associate	Riley Osborn is a generalist analyst on the High Yield Team. Riley received a BA in economics and minor in computer science from the University of Chicago.
J. Alex Leites Managing Director	Alex Leites is a Managing Director and trader on the High Yield Team. Prior to joining MacKay Shields in 2002, he was a Settlements Specialist at Credit Suisse First Boston. He previously worked at Kinexus, Inc., Bank of New York, Lazard Asset Management and Prudential Securities.
	Alex received a BS from New York University's Stern School of Business and has been in the investment industry since 1993.
Scott D. Mallek	Scott Mallek is a Managing Director and trader on the High Yield Team. Prior to joining MacKay Shields in 2002, he was an Assistant Vice President involved with IFG High Yield Trading at Salomon Smith Barney.
Managing Director	Scott received a BA from Fairfield University and has been working in the investment industry since 1996.
Debbie Boadu Associate	Debbie Boadu is a trading assistant on the High Yield Team. She received her Masters in Public Health Administration from Fairleigh Dickinson University and has been working in the investment industry since 2019.
Joseph A. Maietta, CFA Managing Director	Joseph Maietta is a Managing Director and client portfolio manager on the High Yield Team. Prior to joining MacKay Shields in 2014, he was a Senior Associate in the Institutional Client Management Group at PIMCO and was previously an Associate in the Investment Analytics and Consulting area at JPMorgan Chase & Co.
	He earned a B.S. in Finance from Hofstra University Honors College and holds a dual M.S. in Global Finance from New York University's Leonard N. Stern School of Business and Hong Kong University of Science and Technology. He is a CFA Charterholder and has been in the investment management industry since 2008.



Marketing & Client Service

Beth Griper

Managing Director Head of Client Relations Beth serves as the Head of Client Relations, where she is responsible for managing the firm's day-to-day relationships with clients, consultants and private fund investors. Beth is also Co-Head of ESG, Integration and Operations where she leads the firm's efforts in ESG Integration and Operations, ensuring comprehensive understanding and execution of ESG-related client mandates as well as efficient assimilation of ESG processes throughout MacKay's business. Beth joined MacKay Shields in 2007 as a Director in the Institutional Client Service Division. Prior to joining MacKay Shields, she was a Director within the Global Corporate Client Group at NYSE Euronext. Beth also spent six years with Zurich Financial Services Group as a Business Development Analyst working with institutional and high net worth clients. Prior to that, Beth was with Credit Suisse First Boston and Shearman & Sterling. She received an MBA in Finance and Economics from New York University's Leonard N. Stern School of Business and a BA in International Relations and German from Bucknell University. Beth's career in the financial service industry began in 1996.

Therese M. Hernandez

Managing Director Institutional Business Development Therese joined MacKay Shields as a Director of Institutional Business Development in 2000 and was promoted to Managing Director in 2007. Her primary area of responsibility is marketing the firm's capabilities to the Public Fund community. Prior to joining MacKay Shields, Therese was Vice President of Public Fund Sales at MFS Institutional Management. She was previously with Norwest as a Vice President of Sales and New Business Development and earlier in her career was with Northern Trust Company as an Assistant Vice President providing relationship management to endowment and foundation clients. Therese began her career with the Chicago Board of Trade as a clerk and trade checker. She attended the University of Alabama for two years, before transferring to the University of Denver where she earned her BSBA in Finance. Therese earned an athletic scholarship during her collegiate career. She has been in the industry since 1989.

Mary Ellen Sadim

Director Client Service Representative Mary Ellen joined MacKay Shields in 2009 as an Associate Director and Portfolio Analyst in the High Yield Active Core Division. In July 2011, Mary Ellen moved into our Client Service division as a Client Representative focusing on Global Fixed Income clients while supporting our Product Specialists. She was previously a Director at AG Asset Management, formerly ForstmannLeff. Mary Ellen originally joined ForstmannLeff in 1997 as part of the ForstmannLeff lift-out of the UBS Fixed Income Group. The UBS Fixed Income Group contained the same senior level individuals who currently comprise the High Yield Active Core team at MacKay Shields. Over her career, she has been responsible for performance analysis, money market analysis, client relationships, and has also been a high yield account assistant. Mary Ellen received a B.B.A. in Finance from Cleveland State University and has been in the investment industry since 1987.



Marketing & Client Service

Alexandria Jonke

Analyst Client Service Representative Alexandria joined MacKay Shields in March of 2022. Prior to joining the firm, she was with Bose Corporation on their Data Enablement Team, where she helped support their data literacy and governance practices, and with Deloitte, where she worked with their technology consulting team. Alexandria received her B.S. in Management with a concentration in Supply Chain and Operations, and a double minor in Information and Process Management, and Psychology from Bentley University and has been in the investment industry since 2022.

High Yield Portfolio







Summary Report — Account 808

	Market Value	Percent of Assets
Automotive	3,969,908.97	3.73
Basic Industry	10,805,153.32	10.14
Capital Goods	4,062,444.19	3.81
Consumer Goods	3,202,865.57	3.01
Energy	12,789,749.23	12.01
Financial Services	5,523,703.41	5.19
Healthcare	11,997,002.04	11.26
Insurance	1,477,833.64	1.39
Leisure	8,856,455.13	8.31
Media	7,525,382.04	7.06
Real Estate	3,967,503.18	3.72
Retail	7,035,588.67	6.61
Services	5,003,727.88	4.70
Technology & Electronics	5,499,033.79	5.16
Telecommunications	3,755,917.24	3.53
Transportation	2,393,099.46	2.25
Utility	2,422,718.85	2.27
Cash & Equivalents	6,228,681.05	5.85
Accrual Adjustment for Unsettled Trades	7	0.00
Total Portfolio	\$106,516,775	100.00%



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Automotive - Au	to Loans											
345397A78	200	Ford Motor Credit Co LLC	3.370	11/17/23	BB+	Ba2	99.99	96.52	196,109	0.18	6.88	0.99
345397WW9	300	Ford Motor Credit Co LLC	3.664	09/08/24	BB+	Ba2	99.25	94.79	285,990	0.27	6.70	1.74
345397B77	200	Ford Motor Credit Co LLC	2.700	08/10/26	BB+	Ba2	100.00	86.65	174,511	0.16	6.76	3.46
345397A86	200	Ford Motor Credit Co LLC	4.125	08/17/27	BB+	Ba2	100.00	88.81	179,306	0.17	6.91	4.18
			3.493	07/12/25	BB+	Ba2			835,916	0.78	6.80	2.45
Automotive - Au	to Parts & Eq	uipment										
00687YAA3	325	Adient Global Holdings Ltd 144A	4.875	08/15/26	BB-	В3	94.81	89.50	294,220	0.28	8.15	3.31
24229JAA1	253	Dealer Tire LLC / DT Issuer LLC 144A	8.000	02/01/28	CCC	Caa1	103.85	87.46	226,334	0.21	11.22	4.00
382550BN0	150	Goodyear Tire & Rubber Co/The	5.000	07/15/29	BB-	Ba3*	100.74	86.72	132,281	0.12	7.56	5.40
80627DAC0	741	IHO Verwaltungs GmbH 144A	4.750	09/15/26	BB-	Ba2	102.68	84.21	640,239	0.60	9.74	3.30
44963BAE8	450	IHO Verwaltungs GmbH 144A	6.000	05/15/27	BB-	Ba2	104.80	85.88	398,888	0.37	9.94	3.68
44963BAD0	421	IHO Verwaltungs GmbH 144A	6.375	05/15/29	BB-	Ba2	100.88	85.33	371,628	0.35	9.43	4.93
75602BAA7	463	Real Hero Merger Sub 2 Inc 144A	6.250	02/01/29	CCC	Caa2	102.67	71.69	339,171	0.32	13.00	4.65
BL3540798	296	TRUCK HERO INC TL B	7.254	02/24/28	B-	B2	99.27	85.78	254,160	0.24	11.22	0.25
			5.899	11/13/27	B+	B1		-	2,656,919	2.49	10.13	3.63
Automotive - Au	tomakers											
345277AE7	100	Ford Holdings LLC	9.300	03/01/30	BB+	Ba2	120.16	112.00	113,550	0.11	7.16	5.33
345370DB3	85	Ford Motor Co	6.100	08/19/32	BB+	Ba2	100.00	91.53	78,838	0.07	7.32	7.05
974637AC4	300	Winnebago Industries Inc 144A	6.250	07/15/28	BB+	Ba3	102.78	93.06	284,687	0.27	7.78	4.58
			6.951	08/07/29	BB+	ВаЗ		•	477,075	0.45	7.56	5.17
			5.519	08/01/27	BB-	Ba3	_	-	\$3,969,909	3.73%	9.12	3.57
Basic Industry -	Building & Co	nstruction										
00623PAA9	450	Adams Homes Inc 144A	7.500	02/15/25	B+	B2	104.30	80.90	371,195	0.35	17.94	1.93
156504AM4	300	Century Communities Inc 144A	3.875	08/15/29	BB-	Ba2	97.65	78.75	238,716	0.22	7.99	5.63
390607AF6	225	Great Lakes Dredge & Dock Corp 144A	5.250	06/01/29	В	B2	99.00	79.08	182,844	0.17	9.61	5.12
45780RAA9	275	Installed Building Products Inc 144A	5.750	02/01/28	B+	B1	102.63	88.38	246,984	0.23	8.54	4.30

^{*}MacKay Shields' in-house rating for "NR" rated security.





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Basic Industry -	Building & Co	onstruction (Continued)										
55305BAS0	100	M/I Homes Inc	4.950	02/01/28	BB-	Ba2	101.38	85.80	87,037	0.08	8.34	4.39
55305BAV3	100	M/I Homes Inc	3.950	02/15/30	BB-	Ba2	100.00	74.26	75,093	0.07	8.81	5.90
59001ABD3	250	Meritage Homes Corp 144A	3.875	04/15/29	BB+	Ba1	98.94	80.37	201,356	0.19	7.80	5.45
82088KAE8	350	Shea Homes LP / Shea Homes Funding 144A	4.750	02/15/28	BB-	Ba3	101.21	84.35	298,731	0.28	8.48	4.44
82088KAG3	150	Shea Homes LP / Shea Homes Funding 144A	4.750	04/01/29	BB-	ВаЗ	101.00	81.52	122,877	0.12	8.55	5.25
89055FAC7	170	TopBuild Corp 144A	4.125	02/15/32	BB+	Ba2	100.00	78.30	134,586	0.13	7.39	7.22
948565AD8	225	Weekley Homes LLC / Weekley Financ 144A	4.875	09/15/28	BB-	Ba3	98.98	80.55	182,630	0.17	9.24	4.82
			5.156	06/02/28	BB-	ВаЗ	_	-	2,142,047	2.01	10.11	4.58
Basic Industry -	Building Mate	erials										
00790RAA2	379	Advanced Drainage Systems Inc 144A	5.000	09/30/27	BB-	Ba2	104.78	92.72	353,056	0.33	6.76	4.23
00790RAB0	130	Advanced Drainage Systems Inc 144A	6.375	06/15/30	BB-	Ba2	100.90	96.64	128,900	0.12	6.95	5.77
12008RAR8	120	Builders FirstSource Inc 144A	6.375	06/15/32	BB-	Ba2	100.00	91.97	113,254	0.11	7.56	6.78
458665AS5	230	Interface Inc 144A	5.500	12/01/28	B+	B1	103.54	78.91	186,755	0.18	10.24	4.74
47032FAB5	450	James Hardie International Finance 144A	5.000	01/15/28	BB+	Ba1	105.98	90.44	413,590	0.39	7.24	4.38
644274AH5	100	New Enterprise Stone & Lime Co Inc 144A	5.250	07/15/28	B+	B2	100.00	87.00	88,546	0.08	8.14	4.67
69336VAB7	305	PGT Innovations Inc 144A	4.375	10/01/29	B+	B1	99.41	82.94	254,064	0.24	7.59	5.70
86614RAN7	300	Summit Materials LLC / Summit Mate 144A	5.250	01/15/29	BB	Ba3	98.18	91.32	278,601	0.26	7.00	5.07
			5.198	12/07/28	BB-	Ba3	_	-	1,816,764	1.71	7.51	4.94
Basic Industry -	Chemicals											
90473LAA0	240	ASP Unifrax Holdings Inc 144A	5.250	09/30/28	B-	B2	98.57	79.48	191,825	0.18	9.92	4.78
90473LAC6	215	ASP Unifrax Holdings Inc 144A	7.500	09/30/29	CCC+	Caa2	96.32	67.00	145,439	0.14	15.42	4.74
73179PAM8	230	Avient Corp 144A	5.750	05/15/25	BB-	ВаЗ	103.65	97.89	231,250	0.22	6.66	2.26
05368VAA4	120	Avient Corp 144A	7.125	08/01/30	BB-	Ba3	98.79	95.63	116,676	0.11	7.89	5.72
20451NAE1	115	Compass Minerals International Inc 144A	4.875	07/15/24	B+	B1	103.18	94.76	110,621	0.10	8.23	1.57
20451NAG6	425	Compass Minerals International Inc 144A	6.750	12/01/27	B+	B1	106.78	94.07	411,762	0.39	8.20	4.07
12663QAC9	60	CVR Partners LP / CVR Nitrogen Fin 144A	6.125	06/15/28	B+	B1	100.00	90.48	55,674	0.05	8.27	4.49



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Basic Industry -	Chemicals (C	ontinued)										
45774NAB4	300	Innophos Holdings Inc 144A	9.375	02/15/28	B-	Caa1	105.35	95.21	291,556	0.27	10.57	3.97
46272EAA1	265	Iris Holdings Inc 144A	8.750	02/15/26	CCC+	Caa1	101.27	87.93	237,912	0.22	12.75	3.10
500605AH3	320	Koppers Inc 144A	6.000	02/15/25	B+	B1	102.46	89.50	290,453	0.27	11.32	2.02
502160AN4	335	LSB Industries Inc 144A	6.250	10/15/28	В	B2	99.09	90.79	305,074	0.29	8.24	4.66
66977WAR0	310	NOVA Chemicals Corp 144A	5.250	06/01/27	BB	Ba3	99.49	89.26	283,481	0.27	8.10	3.85
78433BAA6	190	SCIH Salt Holdings Inc 144A	4.875	05/01/28	В	В3	99.91	86.80	169,550	0.16	7.88	4.65
78433BAB4	255	SCIH Salt Holdings Inc 144A	6.625	05/01/29	CCC+	Caa2	97.67	80.26	213,121	0.20	10.95	4.96
78397UAA8	200	SCIL IV LLC / SCIL USA Holdings LL 144A	5.375	11/01/26	BB-	B1	100.30	79.49	164,361	0.15	11.98	3.40
29977LAA9	350	SK Invictus Intermediate II Sarl 144A	5.000	10/30/29	B*	B2	98.52	81.79	286,303	0.27	8.51	5.62
Basic Industry -	Forestry/Pap	er	6.398	10/09/27	В	B2			3,505,058	3.29	9.60	3.97
377320AA4	115	Glatfelter Corp 144A	4.750	11/15/29	CCC	B2	100.00	64.38	76,550	0.07	12.51	5.25
BL3557263	99	MATIV HOLDINGS I TL B	7.563	05/06/29	BB-	Ba2	98.94	93.00	91,858	0.09	10.00	0.25
588056AW1	100	Mercer International Inc	5.500	01/15/26	B+	Ba3	102.63	93.69	95,305	0.09	7.76	2.82
588056BB6	450	Mercer International Inc	5.125	02/01/29	B+	ВаЗ	99.74	82.13	375,328	0.35	8.91	5.02
			5.486	10/05/28	B+	ВаЗ		_	639,041	0.60	9.33	4.03
Basic Industry -	Metals/Minin	g Excluding Steel										
156431AN8	320	Century Aluminum Co 144A	7.500	04/01/28	В	Caa1	100.80	85.80	276,547	0.26	11.05	4.20
21039CAB0	250	Constellium SE 144A	3.750	04/15/29	B+	B2	95.68	78.20	195,917	0.18	8.16	5.45
21979LAA4	94	Coronado Finance Pty Ltd 144A	10.750	05/15/26	BB-	B1	104.87	104.13	102,537	0.10	8.90	2.10
450913AF5	351	IAMGOLD Corp 144A	5.750	10/15/28	CCC+	Caa1	83.32	67.00	236,067	0.22	14.13	4.56
603051AA1	590	Mineral Resources Ltd 144A	8.125	05/01/27	BB-*	ВаЗ	110.37	99.50	611,019	0.57	8.26	3.70
603051AC7	125	Mineral Resources Ltd 144A	8.000	11/01/27	BB-*	Ba3	100.00	98.37	127,936	0.12	8.41	4.04
670001AG1	350	Novelis Corp 144A	3.250	11/15/26	BB	Ba3	99.70	87.52	311,578	0.29	6.84	3.61
670001AE6	350	Novelis Corp 144A	4.750	01/30/30	ВВ	ВаЗ	102.91	84.95	301,543	0.28	7.47	5.81

^{*}MacKay Shields' in-house rating for "NR" rated security.





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Dania Industry	Matala /Minis	or Evaluating Chapt (Continued)										
670001AH9	- Metals/Minir 325	ng Excluding Steel (Continued) Novelis Corp 144A	3.875	08/15/31	BB	Ba3	99.93	77.47	254,439	0.24	7.41	6.99
070001AH9	323	Novells corp 144A	6.075	06/15/31	BB-	B1	_ 33.33		2,417,583	2.27	8.81	4.53
Basic Industry	Ctool Droduo	ore /Draduate	0.073	00/10/28	-טט	DI			2,417,303	2.21	0.01	4.55
08949LAB6	- Steel Produc 120	Big River Steel LLC / BRS Finance 144A	6.625	01/31/29	BB-	Ba2	100.00	94.05	114,864	0.11	7.85	4.90
		,		, ,					,			
92537VAA8	200	TK Elevator Holdco GmbH 144A	7.625	07/15/28	CCC+	Caa1	91.38	82.65	169,795	0.16	11.89	4.24
			7.222	10/03/28		B2	_	_	284,659	0.27	10.26	4.51
			5.846	05/01/28	B+	B1			\$10,805,153	10.14%	9.17	4.40
Capital Goods	- Aerospace/D	efense										
69356MAA4	75	PM General Purchaser LLC 144A	9.500	10/01/28	B-	В3	85.00	85.97	67,447	0.06	12.97	4.08
77578JAC2	75	Rolls-Royce PLC 144A	5.750	10/15/27	BB-	Ba3	106.75	90.50	68,064	0.06	8.12	4.17
893647BH9	55	TransDigm Inc	7.500	03/15/27	B-	В3	105.38	98.54	54,723	0.05	7.90	3.63
893647BP1	400	TransDigm Inc	4.625	01/15/29	B-	В3	98.70	85.15	346,059	0.32	7.68	5.11
893647BQ9	400	TransDigm Inc	4.875	05/01/29	B-	В3	98.67	85.03	349,852	0.33	7.86	5.35
893647BE6	735	TransDigm Inc 144A	6.250	03/15/26	B+	Ba3	104.56	98.64	730,881	0.69	6.70	2.97
			5.762	09/10/27	В	B2	_	_	1,617,027	1.52	7.52	4.06
Capital Goods	- Diversified Ca	apital Goods										
29355XAG2	130	EnPro Industries Inc	5.750	10/15/26	BB	B2	105.50	95.50	124,482	0.12	7.07	3.45
703343AC7	200	Patrick Industries Inc 144A	7.500	10/15/27	BB-	В3	109.89	91.62	183,901	0.17	9.67	3.98
703343AD5	100	Patrick Industries Inc 144A	4.750	05/01/29	BB-	В3	96.80	75.50	77,875	0.07	9.96	5.25
86024TAA5	275	Stevens Holding Co Inc 144A	6.125	10/01/26	BB-	ВаЗ	107.69	100.13	276,761	0.26	6.07	2.62
			6.275	05/07/27	BB-	B2		_	663,019	0.62	7.71	3.46
Capital Goods	- Machinery											
032177AH0	325	Amsted Industries Inc 144A	5.625	07/01/27	BB	ВаЗ	104.87	92.50	306,719	0.29	7.56	3.92
431571AB4	130	Hillenbrand Inc	5.000	09/15/26	BB+	Ba1	111.47	94.15	123,224	0.12	6.74	3.42
730481AJ7	550	JB Poindexter & Co Inc 144A	7.125	04/15/26	B+	B2	103.13	95.32	526,018	0.49	8.72	2.97





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Capital Goods -	Machinery (C	ontinued)										
880779BA0	65	Terex Corp 144A	5.000	05/15/29	BB-	B2	100.00	89.21	59,482	0.06	7.09	5.27
92537RAA7	400	TK Elevator US Newco Inc 144A	5.250	07/15/27	B+	B1	103.79	89.63	364,683	0.34	7.93	3.97
			6.015	01/20/27	BB-	B1			1,380,126	1.30	8.01	3.58
Capital Goods -	Packaging											
14739LAB8	400	Cascades Inc/Cascades USA Inc 144A	5.375	01/15/28	BB-	ВаЗ	104.25	85.53	348,431	0.33	8.91	4.28
36120RAA7	60	FXI Holdings Inc 144A	7.875	11/01/24	B-	Caa2	87.50	85.80	53,841	0.05	16.50	1.74
			5.710	08/11/27	BB-	B1	_	-	402,272	0.38	9.93	3.94
			5.926	05/31/27	B+	B1	-	-	\$4,062,444	3.81%	7.96	3.79
Consumer Goo	ds - Beverage											
74168LAA4	240	Primo Water Holdings Inc 144A	4.375	04/30/29	В	B1	99.52	83.79	201,118	0.19	7.58	5.43
			4.375	04/30/29	В	B1	-	-	201,118	0.19	7.58	5.43
Consumer Goo	ds - Food - Wh	olesale										
05508RAE6	200	B&G Foods Inc	5.250	04/01/25	CCC+	В3	103.38	90.88	182,629	0.17	9.56	2.18
BL3159334	100	B&G FOODS INC TL B4	6.254	10/10/26	B+	Ba2	98.94	93.97	93,986	0.09	8.80	0.25
07831CAA1	195	BellRing Brands Inc 144A	7.000	03/15/30	В	В3	100.02	94.43	185,883	0.17	8.01	5.56
50076QAN6	160	Kraft Heinz Foods Co	6.500	02/09/40	BBB-	Baa3	127.70	100.93	163,855	0.15	6.41	10.18
513272AC8	150	Lamb Weston Holdings Inc 144A	4.875	05/15/28	BB+	ВаЗ	108.58	92.96	142,807	0.13	6.41	4.63
82873MAA1	250	Simmons Foods Inc/Simmons Prepared 144A	4.625	03/01/29	В	В3	97.96	83.44	210,535	0.20	8.01	5.22
89469AAD6	165	TreeHouse Foods Inc	4.000	09/01/28	CCC+	В3	99.95	84.38	140,319	0.13	7.34	4.98
911163AA1	273	United Natural Foods Inc 144A	6.750	10/15/28	B-	B2	99.81	96.59	264,502	0.25	7.47	4.79
			5.727	09/18/29	В	B2	_	-	1,384,515	1.30	7.74	4.95
Consumer Goo	ds - Personal a	& Household Products										
153527AM8	100	Central Garden & Pet Co	5.125	02/01/28	BB	B1	98.06	91.49	92,771	0.09	7.09	4.42
153527AN6	180	Central Garden & Pet Co	4.125	10/15/30	BB	B1	94.99	82.66	149,113	0.14	7.01	6.49
153527AP1	175	Central Garden & Pet Co 144A	4.125	04/30/31	BB	B1	96.85	83.00	145,270	0.14	6.79	6.87
28035QAA0	235	Edgewell Personal Care Co 144A	5.500	06/01/28	BB	ВаЗ	105.89	94.05	226,410	0.21	6.80	4.59





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
identinei	rai value	Security	Coupon	iviaturity	Sar	Moody	COSL	FIICE	value	UI ASSELS	1144	WSL
Consumer Good	ls - Personal &	& Household Products (Continued)										
28035QAB8	225	Edgewell Personal Care Co 144A	4.125	04/01/29	BB	Ba3	99.10	85.41	192,936	0.18	6.99	5.42
577081AY8	275	Mattel Inc	3.150	03/15/23	BB-	Ba1	98.57	98.81	272,837	0.26	6.39	0.36
577081BE1	100	Mattel Inc 144A	3.375	04/01/26	BB+	Baa3	97.40	91.21	91,493	0.09	6.27	3.14
810186AS5	100	Scotts Miracle-Gro Co/The	4.500	10/15/29	В	Ba3	72.75	81.05	81,255	0.08	8.12	5.68
810186AX4	275	Scotts Miracle-Gro Co/The	4.000	04/01/31	В	Ba3	97.63	76.61	211,594	0.20	7.85	6.72
810186AW6	200	Scotts Miracle-Gro Co/The	4.375	02/01/32	В	Ba3	92.97	75.68	153,554	0.14	8.17	7.03
			4.194	10/05/28	BB-	Ba3	_	_	1,617,232	1.52	7.09	4.83
			4.868	03/17/29	B+	B1	-	-	\$3,202,866	3.01%	7.40	4.92
Energy - Energy	- Exploration a	& Production										
04364VAG8	175	Ascent Resources Utica Holdings LL 144A	7.000	11/01/26	B+	В3	101.04	98.50	178,500	0.17	7.44	3.43
13057QAH0	125	California Resources Corp 144A	7.125	02/01/26	BB-	B2	99.83	98.08	124,828	0.12	7.80	2.80
674215AL2	175	Chord Energy Corp 144A	6.375	06/01/26	BB-	Ba3	100.00	97.69	175,606	0.16	7.11	3.06
097793AE3	100	Civitas Resources Inc 144A	5.000	10/15/26	BB-	B1	100.38	92.04	92,266	0.09	7.35	3.48
19416MAA7	175	Colgate Energy Partners III LLC 144A	7.750	02/15/26	BB-	B2	100.30	99.47	176,938	0.17	7.93	2.81
205768AS3	100	Comstock Resources Inc 144A	6.750	03/01/29	B+	B2	100.70	95.75	96,875	0.09	7.61	4.98
27034RAA1	90	Earthstone Energy Holdings LLC 144A	8.000	04/15/27	B+	В3	100.00	94.61	85,468	0.08	9.51	3.63
29254BAA5	400	Encino Acquisition Partners Holdin 144A	8.500	05/01/28	В	В3	99.58	93.69	391,756	0.37	10.02	4.25
26884LAL3	125	EQT Corp	5.000	01/15/29	BBB-	Ba1	100.00	92.90	117,960	0.11	6.40	5.13
402635AR7	720	Gulfport Energy Corp 144A	8.000	05/17/26	B+	В3	107.41	99.70	741,840	0.70	8.10	2.93
431318AU8	75	Hilcorp Energy I LP / Hilcorp Fina 144A	5.750	02/01/29	BB+	Ba3	92.50	91.50	69,703	0.07	7.47	5.02
431318AY0	100	Hilcorp Energy I LP / Hilcorp Fina 144A	6.000	04/15/30	BB+	Ba3	100.00	90.55	90,817	0.09	7.69	5.80
431318AV6	20	Hilcorp Energy I LP / Hilcorp Fina 144A	6.000	02/01/31	BB+	Ba3	100.00	90.74	18,449	0.02	7.52	6.19
431318AZ7	85	Hilcorp Energy I LP / Hilcorp Fina 144A	6.250	04/15/32	BB+	Ba3	100.00	91.72	78,201	0.07	7.49	6.89
516806AH9	175	Laredo Petroleum Inc 144A	7.750	07/31/29	B+	В3	97.96	95.00	169,678	0.16	8.74	5.02
576485AE6	425	Matador Resources Co	5.875	09/15/26	BB-	B1	101.98	98.25	420,753	0.40	6.39	3.38
674599EB7	100	Occidental Petroleum Corp	5.875	09/01/25	BB+	Ba1	100.00	100.75	101,729	0.10	5.56	2.35



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
_												
		& Production (Continued)	- 4-0	0= /4= /00		- 1		101.00	070.000		0 = 4	4.00
674599DR3	265	Occidental Petroleum Corp	7.150	05/15/28	BB+	Ba1	98.50	101.98	278,989	0.26	6.71	4.39
674599EC5	150	Occidental Petroleum Corp	6.375	09/01/28	BB+	Ba1	100.00	101.50	153,838	0.14	6.04	4.43
674599DF9	100	Occidental Petroleum Corp	6.450	09/15/36	BB+	Ba1	91.25	99.20	100,022	0.09	6.54	8.98
69327RAJ0	225	PDC Energy Inc	5.750	05/15/26	BB	Ba3	102.92	95.87	221,664	0.21	7.09	3.05
15138AAA8	300	Permian Resources Operating LLC 144A	5.375	01/15/26	BB-	B2	94.19	92.38	281,873	0.26	8.12	2.81
15138AAC4	100	Permian Resources Operating LLC 144A	6.875	04/01/27	BB-	B2	71.15	97.00	97,573	0.09	7.69	3.71
75281ABK4	70	Range Resources Corp 144A	4.750	02/15/30	BB	Ba3	100.00	88.40	62,583	0.06	6.79	5.90
70789PAA2	125	ROCC Holdings LLC 144A	9.250	08/15/26	B+	B1*	98.10	98.65	125,757	0.12	9.68	3.07
77289KAA3	395	Rockcliff Energy II LLC 144A	5.500	10/15/29	B+	В3	96.90	89.06	352,764	0.33	7.55	5.57
845467AL3	14	Southwestern Energy Co	5.950	01/23/25	BB+	Ba2	92.50	98.28	13,985	0.01	6.54	2.03
845467AP4	150	Southwestern Energy Co	8.375	09/15/28	BB+	Ba2	100.00	103.44	156,764	0.15	7.33	3.24
845467AS8	140	Southwestern Energy Co	5.375	03/15/30	BB+	Ba2	100.00	92.50	130,462	0.12	6.68	5.89
87485LAC8	600	Talos Production Inc	12.000	01/15/26	B+	В3	95.34	106.05	657,470	0.62	8.90	1.87
92763MAA3	100	Viper Energy Partners LP 144A	5.375	11/01/27	BBB-	B1	104.75	94.06	96,745	0.09	6.80	4.28
			7.370	08/18/27	BB-	B1	_	_	5,861,855	5.50	7.77	3.74
Energy - Gas Dis	stribution											
03690AAD8	100	Antero Midstream Partners LP / Ant 144A	5.750	03/01/27	BB	Ba3	101.88	95.23	96,188	0.09	7.04	3.72
16411QAK7	115	Cheniere Energy Partners LP	4.000	03/01/31	BB+	Ba1	100.00	84.31	97,721	0.09	6.46	6.77
12654AAA9	100	CNX Midstream Partners LP 144A	4.750	04/15/30	BB	B1	100.00	82.25	82,461	0.08	7.95	5.97
67421QAA0	75	Crestwood Midstream Partners LP / 144A	8.000	04/01/29	BB	ВаЗ	100.00	100.00	75,500	0.07	8.00	2.92
23345MAA5	100	DT Midstream Inc 144A	4.125	06/15/29	BB+	Ba2	94.92	86.45	88,008	0.08	6.69	5.51
23345MAB3	150	DT Midstream Inc 144A	4.375	06/15/31	BB+	Ba2	97.59	84.25	128,854	0.12	6.82	6.76
292480AH3	100	Energy Transfer LP	3.900	05/15/24	BBB-	Baa3	98.75	97.16	98,955	0.09	5.86	1.44
292480AL4	90	Energy Transfer LP	4.950	05/15/28	BBB-	Baa3	98.25	92.69	85,476	0.08	6.54	4.61
29336TAD2	60	EnLink Midstream LLC 144A	6.500	09/01/30	BB+	Ba1	100.00	98.25	59,611	0.06	6.79	5.97
26885BAB6	250	EOM Midstream Partners LP	4.125	12/01/26	BB-	Ba3	98.63	88.36	225,207	0.21	7.48	3.57

^{*}MacKay Shields' in-house rating for "NR" rated security.





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
identinei	rai value	Security	Coupon	waturity	Jui	Wioody	COST	FIICE	value	OI ASSELS	111	WSC
Energy - Gas Dis	stribution (Cor	itinued)										
26885BAM2	100	EQM Midstream Partners LP 144A	7.500	06/01/27	BB-	Ba3	100.00	98.75	101,750	0.10	7.83	3.70
26885BAK6	35	EQM Midstream Partners LP 144A	4.500	01/15/29	BB-	Ba3	100.00	85.00	30,214	0.03	7.57	5.13
26885BAN0	50	EQM Midstream Partners LP 144A	7.500	06/01/30	BB-	Ba3	100.00	97.25	50,125	0.05	7.99	5.50
37185LAF9	110	Genesis Energy LP / Genesis Energy Fin	5.625	06/15/24	В	B2	97.83	97.75	109,863	0.10	7.11	1.49
37185LAJ1	30	Genesis Energy LP / Genesis Energy Fin	6.500	10/01/25	В	B2	97.42	95.89	28,930	0.03	8.11	2.58
37185LAK8	225	Genesis Energy LP / Genesis Energy Fin	6.250	05/15/26	В	B2	93.18	93.57	217,014	0.20	8.39	3.00
37185LAM4	135	Genesis Energy LP / Genesis Energy Fin	8.000	01/15/27	В	B2	98.68	96.80	133,865	0.13	8.92	3.41
37185LAL6	200	Genesis Energy LP / Genesis Energy Fin	7.750	02/01/28	В	B2	96.31	95.38	194,625	0.18	8.87	4.12
BL3708148	389	GIP II BLUE HOLD TL B	8.174	09/29/28	BB-	Ba3	98.50	98.98	386,670	0.36	9.24	0.25
417558AA1	240	Harvest Midstream I LP 144A	7.500	09/01/28	BB-	B1	100.44	95.87	233,093	0.22	8.41	4.55
428102AC1	125	Hess Midstream Operations LP 144A	5.625	02/15/26	BB+	Ba2	100.83	98.08	124,081	0.12	6.28	2.92
428102AE7	130	Hess Midstream Operations LP 144A	4.250	02/15/30	BB+	Ba2	99.13	85.52	112,336	0.11	6.80	5.98
435765AJ1	60	Holly Energy Partners LP / Holly E 144A	6.375	04/15/27	BB+	Ba3	100.00	96.25	57,918	0.05	7.38	3.79
435765AH5	175	Holly Energy Partners LP / Holly E 144A	5.000	02/01/28	BB+	Ba3	100.73	90.38	160,352	0.15	7.23	4.43
45074JAA2	225	ITT Holdings LLC 144A	6.500	08/01/29	В	B2	90.83	80.35	184,445	0.17	10.65	5.03
644393AB6	100	New Fortress Energy Inc 144A	6.500	09/30/26	BB-	B1	100.00	97.00	97,560	0.09	7.39	3.37
62922LAA6	160	NGL Energy Operating LLC / NGL Ene 144A	7.500	02/01/26	B+	B1	97.56	90.46	147,742	0.14	11.06	2.72
77340RAS6	100	Rockies Express Pipeline LLC 144A	3.600	05/15/25	BB+	Ba2	96.50	93.00	94,660	0.09	6.64	2.33
77340RAT4	155	Rockies Express Pipeline LLC 144A	4.800	05/15/30	BB+	Ba2	101.65	84.50	134,406	0.13	7.53	5.91
86614WAE6	340	Summit Midstream Holdings LLC / Su 144A	8.500	10/15/26	BB-	В3	98.45	96.00	327,684	0.31	10.59	1.94
87470LAH4	300	Tallgrass Energy Partners LP / Tal 144A	7.500	10/01/25	BB-	B1	100.00	101.00	304,860	0.29	6.93	1.75
87470LAD3	150	Tallgrass Energy Partners LP / Tal 144A	5.500	01/15/28	BB-	B1	98.26	89.66	136,925	0.13	7.96	4.31
BL3759166	149	TRANSMONTAIGNE O TL B	7.031	11/17/28	BB-	B1	98.52	96.38	143,711	0.13	8.80	0.25
89376VAA8	330	TransMontaigne Partners LP / TLP Finan	6.125	02/15/26	B-	Caa1	99.98	85.50	286,417	0.27	11.54	2.80
958254AK0	130	Western Midstream Operating LP	4.750	08/15/28	BBB-	Ba1	101.80	92.25	121,229	0.11	6.37	4.89
			6.324	10/05/27	BB-	B1		-	4,958,454	4.66	8.29	3.37





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Energy - Oil Field	d Equipment &	& Services										
11040GAA1	350	Bristow Group Inc 144A	6.875	03/01/28	BB-	B1	98.39	92.56	327,977	0.31	8.64	4.28
34984VAC4	85	FORUM ENERGY TEC	9.000	08/04/25	CCC+	Caa2	82.25	99.50	85,649	0.08	9.20	2.38
65441VAA9	100	Nine Energy Service Inc 144A	8.750	11/01/23	D	Caa3	29.25	87.24	91,616	0.09	23.83	0.87
893800AA0	54	Transocean Guardian Ltd 144A	5.875	01/15/24	B-	B2	87.75	97.21	53,702	0.05	8.69	0.98
89382PAA3	84	Transocean Pontus Ltd 144A	6.125	08/01/25	B-	B2	97.58	96.26	82,144	0.08	8.20	1.78
89383JAA6	372	Transocean Poseidon Ltd 144A	6.875	02/01/27	B-	B2	92.15	95.75	362,462	0.34	8.65	2.37
947075AT4	300	Weatherford International Ltd 144A	6.500	09/15/28	B+	Ba3	98.37	95.50	288,992	0.27	7.46	4.73
947075AU1	150	Weatherford International Ltd 144A	8.625	04/30/30	B-	В3	97.37	94.25	146,766	0.14	9.72	5.16
			7.144	06/29/27	В	B2	_	-	1,439,308	1.35	9.49	3.38
Energy - Oil Refi	ning & Marke	ting										
70137TAP0	200	Parkland Corp 144A	5.875	07/15/27	BB	Ba3	104.44	93.95	191,369	0.18	7.42	3.94
70137WAG3	120	Parkland Corp 144A	4.500	10/01/29	BB	Ba3	100.22	84.20	101,488	0.10	7.47	5.68
70137WAL2	140	Parkland Corp 144A	4.625	05/01/30	BB	Ba3	99.71	83.18	119,692	0.11	7.61	6.06
69318UAB1	50	PBF Logistics LP / PBF Logistics Finan	6.875	05/15/23	B+	B2	98.24	100.05	51,610	0.05	6.27	0.08
86765LAT4	75	Sunoco LP / Sunoco Finance Corp	4.500	05/15/29	BB	Ba3	99.90	85.89	65,974	0.06	7.25	5.33
			5.256	05/30/28	BB	ВаЗ			530,132	0.50	7.34	4.55
			6.851	09/12/27	BB-	B1	-	-	\$12,789,749	12.01%	8.15	3.59
Financial Service	es - Brokerag	e										
47077WAA6	125	Jane Street Group / JSG Finance In 144A	4.500	11/15/29	BB-	Ba2	98.40	88.39	113,076	0.11	6.59	5.71
47232MAF9	400	Jefferies Finance LLC / JFIN Co-ls 144A	5.000	08/15/28	BB-	B1	97.94	78.50	318,234	0.30	9.97	4.69
50212YAC8	145	LPL Holdings Inc 144A	4.625	11/15/27	BB	Ba2	103.84	92.10	136,633	0.13	6.49	4.29
50212YAD6	245	LPL Holdings Inc 144A	4.000	03/15/29	BB	Ba2	99.31	87.28	215,086	0.20	6.47	5.42
50212YAF1	150	LPL Holdings Inc 144A	4.375	05/15/31	BB	Ba2	98.40	87.10	133,671	0.13	6.36	6.73
46116VAE5	125	StoneX Group Inc 144A	8.625	06/15/25	BB-	Ba3	104.85	98.75	127,510	0.12	9.16	2.22
			5.054	09/28/28	BB-	ВаЗ	_	_	1,044,211	0.98	7.87	4.86



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Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Financial Servic	es - Cons/Cor	mm/Lease Financing										
225310AM3	200	Credit Acceptance Corp	6.625	03/15/26	BB	Ba3	105.11	94.59	190,873	0.18	8.50	2.92
225310AN1	175	Credit Acceptance Corp 144A	5.125	12/31/24	BB	Ba3	100.33	92.99	165,744	0.16	8.75	1.95
30327TAA7	225	FTAI Infra Escrow Holdings LLC 144A	10.500	06/01/27	B-	B2	94.59	98.05	228,094	0.21	11.05	3.43
69145LAC8	105	Oxford Finance LLC / Oxford Financ 144A	6.375	02/01/27	В	ВаЗ	100.00	91.50	97,748	0.09	8.81	3.55
70932MAB3	120	PennyMac Financial Services Inc 144A	4.250	02/15/29	BB-	Ba3	96.21	75.75	91,977	0.09	9.45	5.15
70932MAC1	100	PennyMac Financial Services Inc 144A	5.750	09/15/31	BB-	Ba3	100.00	75.30	76,034	0.07	10.01	6.36
			7.008	03/15/27	B+	B1	_	-	850,470	0.80	9.51	3.49
Financial Servic	es - Investme	nts & Misc Financial Services										
004498AB7	200	ACI Worldwide Inc 144A	5.750	08/15/26	BB-	B2	99.57	95.00	192,428	0.18	7.28	3.29
00840KAA7	215	AG TTMT Escrow Issuer LLC 144A	8.625	09/30/27	B-	B2	100.44	100.38	219,309	0.21	8.53	3.91
04010LAW3	150	ARES CAPITAL COR	4.625	03/01/24	BBB-	Baa3	101.85	108.94	164,563	0.15	0.00	1.31
20451RAB8	305	Compass Group Diversified Holdings 144A	5.250	04/15/29	B+	B1	99.00	86.00	263,012	0.25	8.07	5.25
20451RAC6	130	Compass Group Diversified Holdings 144A	5.000	01/15/32	B+	B1	96.46	72.89	96,668	0.09	9.48	6.68
30264DAA7	1,025	FS Energy and Power Fund 144A	7.500	08/15/23	В	Ba3	99.03	100.30	1,044,304	0.98	6.92	0.51
451102BT3	100	Icahn Enterprises LP / Icahn Enterpris	6.250	05/15/26	BB	Ba3	106.00	96.05	98,932	0.09	7.54	3.02
451102BZ9	50	Icahn Enterprises LP / Icahn Enterpris	5.250	05/15/27	BB	Ba3	102.00	92.14	47,280	0.04	7.32	3.83
55354GAH3	435	MSCI Inc 144A	4.000	11/15/29	BB+	Ba1	107.65	86.83	385,743	0.36	6.35	5.82
55354GAK6	200	MSCI Inc 144A	3.625	09/01/30	BB+	Ba1	100.75	83.56	168,328	0.16	6.32	6.53
55354GAM2	250	MSCI Inc 144A	3.625	11/01/31	BB+	Ba1	100.00	82.30	210,290	0.20	6.22	7.37
55354GAQ3	325	MSCI Inc 144A	3.250	08/15/33	BB+	Ba1	99.95	77.30	253,471	0.24	6.16	8.57
69354NAC0	100	PRA Group Inc 144A	7.375	09/01/25	BB*	Ba2	100.00	95.65	96,884	0.09	9.14	2.46
BL3708122	397	SUPERANNUATION A TL	6.865	12/01/28	BB-	Ba2	98.88	97.67	387,814	0.36	8.76	0.25
			5.908	08/07/27	BB-	Ba2	_	-	3,629,023	3.41	6.97	3.35
			5.915	10/03/27	ВВ-	ВаЗ	_	-	\$5,523,703	5.19%	7.53	3.65
Healthcare - Hea	alth Facilities											
00404AAN9	100	Acadia Healthcare Co Inc 144A	5.500	07/01/28	В	B1	95.75	92.78	94,613	0.09	7.07	4.65

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Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Healthcare - He	alth Facilities	(Continued)										
00404AAP4	150	Acadia Healthcare Co Inc 144A	5.000	04/15/29	В	B1	98.88	90.25	135,701	0.13	6.90	5.34
12543DBM1	250	CHS/Community Health Systems Inc 144A	5.250	05/15/30	В	B2	90.57	69.25	182,859	0.17	11.44	5.39
421924BT7	130	Encompass Health Corp	5.750	09/15/25	B+	B1	103.24	99.09	129,771	0.12	6.10	2.59
29261AAA8	100	Encompass Health Corp	4.500	02/01/28	B+	B1	101.88	89.49	90,615	0.09	6.92	4.49
29261AAB6	375	Encompass Health Corp	4.750	02/01/30	B+	B1	105.71	85.25	324,141	0.30	7.41	5.82
29261AAE0	125	Encompass Health Corp	4.625	04/01/31	B+	B1	96.48	82.50	103,607	0.10	7.46	6.62
197677AC1	100	HCA Inc	8.360	04/15/24	BBB-	Baa3	117.63	102.19	102,563	0.10	6.73	1.35
197677AG2	50	HCA Inc	7.690	06/15/25	BBB-	Baa3	122.00	103.14	53,024	0.05	6.36	2.29
19767QAQ8	75	HCA Inc	7.580	09/15/25	BBB-	Baa3	119.38	103.45	78,315	0.07	6.24	2.54
404119BS7	600	HCA Inc	5.875	02/15/26	BBB-	Baa3	114.24	99.03	601,648	0.56	6.20	2.91
404119BW8	100	HCA Inc	5.875	02/01/29	BBB-	Baa3	116.00	97.61	99,082	0.09	6.34	5.07
404119AJ8	300	HCA Inc	7.500	11/06/33	BBB-	Baa3	134.52	99.91	310,670	0.29	7.51	7.14
19767QAS4	75	HCA Inc	7.750	07/15/36	BBB-	Baa3	127.25	104.09	79,781	0.07	7.27	8.30
53219LAU3	225	LifePoint Health Inc 144A	5.375	01/15/29	CCC+	Caa1	98.73	63.89	147,304	0.14	14.35	4.64
BL3282532	640	LIFEPOINT HEALTH TL B	8.165	11/16/25	В	B1	99.40	88.13	564,145	0.53	13.06	0.25
53219LAR0	305	RegionalCare Hospital Partners Hol 144A	9.750	12/01/26	CCC+	Caa1	80.75	79.73	255,567	0.24	16.80	2.97
			6.604	04/01/28	BB-	ВаЗ	_		3,353,407	3.15	9.20	3.77
Healthcare - He	alth Services											
00175PAB9	150	AMN Healthcare Inc 144A	4.625	10/01/27	BB-	Ba3	99.50	93.56	140,917	0.13	6.16	4.28
60337JAA4	225	AthenaHealth Group Inc 144A	6.500	02/15/30	CCC	Caa2	100.00	78.00	178,588	0.17	10.96	5.32
23918KAS7	250	DaVita Inc 144A	4.625	06/01/30	B+	B1	93.72	77.96	199,724	0.19	8.65	5.90
23918KAT5	125	DaVita Inc 144A	3.750	02/15/31	B+	B1	91.98	72.30	91,368	0.09	8.47	6.61
BL3573849	64	ICON LUX SARL TL B	5.938	07/01/28	BB+	Ba1	99.50	98.88	63,505	0.06	6.59	0.25
449934AD0	250	IQVIA Inc 144A	5.000	10/15/26	BB	ВаЗ	103.71	95.33	238,876	0.22	6.35	3.51
46266TAA6	133	IQVIA Inc 144A	5.000	05/15/27	BB	Ba3	106.13	95.29	129,799	0.12	6.21	3.89
60783XAA2	150	ModivCare Escrow Issuer Inc 144A	5.000	10/01/29	B+	B2	100.22	85.11	128,283	0.12	7.83	5.59



Holdings Report – Account 808

Security Identifier	or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Healthcare - H	Health Services	(Continued)										
743815AE2	250	ModivCare Inc 144A	5.875	11/15/25	B+	B2	102.97	94.99	244,254	0.23	7.76	2.64
690732AF9	290	Owens & Minor Inc 144A	4.500	03/31/29	В	B2	93.11	77.44	225,688	0.21	9.24	5.24
690732AG7	220	Owens & Minor Inc 144A	6.625	04/01/30	В	B2	93.85	83.13	184,101	0.17	9.89	5.50
BL3646397	16	PRA HEALTH SCIEN TL B	5.938	07/01/28	BB+	Ba1	99.50	98.88	15,822	0.01	6.59	0.25
45569KAA1	200	PRA Health Sciences Inc 144A	2.875	07/15/26	BB+	Ba1	100.00	90.12	181,941	0.17	5.88	3.40
817565CF9	250	Service Corp International/US	3.375	08/15/30	BB	Ba3	100.00	80.72	203,587	0.19	6.58	6.52
817565CG7	140	Service Corp International/US	4.000	05/15/31	BB	Ba3	100.00	82.99	118,773	0.11	6.64	6.79
			4.857	10/14/28	BB-	B1	_	_	2,345,227	2.20	7.75	4.69
Healthcare - N	Managed Care											
15135BAV3	250	Centene Corp	3.375	02/15/30	BBB-	Ba1	91.87	83.08	209,481	0.20	6.30	6.18
15135BAW1	275	Centene Corp	3.000	10/15/30	BBB-	Ba1	93.82	80.50	221,742	0.21	6.13	6.80
42226AAA5	125	HealthEquity Inc 144A	4.500	10/01/29	В	В3	100.15	87.38	109,688	0.10	6.82	5.72
60855RAJ9	115	Molina Healthcare Inc 144A	4.375	06/15/28	BB-	ВаЗ	104.03	89.69	105,040	0.10	6.60	4.76
60855RAK6	125	Molina Healthcare Inc 144A	3.875	11/15/30	BB-	ВаЗ	101.66	84.98	108,458	0.10	6.28	6.53
60855RAL4	125	Molina Healthcare Inc 144A	3.875	05/15/32	BB-	ВаЗ	99.70	83.40	106,484	0.10	6.21	7.49
553283AD4	125	MPH Acquisition Holdings LLC 144A	5.500	09/01/28	B+	ВаЗ	99.58	86.33	109,052	0.10	8.52	4.74
553283AC6	250	MPH Acquisition Holdings LLC 144A	5.750	11/01/28	B-	В3	97.59	77.25	200,313	0.19	11.03	4.76
			4.196	12/24/29	BB-	ВаЗ	_		1,170,256	1.10	7.35	5.90
Healthcare - N	Medical Products	S										
68251PAA5	100	1375209 BC Ltd 144A	9.000	01/30/28	B-*	B3*	88.61	96.75	97,525	0.09	9.81	4.05
682357AA6	200	180 Medical Inc 144A	3.875	10/15/29	BB+	Ba2	100.38	84.50	169,344	0.16	6.70	5.87
365417AA2	110	Garden Spinco Corp 144A	8.625	07/20/30	BB	B2	100.00	102.86	115,803	0.11	8.06	4.94
436440AM3	200	Hologic Inc 144A	4.625	02/01/28	BB+	Ba2	106.12	93.50	189,313	0.18	6.09	4.51
436440AP6	350	Hologic Inc 144A	3.250	02/15/29	BB+	Ba2	97.81	84.98	299,831	0.28	6.17	5.47
879369AF3	500	Teleflex Inc	4.625	11/15/27	BB	ВаЗ	106.74	94.24	481,838	0.45	5.97	4.31
879369AG1	500	Teleflex Inc 144A	4.250	06/01/28	BB	ВаЗ	104.06	90.48	461,254	0.43	6.30	4.75

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Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Healthcare - Me	edical Product	s (Continued)										
92214XAC0	97	,	7.875	10/15/27	B+	B1	100.77	97.60	95,008	0.09	8.47	4.01
			4.880	07/23/28	BB	Ba3	_	_	1,909,916	1.79	6.60	4.77
Healthcare - Pha	armaceuticals											
071734AQ0	300	Bausch Health Cos Inc 144A	11.000	09/30/28	B-	Caa1	76.43	77.00	233,842	0.22	17.37	3.89
071734AJ6	175	Bausch Health Cos Inc 144A	5.250	01/30/30	CCC	Ca	97.13	38.75	70,135	0.07	22.98	4.56
071734AR8	26	Bausch Health Cos Inc 144A	14.000	10/15/30	CCC	Caa3	47.12	57.25	15,198	0.01	27.44	3.53
14879EAH1	490	Catalent Pharma Solutions Inc 144A	3.125	02/15/29	BB-	B1	96.75	81.83	404,200	0.38	6.71	5.46
14879EAK4	100	Catalent Pharma Solutions Inc 144A	3.500	04/01/30	BB-	B1	100.00	80.75	81,042	0.08	6.85	6.24
29089QAC9	235	Emergent BioSolutions Inc 144A	3.875	08/15/28	BB-	В3	95.23	59.95	142,814	0.13	14.26	4.64
39843UAA0	300	Grifols Escrow Issuer SA 144A	4.750	10/15/28	B-	В3	100.59	78.13	235,008	0.22	9.67	4.89
BL3556133	178	JAZZ FINANCING L TL B	7.254	05/05/28	BB-	Ba2	99.49	98.69	175,844	0.17	7.67	0.25
47216FAA5	550	Jazz Securities DAC 144A	4.375	01/15/29	BB-	Ba2	99.26	88.75	495,210	0.46	6.61	5.20
68622TAA9	335	Organon & Co / Organon Foreign Deb 144A	4.125	04/30/28	BB	Ba2	97.05	88.08	295,151	0.28	6.76	4.77
68622TAB7	225	Organon & Co / Organon Foreign Deb 144A	5.125	04/30/31	BB-	B1	100.38	84.93	191,118	0.18	7.56	6.59
BL3583624	186	ORGANON TL B	6.188	06/02/28	BB	Ba2	99.40	97.38	183,072	0.17	8.07	0.25
74112BAL9	225	Prestige Brands Inc 144A	5.125	01/15/28	BB-	B2	104.84	92.93	212,481	0.20	6.76	4.39
74112BAM7	600	Prestige Brands Inc 144A	3.750	04/01/31	BB-	B2	95.05	80.20	483,081	0.45	6.89	6.87
			4.985	04/25/29	BB-	B1	_		3,218,195	3.02	8.69	4.78
			5.319	11/09/28	BB-	ВаЗ	_	-	\$11,997,002	11.26%	8.19	4.59
Insurance - Insu	ırance Broker	age										
11135RAA3	235	BroadStreet Partners Inc 144A	5.875	04/15/29	CCC+	Caa2	99.11	80.26	189,218	0.18	10.11	5.05
78351MAA0	165	Ryan Specialty Group LLC 144A	4.375	02/01/30	BB-	B1	100.06	85.50	142,880	0.13	6.95	5.91
91739VAA6	210	USI Inc/NY 144A	6.875	05/01/25	CCC+	Caa1	96.99	97.00	210,915	0.20	8.23	2.24
BL2398545	293	USI INC/NY TL B	6.424	05/16/24	В	B1	96.78	98.69	290,888	0.27	8.35	0.25
			6.063	09/16/26	B-	B3			833,901	0.78	8.48	2.81



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Insurance - Mon	oline Incuran	00										
552848AG8	300	MGIC Investment Corp	5.250	08/15/28	BB+	Baa3	99.61	90.72	275,494	0.26	7.24	4.79
629209AA5	125	NMI Holdings Inc 144A	7.375	06/01/25	BB	Ba1	109.50	99.90	128.721	0.12	7.41	2.25
0202007110	120	Will Holdings the 1447	5.927	08/08/27	BB+	Baa3	_ 100.00		404.215	0.38	7.29	3.98
Insurance - Mult	i Lino Incurar	nea.	0.02.	00, 00, 2.		2000			,	0.00	0	0.00
37255LAA5	240	Enact Holdings Inc 144A	6.500	08/15/25	BB+*	Ba1	100.51	98.51	239.717	0.23	7.09	2.47
0120021010	210	Endot Holdings in a 11 m	6.500	08/15/25	BB+	Ba1	- 100.01		239,717	0.23	7.09	2.47
			6.096	10/11/26	B+	Ba3	_	-	\$1,477,834	1.39%	7.93	3.08
			6.096	10/11/26	БТ	Das			\$1,4 <i>11</i> ,034	1.39%	7.93	3.06
Leisure - Gaming	_	Affinity Opening 4 A A A	0.075	40/45/07	Б	DO	402.05	00.40	045.050	0.00	11.00	2.00
00842XAA7	250	Affinity Gaming 144A	6.875	12/15/27	B-	B2	103.05	83.48	215,850	0.20	11.20	3.96
103304BU4	550	Boyd Gaming Corp	4.750	12/01/27	BB-	B3	101.98	92.13	517,611	0.49	6.60	4.31
103304BV2	525	Boyd Gaming Corp 144A	4.750	06/15/31	BB-	B3	99.75	84.47	446,675	0.42	7.20	6.73
12511VAA6	200	CDI Escrow Issuer Inc 144A	5.750	04/01/30	B+	B1	100.00	90.25	181,460	0.17	7.49	5.81
171484AG3	300	Churchill Downs Inc 144A	5.500	04/01/27	B+	B1	104.29	95.58	288,109	0.27	6.67	3.82
171484AE8	595	Churchill Downs Inc 144A	4.750	01/15/28	B+	B1	102.18	88.37	534,135	0.50	7.49	4.40
BL3569417	99	CHURCHILL DOWNS TL B1	5.760	03/17/28	BBB-	Ba1	99.75	96.75	95,315	0.09	7.20	0.25
37255JAA0	200	Genting New York LLC / GENNY Capit 144A	3.300	02/15/26	BB+	Ba1*	99.80	87.67	176,732	0.17	7.61	2.99
460599AF0	200	International Game Technology PLC 144A	4.125	04/15/26	BB+	Ba2	100.00	92.80	185,967	0.17	6.48	3.14
460599AD5	300	International Game Technology PLC 144A	6.250	01/15/27	BB+	Ba2	113.58	99.08	302,749	0.28	6.50	3.58
469815AK0	260	Jacobs Entertainment Inc 144A	6.750	02/15/29	В	B2	99.39	88.17	232,939	0.22	9.27	4.84
59833DAB6	100	Midwest Gaming Borrower LLC / Midw 144A	4.875	05/01/29	B+	В3	92.13	84.56	87,001	0.08	7.96	5.34
857691AG4	150	Station Casinos LLC 144A	4.500	02/15/28	B-	В3	100.67	86.15	130,650	0.12	7.74	4.49
857691AH2	175	Station Casinos LLC 144A	4.625	12/01/31	B-	B3	100.00	79.45	142,414	0.13	7.83	6.85
			5.163	06/27/28	BB-	B1			3,537,607	3.32	7.49	4.51
Leisure - Hotels												
432833AF8	115	Hilton Domestic Operating Co Inc	4.875	01/15/30	BB+	Ba2	98.55	89.63	104,719	0.10	6.71	5.80
432833AL5	195	Hilton Domestic Operating Co Inc 144A	4.000	05/01/31	BB+	Ba2	100.78	83.59	166,910	0.16	6.55	6.92

^{*}MacKay Shields' in-house rating for "NR" rated security.





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Leisure - Hotels	(Continued)											
432833AN1	125	Hilton Domestic Operating Co Inc 144A	3.625	02/15/32	BB+	Ba2	97.90	79.63	100,488	0.09	6.59	7.45
432891AK5	500	Hilton Worldwide Finance LLC / Hilton	4.875	04/01/27	BB+	Ba2	103.36	95.00	477,031	0.45	6.18	3.88
448579AH5	100	Hyatt Hotels Corp	5.625	04/23/25	BB+	Baa3	107.75	98.24	98,370	0.09	6.40	2.27
571903BE2	150	Marriott International Inc/MD	4.625	06/15/30	BBB	Baa3	107.92	89.71	137,179	0.13	6.35	6.12
571903BF9	150	Marriott International Inc/MD	3.500	10/15/32	BBB	Baa3	99.28	79.87	120,037	0.11	6.25	8.01
			4.545	03/21/29	BB+	Ba1			1,204,733	1.13	6.36	5.30
Leisure - Recrea	ation & Travel											
103557AC8	155	Boyne USA Inc 144A	4.750	05/15/29	В	B1	101.35	87.50	139,020	0.13	7.18	5.30
143658BG6	250	Carnival Corp 144A	10.500	02/01/26	BB-	B1	105.87	98.00	251,553	0.24	11.24	2.62
143658BL5	125	Carnival Corp 144A	7.625	03/01/26	В	В3	103.60	75.20	95,582	0.09	17.79	2.66
143658BN1	525	Carnival Corp 144A	5.750	03/01/27	В	В3	95.09	69.30	368,848	0.35	15.79	3.47
143658BJ0	250	Carnival Corp 144A	9.875	08/01/27	BB-	B1	99.75	93.25	239,297	0.22	11.76	3.56
14366RAA7	100	Carnival Corp 144A	10.375	05/01/28	B+	B2	98.47	101.26	101,431	0.10	10.02	3.53
143658BQ4	600	Carnival Corp 144A	4.000	08/01/28	BB-	Ba3	99.90	80.57	489,405	0.46	8.32	4.85
143658BR2	335	Carnival Corp 144A	6.000	05/01/29	В	В3	100.00	66.33	232,245	0.22	14.07	4.85
BL3751627	199	CARNIVAL CORP TL B	6.127	10/18/28	BB-	Ba3	99.50	91.44	182,585	0.17	9.67	0.25
53523LAA8	115	Lindblad Expeditions LLC 144A	6.750	02/15/27	B-	В3	100.00	88.96	103,942	0.10	9.97	3.53
59010QAB2	350	Merlin Entertainments Ltd 144A	5.750	06/15/26	В	B2	95.68	92.99	333,066	0.31	8.02	3.11
61978XAA5	250	Motion Bondco DAC 144A	6.625	11/15/27	CCC	Caa2	101.39	83.66	216,782	0.20	10.93	3.92
780153AW2	125	Royal Caribbean Cruises Ltd	3.700	03/15/28	В	В3	92.50	72.50	91,216	0.09	10.53	4.55
780153BK7	115	Royal Caribbean Cruises Ltd 144A	5.375	07/15/27	В	В3	100.00	77.73	91,211	0.09	11.65	3.84
780153BG6	150	Royal Caribbean Cruises Ltd 144A	5.500	04/01/28	В	В3	101.75	77.00	116,188	0.11	11.29	4.37
780153BR2	150	Royal Caribbean Cruises Ltd 144A	9.250	01/15/29	B+	В3	100.00	101.50	153,214	0.14	8.81	3.56
91879QAL3	450	Vail Resorts Inc 144A	6.250	05/15/25	BB	Ba3	105.37	99.50	460,719	0.43	6.47	2.25
			6.506	07/07/27	B+	B2			3,666,304	3.44	10.37	3.49





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Leisure - Theate	ers & Entertair	nment										
538034AV1	200	Live Nation Entertainment Inc 144A	6.500	05/15/27	BB-	B1	99.25	99.46	204,917	0.19	6.64	3.76
538034AR0	50	Live Nation Entertainment Inc 144A	4.750	10/15/27	В	В3	100.50	88.99	44,602	0.04	7.45	4.27
538034AX7	225	Live Nation Entertainment Inc 144A	3.750	01/15/28	BB-	B1	99.64	87.03	198,293	0.19	6.74	4.53
			5.108	09/15/27	BB-	B1			447,811	0.42	6.76	4.15
			5.632	02/23/28	BB-	B1	-	-	\$8,856,455	8.31%	8.49	4.18
Media - Advertis	sing											
14575EAA3	253	Cars.com Inc 144A	6.375	11/01/28	B+	В3	95.80	86.65	227,284	0.21	9.33	4.77
513075BT7	993	Lamar Media Corp	4.000	02/15/30	BB	Ba3	101.71	84.91	858,172	0.81	6.64	5.99
513075BZ3	250	Lamar Media Corp	3.625	01/15/31	BB	Ba3	99.10	81.50	204,153	0.19	6.58	6.79
57667JAA0	150	Match Group Holdings II LLC 144A	3.625	10/01/31	BB	Ba3	100.17	76.23	114,792	0.11	7.30	7.19
			4.299	03/07/30	ВВ	Ba3		_	1,404,400	1.32	7.12	6.01
Media - Cable &	Satellite TV											
093645AJ8	232	Block Communications Inc 144A	4.875	03/01/28	BB-	B1	101.68	86.90	203,500	0.19	7.93	4.49
1248EPBR3	150	CCO Holdings LLC / CCO Holdings Ca 144A	5.500	05/01/26	BB-	B1	103.25	96.25	148,500	0.14	6.72	3.12
1248EPBT9	150	CCO Holdings LLC / CCO Holdings Ca 144A	5.125	05/01/27	BB-	B1	105.38	92.65	142,816	0.13	7.06	3.92
1248EPBX0	350	CCO Holdings LLC / CCO Holdings Ca 144A	5.000	02/01/28	BB-	B1	104.70	90.50	321,125	0.30	7.20	4.43
1248EPCD3	465	CCO Holdings LLC / CCO Holdings Ca 144A	4.750	03/01/30	BB-	B1	103.45	84.04	394,467	0.37	7.63	5.88
1248EPCK7	775	CCO Holdings LLC / CCO Holdings Ca 144A	4.250	02/01/31	BB-	B1	100.72	79.00	620,484	0.58	7.74	6.52
1248EPCQ4	100	CCO Holdings LLC / CCO Holdings Ca 144A	4.750	02/01/32	BB-	B1	92.63	80.00	81,192	0.08	7.83	6.98
1248EPCL5	310	CCO Holdings LLC / CCO Holdings Ca 144A	4.500	06/01/33	BB-	B1	97.63	75.83	240,889	0.23	7.91	7.67
1248EPCP6	245	CCO Holdings LLC / CCO Holdings Ca 144A	4.250	01/15/34	BB-	B1	97.47	73.50	183,141	0.17	7.85	8.13
1248EPCN1	410	CCO Holdings LLC / CCO Holdings Capita	4.500	05/01/32	BB-	B1	101.73	79.00	333,125	0.31	7.65	7.30
126307BA4	250	CSC Holdings LLC 144A	5.750	01/15/30	В	В3	101.75	76.50	195,483	0.18	10.47	5.39
BL3674597	555	DIRECTV FINANCIN TL	8.754	08/02/27	BB	Ba3	97.46	95.08	527,398	0.50	10.90	0.25
25461LAA0	325	Directv Financing LLC / Directv Fi 144A	5.875	08/15/27	BB	Ba3	101.22	90.06	296,726	0.28	8.44	3.98
25470MAD1	850	DISH NETWORK	2.375	03/15/24	CCC	В3	96.41	91.08	776,717	0.73	9.44	1.30



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Media - Cable &	Satellite TV (Continued)										
25470MAB5	300	DISH NETWORK	3.375	08/15/26	CCC	B3	94.95	69.40	210,338	0.20	14.03	3.28
			4.800	09/30/28	B+	B1			4,675,900	4.39	8.74	4.30
Media - Media -	Diversified											
65249BAA7	400	News Corp 144A	3.875	05/15/29	BB+	Ba1	98.71	85.95	350,947	0.33	6.55	5.47
65249BAB5	120	News Corp 144A	5.125	02/15/32	BB+	Ba1	100.00	89.25	108,398	0.10	6.70	7.06
			4.170	01/07/30	BB+	Ba1		_	459,346	0.43	6.59	5.85
Media - Media C	ontent											
64110LAS5	100	Netflix Inc	4.875	04/15/28	BBB	Ba1	112.25	94.90	95,118	0.09	5.98	4.69
64110LAT3	50	Netflix Inc	5.875	11/15/28	BBB	Ba1	119.25	99.25	50,980	0.05	6.02	4.88
64110LAV8	85	Netflix Inc 144A	4.875	06/15/30	BBB	Ba1	115.88	92.60	80,274	0.08	6.10	6.09
81105DAA3	200	Scripps Escrow II Inc 144A	3.875	01/15/29	BB	Ba3	97.41	82.58	167,450	0.16	7.43	5.23
81104PAA7	125	Scripps Escrow Inc 144A	5.875	07/15/27	В	В3	103.89	90.60	115,406	0.11	8.33	3.91
82967NBL1	150	Sirius XM Radio Inc 144A	3.125	09/01/26	BB	Ba3	100.00	89.36	134,821	0.13	6.29	3.50
82967NBA5	100	Sirius XM Radio Inc 144A	5.000	08/01/27	BB	Ba3	105.75	92.00	93,250	0.09	7.01	4.07
82967NBJ6	100	Sirius XM Radio Inc 144A	4.000	07/15/28	BB	Ba3	99.88	85.97	87,145	0.08	7.03	4.87
82967NBM9	200	Sirius XM Radio Inc 144A	3.875	09/01/31	BB	Ba3	99.53	80.00	161,292	0.15	6.94	7.08
			4.405	10/26/28	BB	Ba3	_	_	985,736	0.93	6.90	5.00
			4.616	02/06/29	BB-	B1	=	=	\$7,525,382	7.06%	8.06	4.81
Real Estate - Re	alEstate Dev	& Mgt										
44267DAE7	150	Howard Hughes Corp/The 144A	4.125	02/01/29	BB-	Ba3	96.42	78.15	118,776	0.11	8.73	5.17
44267DAF4	100	Howard Hughes Corp/The 144A	4.375	02/01/31	BB-	Ba3	99.04	75.14	76,234	0.07	8.65	6.41
65158NAB8	300	Newmark Group Inc	6.125	11/15/23	BB+	Ba1*	105.52	99.67	307,495	0.29	6.45	0.96
75606DAL5	125	Realogy Group LLC / Realogy Co-Iss 144A	5.750	01/15/29	B+	B2	97.08	71.88	91,960	0.09	12.37	4.70
75606DAQ4	270	Realogy Group LLC / Realogy Co-Iss 144A	5.250	04/15/30	B+	B2	99.67	69.34	187,853	0.18	11.48	5.63
			5.397	07/07/27	BB-	Ba3		_	782,318	0.73	8.91	3.69

^{*}MacKay Shields' in-house rating for "NR" rated security.





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Real Estate - RE	EITs											
126458AE8	140	CTR Partnership LP / CareTrust Cap 144A	3.875	06/30/28	BB+	Ba2	99.84	84.34	119,905	0.11	7.30	4.83
361841AF6	250	GLP Capital LP / GLP Financing II Inc	5.375	11/01/23	BBB-	Ba1	106.13	98.87	253,904	0.24	6.56	0.96
361841AK5	100	GLP Capital LP / GLP Financing II Inc	5.750	06/01/28	BBB-	Ba1	113.75	92.77	95,161	0.09	7.35	4.53
361841AL3	45	GLP Capital LP / GLP Financing II Inc	5.300	01/15/29	BBB-	Ba1	111.50	90.06	41,231	0.04	7.32	5.04
361841AQ2	100	GLP Capital LP / GLP Financing II Inc	4.000	01/15/31	BBB-	Ba1	103.82	80.19	81,364	0.08	7.24	6.58
44107TAZ9	160	Host Hotels & Resorts LP	3.500	09/15/30	BBB-	Baa3	89.91	78.43	126,203	0.12	7.13	6.53
55342UAG9	235	MPT Operating Partnership LP / MPT Fin	5.250	08/01/26	BBB-	Ba1	103.15	90.19	215,036	0.20	8.35	3.25
55342UAH7	100	MPT Operating Partnership LP / MPT Fin	5.000	10/15/27	BBB-	Ba1	95.00	85.58	85,800	0.08	8.64	4.21
55342UAJ3	100	MPT Operating Partnership LP / MPT Fin	4.625	08/01/29	BBB-	Ba1	74.94	79.22	80,379	0.08	8.77	5.42
69007TAD6	150	Outfront Media Capital LLC / Outfr 144A	6.250	06/15/25	B+	B2	102.75	98.61	151,458	0.14	6.83	2.32
69007TAE4	260	Outfront Media Capital LLC / Outfr 144A	4.250	01/15/29	B+	B2	97.92	82.50	217,754	0.20	7.87	5.15
69007TAC8	150	Outfront Media Capital LLC / Outfr 144A	4.625	03/15/30	B+	B2	96.88	82.72	124,968	0.12	7.74	5.93
749571AG0	252	RHP Hotel Properties LP / RHP Fina 144A	4.500	02/15/29	B+	B1	100.11	87.75	223,524	0.21	6.93	5.25
749571AF2	215	RHP Hotel Properties LP / RHP Finance	4.750	10/15/27	B+	B1	95.89	92.30	198,907	0.19	6.59	4.30
78410GAG9	300	SBA Communications Corp	3.125	02/01/29	BB-	B1	97.45	80.82	244,813	0.23	6.96	5.41
92564RAG0	300	VICI Properties LP / VICI Note Co 144A	4.625	06/15/25	BBB-	Ba1	106.16	93.72	286,404	0.27	7.30	2.36
92564RAH8	200	VICI Properties LP / VICI Note Co 144A	4.500	09/01/26	BBB-	Ba1	107.31	91.00	183,510	0.17	7.23	3.40
92564RAJ4	125	VICI Properties LP / VICI Note Co 144A	5.750	02/01/27	BBB-	Ba1	112.64	94.47	119,887	0.11	7.28	3.63
92564RAK1	85	VICI Properties LP / VICI Note Co 144A	4.500	01/15/28	BBB-	Ba1	106.94	87.69	75,661	0.07	7.39	4.43
92564RAL9	305	VICI Properties LP / VICI Note Co 144A	3.875	02/15/29	BBB-	Ba1	100.80	84.20	259,317	0.24	7.02	5.33
			4.597	10/10/27	BB+	Ba2	-	_	3,185,185	2.99	7.29	4.19
			4.755	09/21/27	ВВ	Ba2	-	_	\$3,967,503	3.72%	7.61	4.09
Retail - Departn	nent Stores											
62929RAC2	840	NMG Holding Co Inc / Neiman Marcus 144A	7.125	04/01/26	B-	Caa1	103.10	95.02	803,181	0.75	8.84	2.93
			7.125	04/01/26	B-	Caa1			803,181	0.75	8.84	2.93





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Retail - Restaura	ants											
68245XAH2	625	1011778 BC ULC / New Red Finance I 144A	3.875	01/15/28	BB+	Ba2	101.23	87.89	552,423	0.52	6.67	4.55
68245XAP4	100	1011778 BC ULC / New Red Finance I 144A	3.500	02/15/29	BB+	Ba2	99.90	83.75	84,489	0.08	6.71	5.40
68245XAM1	550	1011778 BC ULC / New Red Finance I 144A	4.000	10/15/30	B+	B2	97.82	81.63	449,915	0.42	7.06	6.51
125137AC3	195	CEC Entertainment LLC 144A	6.750	05/01/26	B-	В3	96.15	93.54	188,978	0.18	8.94	3.03
23833NAH7	119	Dave & Buster's Inc 144A	7.625	11/01/25	В	B1	103.41	99.76	123,252	0.12	7.72	2.64
48250NAC9	500	KFC Holding Co/Pizza Hut Holdings 144A	4.750	06/01/27	BB+	Ba2	104.04	95.46	487,191	0.46	5.89	3.96
698813AA0	250	Papa John's International Inc 144A	3.875	09/15/29	BB-	B1	88.26	81.24	204,346	0.19	7.41	5.75
988498AN1	434	Yum! Brands Inc	3.625	03/15/31	BB	Ba3	97.86	80.25	350,295	0.33	6.75	6.87
988498AP6	220	Yum! Brands Inc	4.625	01/31/32	BB	ВаЗ	99.89	85.50	188,955	0.18	6.76	7.19
988498AR2	275	Yum! Brands Inc	5.375	04/01/32	BB	ВаЗ	100.00	89.45	247,211	0.23	6.92	7.10
988498AD3	125	Yum! Brands Inc	6.875	11/15/37	BB	ВаЗ	123.10	98.00	126,463	0.12	7.09	8.93
988498AL5	225	Yum! Brands Inc 144A	4.750	01/15/30	BB	ВаЗ	107.87	89.38	204,241	0.19	6.63	5.83
			4.636	09/13/29	BB	Ba3			3,207,758	3.01	6.88	5.53
Retail - Specialty	/ Retail											
043436AU8	160	Asbury Automotive Group Inc	4.500	03/01/28	BB	B1	101.53	86.70	139,913	0.13	7.58	4.54
043436AV6	150	Asbury Automotive Group Inc	4.750	03/01/30	BB	B1	99.59	81.92	124,073	0.12	8.06	5.85
043436AW4	155	Asbury Automotive Group Inc 144A	4.625	11/15/29	BB	B1	98.29	82.25	130,793	0.12	7.97	5.59
043436AX2	100	Asbury Automotive Group Inc 144A	5.000	02/15/32	BB	B1	100.00	80.63	82,931	0.08	7.99	6.83
36237HAA9	200	G-III Apparel Group Ltd 144A	7.875	08/15/25	BB	ВаЗ	100.05	94.71	192,751	0.18	10.09	2.39
BL3770544	889	GREAT OUTDOORS G TL B2	7.504	03/05/28	BB-	B1	98.10	93.95	835,194	0.78	9.73	0.25
398905AN9	225	Group 1 Automotive Inc 144A	4.000	08/15/28	BB+	Ba2	100.48	82.24	186,938	0.18	7.88	4.91
48850PAA2	290	Ken Garff Automotive LLC 144A	4.875	09/15/28	BB-	B1	99.47	83.02	242,571	0.23	8.62	4.85
50190EAA2	590	LCM Investments Holdings II LLC 144A	4.875	05/01/29	BB-	B2	102.38	84.35	512,058	0.48	8.01	5.34
70959WAJ2	375	Penske Automotive Group Inc	3.500	09/01/25	BB-	ВаЗ	99.93	92.96	351,363	0.33	6.25	2.62
83545GBD3	170	Sonic Automotive Inc 144A	4.625	11/15/29	BB-	B1	97.89	78.29	136,722	0.13	8.83	5.53
83545GBE1	115	Sonic Automotive Inc 144A	4.875	11/15/31	BB-	B1	100.00	75.44	89,344	0.08	8.88	6.62
			5.537	06/08/28	BB-	B1			3,024,650	2.84	8.50	3.45
			5.307	10/05/28	BB-	B1	_	_	\$7,035,589	6.61%	7.80	4.34





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Services - Supp	ort-Services											
02128LAA4	200	Alta Equipment Group Inc 144A	5.625	04/15/26	B-	В3	93.79	86.37	173,242	0.16	10.42	3.00
024747AF4	100	American Builders & Contractors Su 144A	4.000	01/15/28	BB+	Ba2	99.19	88.24	89,417	0.08	6.71	4.50
038522AR9	250	Aramark Services Inc 144A	6.375	05/01/25	B+	B1	104.98	98.93	255,283	0.24	6.85	2.27
038522AQ1	100	Aramark Services Inc 144A	5.000	02/01/28	B+	B1	102.98	91.11	92,361	0.09	7.05	4.43
045054AL7	250	Ashtead Capital Inc 144A	4.250	11/01/29	BBB-	Baa3	104.00	86.97	222,739	0.21	6.61	5.86
BL3200377	175	CAMELOT FINANC TL B	6.754	10/30/26	В	B1	98.22	98.15	171,313	0.16	7.40	0.25
13323AAB6	130	Camelot Finance SA 144A	4.500	11/01/26	В	B1	102.00	93.43	124,379	0.12	6.39	3.58
BL3423912	88	CAMELOT US ACQUI TL B	6.754	10/30/26	В	B1	99.50	98.29	86,231	0.08	7.98	0.25
18064PAC3	450	Clarivate Science Holdings Corp 144A	3.875	07/01/28	В	B1	99.95	85.76	391,772	0.37	6.96	4.85
18064PAD1	550	Clarivate Science Holdings Corp 144A	4.875	07/01/29	CCC+	Caa1	96.33	83.38	467,574	0.44	8.15	5.34
366651AE7	300	Gartner Inc 144A	3.750	10/01/30	BB+	Ba1	97.30	84.00	252,936	0.24	6.35	6.58
64051NAA1	325	GPD Cos Inc 144A	10.125	04/01/26	B-	В3	107.19	89.40	293,305	0.28	14.13	2.72
384637AA2	400	Graham Holdings Co 144A	5.750	06/01/26	BB	Ba1	105.60	97.50	399,583	0.38	6.54	3.11
404030AJ7	215	H&E Equipment Services Inc 144A	3.875	12/15/28	BB-	B2	98.30	84.50	184,816	0.17	7.03	5.17
42704LAA2	125	Herc Holdings Inc 144A	5.500	07/15/27	B+	B1	93.75	94.63	120,306	0.11	6.85	3.99
50067PAA7	175	Korn Ferry 144A	4.625	12/15/27	BB	Ba3	103.58	90.97	162,248	0.15	6.74	4.36
64083YAA9	175	NESCO Holdings II Inc 144A	5.500	04/15/29	В	В3	97.83	87.66	153,828	0.14	7.98	5.22
767744AA3	200	Ritchie Bros Auctioneers Inc 144A	5.375	01/15/25	BB+	Ba3	102.31	98.50	200,165	0.19	6.11	2.02
90353TAE0	150	Uber Technologies Inc 144A	7.500	09/15/27	B-	B2	105.00	99.98	151,403	0.14	7.50	3.98
90353TAG5	100	Uber Technologies Inc 144A	6.250	01/15/28	B-	B2	101.87	95.00	96,840	0.09	7.42	4.26
90353TAK6	100	Uber Technologies Inc 144A	4.500	08/15/29	B-	B2	90.25	85.72	86,670	0.08	7.19	5.58
911363AM1	175	United Rentals North America Inc	3.875	02/15/31	BB+	Ba2	99.68	82.90	146,507	0.14	6.58	6.74
911365BP8	100	United Rentals North America Inc	3.750	01/15/32	BB+	Ba2	100.23	81.00	82,104	0.08	6.53	7.34
96950GAE2	405	Williams Scotsman International In 144A	4.625	08/15/28	B+	B2	100.68	90.32	369,730	0.35	6.67	4.89
98262PAA9	415	WW International Inc 144A	4.500	04/15/29	B+	B1	92.72	54.98	228,977	0.21	15.91	4.92
			5.292	02/11/28	B+	B1			\$5,003,728	4.70%	7.93	4.24





Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Technology & E	lectronics - E	lectronics										
902104AC2	75	Coherent Corp 144A	5.000	12/15/29	B+	B2	100.00	85.79	65,758	0.06	7.62	5.64
			5.000	12/15/29	B+	B2			65,758	0.06	7.62	5.64
Technology & E	lectronics - S	oftware/Services										
579063AB4	500	Condor Merger Sub Inc 144A	7.375	02/15/30	CCC+	Caa2	100.00	82.71	421,321	0.40	10.87	5.21
BL3563592	391	GO DADDY OPER CO TL B4	5.115	08/10/27	BB	Ba1	99.50	98.24	384,158	0.36	6.90	0.25
871503AU2	500	NortonLifeLock Inc 144A	5.000	04/15/25	BB-	B1	102.09	97.04	486,324	0.46	6.32	2.26
668771AK4	150	NortonLifeLock Inc 144A	6.750	09/30/27	BB-	B1	100.00	98.58	149,051	0.14	7.09	4.08
668771AL2	125	NortonLifeLock Inc 144A	7.125	09/30/30	BB-	B1	100.00	98.30	123,913	0.12	7.41	5.90
683715AD8	150	Open Text Corp 144A	3.875	12/01/29	BB	Ba2	100.00	79.25	121,297	0.11	7.73	5.79
683720AA4	650	Open Text Holdings Inc 144A	4.125	02/15/30	BB	Ba2	101.75	79.63	523,223	0.49	7.85	5.93
683720AC0	150	Open Text Holdings Inc 144A	4.125	12/01/31	BB	Ba2	100.00	75.25	115,453	0.11	8.01	6.96
69370CAB6	350	PTC Inc 144A	3.625	02/15/25	BB	Ba3	102.50	95.30	336,239	0.32	5.84	2.14
69370CAC4	700	PTC Inc 144A	4.000	02/15/28	BB	Ba3	102.66	90.57	639,926	0.60	6.11	4.61
78466CAC0	100	SS&C Technologies Inc 144A	5.500	09/30/27	B+	B2	105.88	92.98	93,453	0.09	7.22	4.18
87105NAA8	215	Switch Ltd 144A	3.750	09/15/28	BB	B1	100.13	101.00	218,180	0.20	3.38	2.69
BL3916600	354	TIBCO SOFTWARE TL B	8.053	03/30/29	В	B2	91.00	91.00	323,803	0.30	10.76	0.25
92343EAL6	750	VeriSign Inc	4.750	07/15/27	BBB	Baa3	107.33	95.88	729,555	0.68	5.76	4.08
92346LAE3	200	Veritas US Inc / Veritas Bermuda L 144A	7.500	09/01/25	B-	В3	95.59	84.18	170,866	0.16	14.49	2.37
BL3574615	246	WEX INC TL B	6.004	04/01/28	BB-	Ba2	99.49	97.83	240,955	0.23	7.21	0.25
			5.201	02/05/28	BB-	Ba3	_		5,077,716	4.77	7.37	3.45
Technology & E	lectronics - Te	ech Hardware & Equipment										
92535UAB0	400	Vertiv Group Corp 144A	4.125	11/15/28	BB-	B1	97.11	86.99	355,560	0.33	6.79	5.07
			4.125	11/15/28	BB-	B1		_	355,560	0.33	6.79	5.07
			5.129	03/02/28	BB-	ВаЗ	_	_	\$5,499,034	5.16%	7.34	3.58
Telecommunica	ations - Teleco	om - Satellite										
20752TAA2	575	Connect Finco SARL / Connect US Fi 144A	6.750	10/01/26	B+	B1	100.14	94.00	543,734	0.51	8.58	3.33



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Telecommunications - Telecom - Satellite (Continued)												
444454AF9	100	Hughes Satellite Systems Corp	6.625	08/01/26	BB	B2	112.63	94.20	95,856	0.09	8.46	3.18
			6.731	09/21/26	B+	B1		_	639,591	0.60	8.56	3.31
Telecommunicat	tions - Teleco	om - Wireless										
87264AAT2	60	T-Mobile USA Inc	5.375	04/15/27	BBB-	Baa3	106.50	98.65	59,335	0.06	5.72	3.90
87264AAV7	650	T-Mobile USA Inc	4.750	02/01/28	BBB-	Baa3	106.22	94.65	622,931	0.58	5.95	4.50
87264ABS3	225	T-Mobile USA Inc	2.625	02/15/29	BBB-	Baa3	98.86	82.66	187,239	0.18	5.97	5.58
87264ABV6	100	T-Mobile USA Inc	3.375	04/15/29	BBB-	Baa3	100.89	86.59	86,735	0.08	5.90	5.62
87264ABT1	400	T-Mobile USA Inc	2.875	02/15/31	BBB-	Baa3	98.63	80.50	324,436	0.30	5.88	7.05
87264ABW4	125	T-Mobile USA Inc	3.500	04/15/31	BBB-	Baa3	98.78	84.08	105,295	0.10	5.92	7.05
			3.870	03/21/29	BBB-	Baa3	_	_	1,385,972	1.30	5.92	5.48
Telecommunicat	tions - Teleco	om - Wireline Integrated & Services										
12685JAC9	550	Cable One Inc 144A	4.000	11/15/30	BB-	B2	98.80	81.39	457,789	0.43	7.07	6.43
50201DAA1	200	LCPR Senior Secured Financing DAC 144A	6.750	10/15/27	B+	B1	105.71	93.25	187,100	0.18	8.44	4.08
50201DAD5	550	LCPR Senior Secured Financing DAC 144A	5.125	07/15/29	B+	B1	101.76	84.25	471,675	0.44	8.23	5.34
527298BT9	125	Level 3 Financing Inc 144A	3.750	07/15/29	BB-	ВаЗ	96.75	75.97	96,348	0.09	8.53	5.54
667449AD4	120	Northwest Fiber LLC / Northwest Fi 144A	4.750	04/30/27	В	B1	99.78	89.89	110,248	0.10	7.43	3.85
92769VAJ8	300	Virgin Media Finance PLC 144A	5.000	07/15/30	В	B2	94.76	80.14	244,833	0.23	8.57	5.95
91845AAA3	200	VZ Secured Financing BV 144A	5.000	01/15/32	B+	B1	99.03	79.71	162,362	0.15	8.18	6.83
			4.873	12/08/29	B+	B1	_	_	1,730,355	1.62	7.95	5.63
			4.819	02/14/29	ВВ	ВаЗ	_	=	\$3,755,917	3.53%	7.31	5.18
Transportation -	Air Transport	tation										
BL3570811	200	AADVANTAGE LOYAL TL	8.993	04/20/28	BB*	Ba2	98.25	98.89	198,386	0.19	9.55	0.25
00253XAA9	85	American Airlines Inc/AAdvantage L 144A	5.500	04/20/26	BB*	Ba2	100.00	95.23	81,090	0.08	8.03	1.91
00253XAB7	75	American Airlines Inc/AAdvantage L 144A	5.750	04/20/29	BB*	Ba2	100.00	91.00	68,382	0.06	7.92	4.29
830867AA5	100	Delta Air Lines Inc / SkyMiles IP 144A	4.500	10/20/25	BBB+*	Baa1	100.00	97.44	97,581	0.09	6.22	1.49
830867AB3	100	Delta Air Lines Inc / SkyMiles IP 144A	4.750	10/20/28	BBB+*	Baa1	100.00	93.03	93,174	0.09	6.53	4.04

^{*}MacKay Shields' in-house rating for "NR" rated security.



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Transportation -	Air Transport	ation (Continued)										
247361ZX9	150	Delta Air Lines Inc 144A	7.000	05/01/25	BBB-	Baa2	109.00	101.38	157,318	0.15	6.39	2.27
599191AA1	166	Mileage Plus Holdings LLC / Mileag 144A	6.500	06/20/27	BBB-*	Baa3	100.38	98.86	165,586	0.16	7.03	2.12
BL3447317	100	SKYMILES IP LTD TL B	7.993	10/20/27	BBB+*	Baa1	99.00	100.81	101,079	0.09	8.06	0.25
84859BAA9	36	Spirit Loyalty Cayman Ltd / Spirit 144A	8.000	09/20/25	BB*	Ba2	100.91	101.58	36,657	0.03	7.10	1.74
			6.789	04/05/27	BBB-	Baa3	_		999,253	0.94	7.55	1.82
Transportation -	Rail											
941130AB2	613	Watco Cos LLC / Watco Finance Corp 144A	6.500	06/15/27	B-	Caa1	106.99	94.11	591,976	0.56	8.05	3.79
			6.500	06/15/27	B-	Caa1			591,976	0.56	8.05	3.79
Transportation -	Transportation - Transport Infrastructure/Services											
75079MAA7	100	Railworks Holdings LP / Railworks 144A	8.250	11/15/28	В	B2	99.62	91.90	95,708	0.09	10.07	4.41
81254UAK2	210	Seaspan Corp 144A	5.500	08/01/29	BB-	Ba3*	95.19	77.16	164,917	0.15	10.31	5.19
85858EAA1	200	Stena International SA 144A	5.750	03/01/24	BB-	B1	96.24	93.75	189,417	0.18	10.90	1.22
85858EAB9	265	Stena International SA 144A	6.125	02/01/25	BB-	B1	98.15	93.55	251,953	0.24	9.36	2.01
			6.167	05/30/26	BB-	B1	_		701,995	0.66	10.10	2.87
Transportation -	Trucking & D	elivery										
98379JAA3	100	XPO Escrow Sub LLC 144A	7.500	11/15/27	BB+	Baa3	98.96	99.75	99,875	0.09	7.56	4.13
			7.500	11/15/27	BB+	Baa3			99,875	0.09	7.56	4.13
			6.564	01/31/27	BB-	ВаЗ	-	•	\$2,393,099	2.25%	8.42	2.71
Utility - Electric-D	Distr/Trans											
233293AR0	100	DPL Inc	4.125	07/01/25	BB+	Ba1	105.50	94.40	95,777	0.09	6.44	2.43
			4.125	07/01/25	BB+	Ba1	_		95,777	0.09	6.44	2.43
Utility - Electric-G	Utility - Electric-Generation											
18539UAC9	312	Clearway Energy Operating LLC 144A	4.750	03/15/28	BB	Ba2	104.86	92.37	290,087	0.27	6.45	4.60
524590AA4	200	Leeward Renewable Energy Operation 144A	4.250	07/01/29	BB-*	Ba3	100.72	81.00	164,833	0.15	7.98	5.45
65342QAL6	220	NextEra Energy Operating Partners 144A	3.875	10/15/26	ВВ	Ba1	104.25	92.70	204,308	0.19	5.97	3.58

^{*}MacKay Shields' in-house rating for "NR" rated security.



Holdings Report – Account 808

Security Identifier	Shares or Par Value	Security	Coupon	Maturity	S&P	Moody	Unit Cost	Market Price	Market Value	Percent of Assets	YTW	Dur Wst
Utility - Electric-	Generation (C	ontinued)										
65342QAB8	125	NextEra Energy Operating Partners 144A	4.500	09/15/27	BB	Ba1	107.60	93.00	116,969	0.11	6.18	4.25
629377CC4	88	NRG Energy Inc	6.625	01/15/27	BB+	Ba2	103.67	100.05	89,756	0.08	6.59	1.56
70339PAA7	300	Pattern Energy Operations LP / Pat 144A	4.500	08/15/28	BB-	Ba3	106.02	89.93	272,644	0.26	6.62	4.91
92840VAB8	100	Vistra Operations Co LLC 144A	5.625	02/15/27	BB	Ba2	102.75	95.33	96,516	0.09	6.90	3.68
92840VAH5	75	Vistra Operations Co LLC 144A	4.375	05/01/29	BB	Ba2	100.00	85.53	65,786	0.06	7.20	5.45
			4.650	01/31/28	BB	Ba2		•	1,300,899	1.22	6.66	4.35
Utility - Electric-	Integrated											
BL3639293	92	EXGEN RENEWABLES TL B	5.570	12/15/27	BB-	Ba3	99.50	98.92	92,133	0.09	7.22	0.25
69331CAH1	150	PG&E Corp	5.000	07/01/28	BB-	B1	98.92	90.13	137,694	0.13	7.15	4.70
69331CAJ7	350	PG&E Corp	5.250	07/01/30	BB-	B1	103.96	88.55	316,048	0.30	7.22	5.98
BL3547736	489	PG&E CORP TL B	6.813	06/23/25	BB-	B1	99.65	98.23	480,167	0.45	8.26	0.25
			5.976	08/26/27	BB-	B1	_	-	1,026,043	0.96	7.70	2.61
			5.191	10/19/27	BB-	Ba3	_	-	\$2,422,719	2.27%	7.09	3.54
Cash & Equival	ents											
-CASH-		UNITED STATES DOLLAR			AAA	Aaa	0.00	1.00	1,592,578	1.50	0.00	0.00
-CASH-		UNITED STATES DOLLAR			AAA	Aaa	0.00	1.00	4,636,103	4.35	0.00	0.00
			0.000		AAA	Aaa	-	-	\$6,228,681	5.85%	0.00	0.00
		Accrual Adjustment for Unsettled Trades							7	0.00		
Total Portfolio			5.255	03/26/28	ВВ	Ba3	_	-	\$106,516,775	100.00%	7.63	3.89

Disclosures



General Disclosure

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Disclosures



Morningstar Disclosures

The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period has the greatest impact because it is included in all three rating periods.

Morningstar percentile rank relative to all funds that have the same Morningstar Category. The highest (or most favorable) percentile rank is 1 and the lowest (or least favorable) percentile rank is 100. The top-performing fund in a category will always receive a rank of 1.

MainStay HY Corporate Bond Fund

Morningstar Star Ratings as of 9/30/22: MainStay High Yield Corporate Bond Fund's Class I shares rated four stars overall among 632 high yield bond funds; four stars, four stars and four stars for the three-, five- and 10-year periods from among 632, 577 and 400 high yield bond funds, respectively. Ratings for other share classes may vary.

Morningstar Percentile as of 9/30/22: MainStay High Yield Corporate Bond Fund Class I for: one-year period – 22nd (115/680), three-year period – 24th (126/632), five-year period – 19th (88/577), and 10-year period – 14th (45/400) in the US High Yield Bond Funds category.

MainStay Short Duration High Yield Fund

Morningstar Star Ratings as of 9/30/22: MainStay Short Duration High Yield Bond Fund's Class I shares rated five stars overall among 632 high yield bond funds; five stars and five stars for the three-year and five-year periods from among 632 and 577 high yield bond funds, respectively. Ratings for other share classes may vary.

Morningstar Percentile as of 9/30/22: MainStay Short Duration High Yield Fund Class I for: one-year period – 5th (20/680), three-year period – 9th (46/632) and five-year period – 9th (42/577) in the US High Yield Bond Funds category.

Risk Group Definitions

- *Risk Group 1 Highest Quality Strongest Credit Profile and Lowest Volatility (Initial Spread: 100 bps) + (Default Adjustment: 100 bps) = (Required Minimum Spread: 200 bps)
- *Risk Group 2 Seasoned Issuers Significant Equity Value and Strong Credit Statistics (Initial Spread: 100 bps) + (Default Adjustment: 200 bps) = (Required Minimum Spread: 300 bps)
- *Risk Group 3 Risk Credits Trading At Discount and More Research Intensive (Initial Spread: 100 bps) + (Default Adjustment: 400 bps) = (Required Minimum Spread: 500 bps)
- Risk Group 4 Special Situations Significant discount to asset value

Institutional Investor Award Disclosures

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Disclosures



Comparisons to an Index:

Comparisons to a financial index are provided for illustrative purposes only. Comparisons to an index are subject to limitations because portfolio holdings, volatility and other portfolio characteristics may differ materially from the index. Unlike an index, portfolios are actively managed and may also include derivatives. There is no guarantee that any of the securities in an index are contained in any managed portfolio. The performance of an index may assume reinvestment of dividends and income, or follow other index-specific methodologies and criteria, but does not reflect the impact of fees, applicable taxes or trading costs which, unlike an index, may reduce the returns of a managed portfolio. Investors cannot invest in an index. Because of these differences, the performance of an index should not be relied upon as an accurate measure of comparison.

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The following indices may be referred to in this presentation:

ICE BofA Corporates Cash Pay BB-B 1-5 Year Index

A subset of the ICE BofA U.S. Cash Pay High Yield Index including all securities with a remaining term to final maturity less than 5 years and rated BB1 through B3 inclusive. Index results assume the reinvestment of all capital gain and dividend distributions. An investment cannot be made directly into an index.

ICE BofA US High Yield Index

The ICE BofA US High Yield Index tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market. The ICE BofA US High Yield Index tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody's, S&P and Fitch) and an investment grade rated country of risk (based on an average of Moody's, S&P and Fitch foreign currency long term sovereign debt ratings). In addition, qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of \$100 million. Original issue zero coupon bonds, "global" securities (debt issued simultaneously in the eurobond and U. S. domestic bond markets), 144a securities and pay-in-kind securities, including toggle notes, qualify for inclusion in the Index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. DRD-eligible and defaulted securities are excluded from the Index.

ICE BofA High Yield CCC & Lower Index

The ICE BofA High Yield CCC & Lower Index is a subset of the ICE BofA US High Yield Index including all securities rated CCC1 or lower.

ICE BofA US Fallen Angel High Yield Index

The ICE BofA US Fallen Angel High Yield Index is comprised of below investment grade corporate debt instruments denominated in U.S. dollars that were rated investment grade at the time of issuance. Qualifying securities must be issued in the U.S. domestic market and have a below investment grade rating (based on an average of Moody's, Standard & Poor's Rating Services, or Fitch International Rating Agency).

ICE BofA US Emerging Markets External Debt Sovereign & Corporate Plus Index

The ICE BofA Emerging Markets Corporate Plus Index tracks the performance of US dollar (USD) and Euro denominated emerging markets non-sovereign debt publicly issued within the major domestic and Eurobond markets.

Disclosures



Average Credit Quality Disclosure

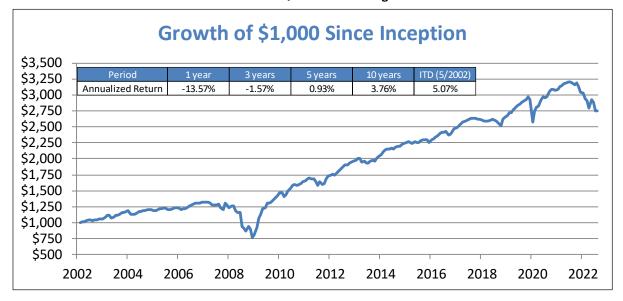
Average credit quality figures provided for information purposes only and are based on internal calculations by MacKay Shields using data obtained from independent third party rating agencies and internal ratings assigned to securities that are unrated by third party rating agencies. The average credit quality of a portfolio or fund is not obtained from, nor calculated by, third party rating agencies. No representation or warranty is made as to the accuracy of such calculations, or the accuracy of information provided by third parties.



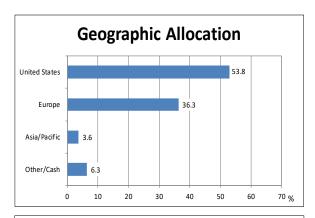
Spectrum Preferred and Capital Securities Income Fund

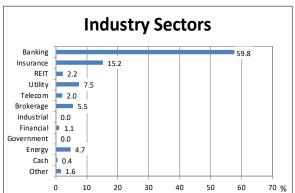
A U.S. Mutual Fund
October 2022 Overview

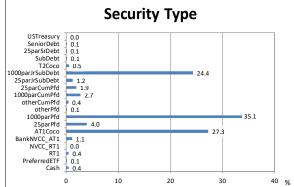
Headline "I" Share Class
ISIN: US74253Q4165 Bloomberg: PPSIX



Past performance is not a reliable indicator of future performance and should not be relied upon to make investment decisions.











Spectrum Preferred and Capital Securities Income Fund Snapshot October 2022 Overview

Monthly and Annual Returns

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2002					0.80%	0.20%	1.19%	1.76%	0.67%	-1.62%	1.07%	-0.10%	4.00%
2003	0.87%	1.05%	0.28%	1.69%	3.33%	0.45%	-4.19%	1.30%	2.57%	0.36%	0.80%	1.90%	10.72%
2004	1.18%	0.80%	1.15%	-4.82%	-0.37%	-0.09%	2.04%	1.81%	0.27%	0.71%	0.53%	1.25%	4.36%
2005	0.45%	0.18%	-1.83%	0.65%	0.83%	0.51%	0.37%	0.83%	-0.57%	-1.12%	0.09%	1.25%	1.62%
2006	0.57%	0.75%	-0.79%	-1.62%	0.19%	0.05%	2.15%	2.11%	0.95%	1.04%	1.40%	0.00%	6.94%
2007	0.19%	0.74%	0.02%	0.56%	-0.84%	-0.93%	-2.12%	-0.29%	0.54%	0.51%	-4.62%	-1.93%	-7.99%
2008	8.37%	-1.53%	-3.65%	1.78%	0.10%	-5.55%	-2.35%	0.36%	-19.28%	-3.48%	-4.53%	7.75%	-22.30%
2009	-3.67%	-15.31%	6.03%	14.00%	16.52%	4.59%	8.28%	1.43%	5.81%	0.59%	0.42%	3.88%	46.57%
2010	1.80%	1.68%	3.15%	0.36%	-3.83%	1.80%	4.53%	2.86%	2.56%	0.92%	-0.46%	0.25%	16.49%
2011	1.13%	1.71%	1.09%	1.48%	0.96%	-0.79%	-0.31%	-2.18%	-3.54%	3.46%	-2.64%	1.40%	1.53%
2012	4.14%	2.54%	1.08%	0.26%	-0.62%	1.92%	2.38%	1.74%	1.31%	1.87%	0.14%	0.99%	19.18%
2013	1.14%	0.82%	0.91%	1.35%	-0.16%	-2.79%	0.24%	-1.49%	0.22%	1.72%	0.33%	-0.41%	1.81%
2014	1.91%	1.96%	1.33%	1.79%	1.47%	0.68%	0.02%	1.08%	-0.79%	0.96%	0.85%	-0.25%	11.54%
2015	1.61%	0.80%	0.81%	0.23%	-0.33%	-0.92%	1.09%	-0.19%	-0.16%	1.60%	0.21%	0.21%	5.04%
2016	-0.37%	-1.47%	1.85%	0.92%	1.18%	0.39%	1.77%	0.96%	-0.19%	0.31%	-2.11%	0.51%	3.72%
2017	1.93%	1.60%	0.50%	1.52%	1.10%	1.07%	0.88%	0.27%	0.31%	0.69%	0.01%	0.16%	10.50%
2018	-0.47%	-0.37%	-0.28%	-0.36%	-0.47%	0.13%	0.72%	0.52%	-0.35%	-0.94%	-1.54%	-1.20%	-4.54%
2019	3.94%	1.34%	1.03%	1.44%	0.12%	1.94%	1.29%	0.90%	0.77%	1.26%	0.53%	0.83%	16.44%
2020	1.32%	-1.27%	-12.28%	7.06%	1.95%	0.90%	3.13%	1.83%	-0.49%	0.39%	2.88%	1.10%	5.45%
2021	-0.06%	-0.25%	0.34%	1.30%	0.44%	0.91%	0.43%	0.43%	0.00%	-0.34%	-1.02%	0.83%	3.03%
2022	-1.69%	-2.75%	-0.66%	-2.93%	-0.77%	-3.91%	4.49%	-1.65%	-4.13%	-0.02%			-13.40%

Portfolio Characteristics: Annualized return (since 5/2002): Approx. income:	5.1%
, , ,	5.1%
Approx. income:	
, to provide the	5.8%
Approx. capital gain:	-0.7%
Standard deviation (3 years):	10.2%
Sharpe Ratio:	-0.2
Percentage of positive months:	69.9%
Best month (05/2009):	16.5%
Worst month (09/2008):	-19.3%
Largest runup (02/28/09 to 09/30/21):	320.4%
Largest drawdown (04/30/07 to 02/28/09):	-42.5%
Number of holdings:	306
Number of issuers:	122
Modified Duration:	3.8
Average Dollar Price:	\$91.3
Average Coupon:	6.0
Current Yield:	6.5
QDI:	61.2
Yield to Maturity:	8.0
Yield to Call Annualized:	10.0
Yield To Worst:	7.7
Average Credit Rating (best of 3):	BBB
Annual Turnover:	11.8%
Fixed to Floating	25.9%
Fixed to Variable	61.9%
Fixed Rate	9.3%
Floating	2.4%
Cash	0.4%
Options and Futures	0.0%

Top 10 Holdings:	
Holding	<u>Percentage</u>
JP Morgan Chase 6.75 02/24-49 DRD	2.02%
J P Morgan Chase & Co 3.65 06/26 perp DRI	1.97%
Dominion Energy 4.65 12/24 perp DRD	1.82%
Charles Schwab Corp 5.375 6/25 perp DRD	1.60%
Bank of America 6.50 10/23/24-49 DRD	1.57%
Charles Schwab 4 6/26 perp DRD	1.52%
HSBC Capital Funding 10.176 6/30/30 144A	1.50%
Duke Energy 4.875 9/24-perp DRD	1.47%
Liberty Mutual Group 7.8 3/37-87 144a	1.45%
Nationwide Financial 6.75 5/37-67	1.32%

Top 10 Issuer Concentrations:	
<u>Issuer</u>	<u>Percentage</u>
JP Morgan	4.15%
Charles Schwab	3.57%
MetLife	3.37%
HSBC	3.28%
Wells Fargo	3.14%
Bank of America	3.13%
Citigroup	2.87%
Credit Suisse	2.60%
BNP Paribas	2.46%
Nordea Bank	2.41%

Sources: Bloomberg, Moody's, S&P, Fitch, Spectrum. Data from outside sources is believed to be reliable but has not been verified.

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Investment Manager

Founded in 1987, Spectrum Asset Management Inc. ("Spectrum") - headquartered in Stamford, CT - is a specialty manager focused on the preferred and subordinated debt securities – a segment of the global corporate fixed income market.

Principal Global Investors, LLC has been appointed as Investment Advisor to the Fund, and has appointed Spectrum Asset Management, Inc. as the Sub-Investment Advisor.

Fund Managers

Mark A. Lieb, Founder & CEO L. Phillip Jacoby, CIO & Sr. PM Manu Krishnan, PM Robert Giangregorio, PM Fred Diaz, PM Kevin Nugent, PM

Fund Facts

iiid i dets	
Spectrum Total Firm AUM:	US \$21.45B
Spectrum Founded:	1987
Fund AUM:	\$5.84B
Fund Launch Date:	May 2002
Fund Base Currency:	USD
Min Investment: "I" Shar	e US\$2M
TER: "I" Shares	0.81% pa
Subscriptions:	Daily
Redemptions:	Daily
Administrator :	Principal Global Investors
Custodian:	BNY Mellon
Auditor:	Ernst & Young LLP
Target Avg. Credit Quality:	Investment Grade
Target Mod. Duration:	Intermediate
	Fund AUM: Fund Launch Date: Fund Base Currency: Min Investment: "I" Shar TER: "I" Shares Subscriptions: Redemptions: Administrator: Custodian: Auditor: Target Avg. Credit Quality:

Investment Objective

The Fund is a an actively managed 40 Act Mutual which seeks to provide enhanced income return as well as capital appreciation, whilst attentive to capital preservation and volatility.

The Fund primarily invests in Preferred, Jr. Subordinated Debt, Subordinated Debt and Contingent Capital Securities (CoCos) securities; issued by major US, European and Asian Banks, Insurance Companies, Utilities, Telcoms, Reits, Industrials and other corporate issuers.

Security selection is based upon analysis of credit quality, relative value and securities structure.

There are several other share classes in addition to the Institutional I Share Class, including PPSAX and PPSPX. The Fund is available from broad range of leading Broker/Dealer throughout the U.S.

Benchmark

ICE BofA US All Capital Securities Index (Bloomberg Ticker IOCS)



Contact

Steven Solmonson
Sr. Vice President
Spectrum Asset Management Inc.
Institutional Investment Services
T. 203-321-1133
ssolmonson@samipfd.com
www.samipfd.com

Name ^	TCKR 💸	YTD o	1 yr 💸	3 yr 💠	5 yr 💠	10 yr 💠	Since inception \Diamond	Inception odate	NAV 🗘	NAV change \Diamond	YTD ♦	Total fund assets \Diamond	Net expense ratio \Diamond	Gross expense ratio \Diamond
Principal Spectrum Preferred and Capital Securities Income Fund Fixed Income • 1	PPSIX	-13.40%	-13.57%	-1.57%	0.93%	3.76%	5.12%	05/01/2002	\$8.54	▼ 0.05	-	\$5.8B	0.79%	0.79%



The Firm
The Capital Securities Market
The Investment Process

2022 Overview
For Discussion with
Professional / Institutional Investors
(Callan)

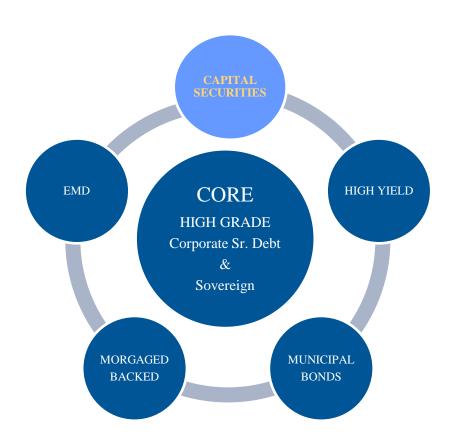
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SPECTRUM ASSET MANAGEMENT INC. 2 High Ridge Park, Stamford, CT 06905

- Spectrum is a leading investment manager specifically focused on the Capital Securities market. The universe of capital securities (which includes Baby Bonds, Subordinated Debt, Jr. Subordinated Debt, Preferred Securities and COCOs) is a specialty segment of the broader corporate fixed-income market.
- Capital Securities are primarily issued by regulated banks and other financial services firms, insurance companies and utilities as well as some telecoms, real estate investment trusts, industrials and other corporate issuers.
- > Spectrum was founded in 1987 and has been a wholly owned and independently operated affiliate of Principal Global Investors, a member of the Principal Financial Group®, since 2001. Spectrum has twenty-five dedicated professional is headquartered in Stamford, Connecticut. As of Sept 30, 2022, Spectrum's total firm AUM totaled approximately \$22 Billion.
- Spectrum manages a broad range of portfolio products to meet the needs of our investors. All portfolios are managed by a cohesive team, utilizing similar investment processes and drawing upon client directed portfolio guidelines.
- Products include: 1) three open-end similar U.S. 40 Act mutual funds, 2) two open-end Irish UCITS funds, 3) one closed-end fund listed on the NYSE 4) an Institutional REG D fund, 5) actively managed ETFs 6) customized institutional separately managed accounts for Insurance Companies, Pensions, Endowment & Foundations, Fund-of-Funds, Family Offices and OCIOs as well as 7) four separately managed account models for high-net-worth individual investors that are available via leading broker-dealer and RIA Platforms.
- Spectrum has produced a record of strong performance by consistently employing an investment process that emphasizes comprehensive credit analysis and portfolio construction focused on relative-value analytics.

Fixed Income Portfolio Positioning

Enhancing Yield by Including Capital Securities



"The Search for Yield"

- > Capital Securities are a segment of Corporate Fixed Income.
- ➤ Capital Securities can provide yield enhancement to a High-Grade Core Fixed Income portfolio to achieve Core PLUS.
- Some Capital Securities can provide tax advantaged treatment for U.S. taxable investors (i.e., QDI and DRD).
- Capital Securities (i0cs) are positioned between High Grade
 Corporate Debt (c0a0) and High Yield Debt (h0a0)
- Capital Securities are complimentary to other Enhanced income "PLUS" strategies, since there is little, if any, issuer overlap.
- ➤ The typical case for adding or blending Capital Securities:
 - 1) Enhancing Yield and managing duration vs. High Grade
 - 2) Enhancing Credit Quality vs. High Yield

https://www.theice.com/market-data/indices/fixed-income-indices
Tickers: c0a0, i0cs and h0a0 are ICE Indices that may serve as useful point
of reference representing key segments of the corporate fixed income
market.

CAPITAL SECURITIES

A Segment of Corporate Fixed Income Market

Positioned between High Grade & High Yield

CE BofA Indices	US Corp High Grade	US All Capital Securties	US High Yield
CE Index Ticker	c0a0	i0cs	h0a0
Avg Credit	A-	BBB-	B+
	Cumulat	ive Total Returns	
Mar 2012 - Sept 2022	26.94%	64.40%	55.65%
10Yr Annualized	1.78%	4.34%	3.86%
	Annua	l Total Returns	
2022 YTD Sep	-18.33%	-14.87%	-14.62%
2021	-0.95%	3.42%	5.36%
2020	9.81%	7.63%	6.17%
2019	14.23%	18.39%	14.41%
2018	-2.25%	-4.45%	-2.26%
2017	6.48%	10.55%	7.48%
2016	5.96%	3.81%	17.49%
2015	-0.63%	5.43%	-4.64%
2014	7.51%	11.95%	2.50%
2013	-1.46%	2.67%	7.42%
*Mar to Dec 2012	7.74%	10.27%	9.92%
	Past performance is	s no guarantee of future returns	
*Note: the i0cs Index (la	aunched in April 2012) which inco	orporates 4 sub indices covering both \$25pa	ar and \$1000par securities.
	Data source: ICE Ir	ndex Platform www.theice.com	

Capital Securities at a Glance

Looking at Comparative Weightings by Credit Quality & Industry

Attractive Opportunities to design a blended allocation between $\mbox{ HG} \leftrightarrow \mbox{Cap. Sec} \leftrightarrow \mbox{HY}$

ICE BofA Indices	US Corp High Grade	US All Capital Securties	US High Yield						
ICE Index Ticker	c0a0	i0cs	h0a0						
	CREDIT QUALITY AVG. WEIGHT as of 9-30-2022								
AAA	1.3	0.0	0.0						
AA	8.1	0.0	0.0						
A	41.9	7.6	0.0						
ВВВ	48.7	60.5	0.0						
ВВ	0.0	29.6	52.3						
В	0.0	2.4	36.7						
ccc	0.0	0.0	10.4						
CC or lower	0.0	0.0	0.7						
Total	100	100	100						
Avg Credit	A-	BBB-	B+						
	IND	OUSTRY AVG. WEIGHT as of 9-30-2	022						
Banks	18.32	37.84	1.23						
Insurance	4.49	19.94	1.54						
Other Financials	9.68	14.24	4.94						
Utilities	8.68	9.97	2.94						
Industrials	35.36	2.17	52.16						
REITs	3.44	3.68	3.85						
Retail	3.79	0.93	5.33						
Energy	8.50	6.36	12.61						
Media	3.87	0.48	8.74						
TelCom	3.87	4.39	6.68						

Attractive Comparative Default Characteristics

Annual Default Rates: 2005 to 2011 and 2012 to 2022

COMPARATIVE DEFAULT RATES							
	High Grade	Preferred & Capital Securities	High Yield				
Avg. Credit	А-	BBB/BBB-	B+				
LO Yr Avg	0.03%	0.09%	2.47%				
2021	0.00%	0.09%	0.31%				
2020	0.01%	0.07%	6.26%				
2019	0.22%	0.44%	2.82%				
2018	0.00%	0.11%	1.87%				
2017	0.00%	0.13%	1.82%				
2016	0.00%	0.00%	3.27%				
2015	0.00%	0.06%	3.48%				
2014	0.01%	0.00%	1.74%				
2013	0.04%	0.00%	1.09%				
2012	0.01%	0.00%	2.05%				
2011	0.00%	0.38%	1.77%				
2010	0.07%	2.63%	1.70%				
2009	0.19%	3.48%	16.76%				
2008	1.47%	2.86%	5.81%				
2007	0.00%	0.17%	0.60%				
2006	0.00%	0.17%	1.05%				
2005	0.07%	0.69%	3.79%				

Note: Dodd Frank Act was enacted on July 21, 2010; phasing-in regulatory reforms in the aftermath of the financial crisis. Bank capital requirement were significantly increased.

Default risk is an important – but just as importantly - active management affords rigorous credit analysis not only to avert default and deferral risk, but to minimize downward credit migration - which has always been and continues to be an essential part of Spectrum's comprehensive inhouse credit research process.

The Capital Securities Market Universe:

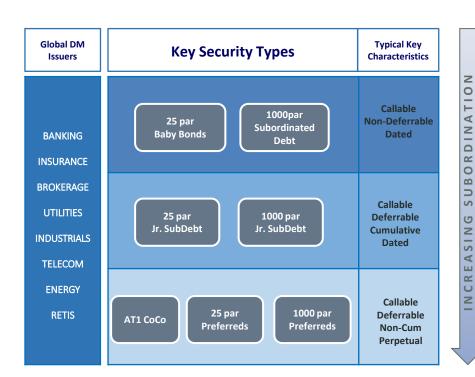
Looking at Security Types & Structures

Key Characteristics

The primary issuers of Capital Securities are Banks and other Financial Services Firms, Insurers and Utilities that are subject to regulatory oversight supporting strong capitalization.

- By issuing Capital Securities, issuers can bolster their senior debt credit rating and can lower their borrowing cost – yet avoid diluting their common shareholders. This is especially true for banks, insurers and utilities.
- Under Dodd-Frank and Basel III regulations, U.S. and European Banks, can meet a limited portion of their respective Alternative Tier 1 capital requirements by respectively issuing Preferred and AT1 CoCos. They can also issue subordinated debt to meet Tier 2 capital requirements.
- Solvency 2 insurance regulation in European provides similar advantageous treatment with respect to capital securities. Similarly, US insurers tend to issue capital securities to enhance their financial strength ratings by the NRSROs.
- Typically, Capital Securities are callable by the issuer in 5 or 10 years from the initial date of issuance. As an active manager, understanding these call provisions is especially important. For example, the call terms may be fixed-for-life (F4L), fixed-to-float (F2F) or fixed-to-variable/reset (F2V). F2F and F2V have become more common over the past 10 years. In both instances the initial spread rate set at the time of original issue (i.e., "back-end") remains in place and is a key factor impacting duration and valuation.
- Spectrum guidelines provide that the Enterprise Credit Rating (Sr. Debt rating) of all issuers of Capital Securities shall be Investment Grade. The Capital Securities Universe of securities includes both Investment Grade (i.e., at or above BBB-) as well as Non-IG (i.e., below BBB-) securities. Spectrum guidelines provide for maintaining an Investment Grade Avg. Weighted Credit Rating above BBB-.

A SEGMENT OF THE CORPORATE FIXED INCOME UNIVERSE SUBORDINATED TO SENIOR DEBT & SENIOR TO COMMON STOCK.



SECURITY STRUCTURE IS A KEY FACTOR FOR EVALUATING RELATIVE-VALUE

Capital Securities: Key Security Types & Characteristics Explained

- > Baby bonds rank below senior secured debt and above subordinated debt. Baby bonds are bonds are typically issued with a \$25par issue price and are and traded on the NYSE. Baby bonds are typically Callable, Non-Deferrable and Dated. Industrials, Telcom and other corporate issuers will issue \$25par baby bonds to facilitate greater retail investor participation which historically is the same reason why Banks and Utilities issue \$25par preferred securities. Accordingly, Baby bonds trade and \$25par preferred securities trade side-by-side in the marketplace.
- > Subordinated debt securities rank below senior debt and above junior subordinated debt. Subordinated debt securities are typically issued with a \$1000par issue price (traded on the over-the-counter institutional market) and are typically Callable, Non-Deferrable and Dated.
- > Junior subordinated debt securities (i.e., sometime referred to as hybrids) rank below subordinated debt and above preferred securities. Junior subordinated debt is typically issued in \$1000par and some \$25par and is typically Callable, Deferrable, Cumulative and Dated. It is noted that some European insurance companies issue debt securities that are technically classified as subordinated debt but are Deferrable (rather than Non-Deferrable). In these instances, Spectrum will typically categorize these securities along with junior subordinated debt.
- > Traditional Preferred securities rank below junior subordinated debt and above common stock. Preferreds are typically issued in both \$25 par and \$1000 par are typically Callable, Deferrable, Non-Cumulative and Perpetual (i.e., not-dated). Preferreds generally have no (or limited) voting rights. Like common stock, Preferred coupon payments are declared by the Board as a dividend payable from earnings. Under the current U.S. tax code, Preferred dividends typically qualify as Qualified Dividend Income (QDI) taxed at a lower tax rate for U.S. taxable investors. Spectrum routinely excludes U.S. issuer Preferred securities in portfolios managed for Non-US investors to avoid U.S withholding tax for Non-US investors. Preferred securities are typically classified as a corporate fixed income investment asset by credit rating agencies, insurance regulators, market-makers, portfolio managers, data agencies and investors.
- Additional Tier-1 ("AT1") contingent convertible capital bonds (also known as "CoCos") are issued by European banks and other regulated credit institutions pursuant to Basel III. AT1 CoCos are Callable, Deferrable, Non-Cumulative and Perpetual. However, CoCos contain a trigger if the issuer's required regulatory capital ratio falls below minimum requirements whereby the issuer may write-down the principal face value to a lower level sufficient to ensure that the common equity capital requirements are restored or in some instances may convert the Coco from a fixed income debt security to a common stock equity security.
 - · Baby bonds typically issued by Industrials, Telecoms and other corporate issuers
 - Subordinated Tier 2 Debt is predominately issued by regulated U.S. and Non-US Banks
 - · Jr. Sub Debt is predominately issued by regulated Insurance and Utilities
 - · Preferred Securities are predominately issued by regulated U.S. Bank and Utilities
 - COCOs are predominately issued by regulated Non-US Banks

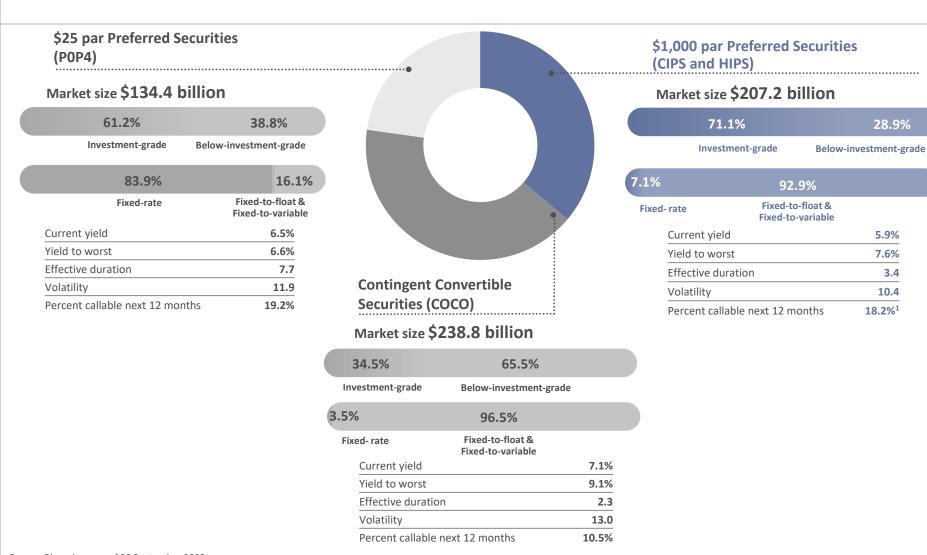
Typical Call Terms

Initially issued as non-callable for 5yr or 10 years.

Coupons are structed as Fixed-for-Life, Fixed-to-Float, Fixed-to-Reset or Floating.



\$600+ Billion Total Market Cap \$25par + \$1000par + CoCo Breakdown & Key Characteristics



Source: Bloomberg; as of 30 September 2022.

POP4: ICE BofA Core Plus Fixed Rate Preferred Securities Index. CIPS: ICE BofA US Investment Grade Institutional Capital Securities Index.

HIPS: ICE BofA US High Yield Institutional Capital Securities Index. COCO: ICE BofA Contingent Capital Index.

Index performance information reflects no deduction for fees, expenses, or taxes. Indices are unmanaged and individuals cannot invest directly in an index.

¹ The CIPS and HIPS index definitions exclude all securities callable within the next 12 months. The data presented "Percent callable next 12 months" was calculated by adjusting the indices to include all otherwise applicable securities that are callable within the next 12 months.



28.9%

5.9%

7.6%

3.4

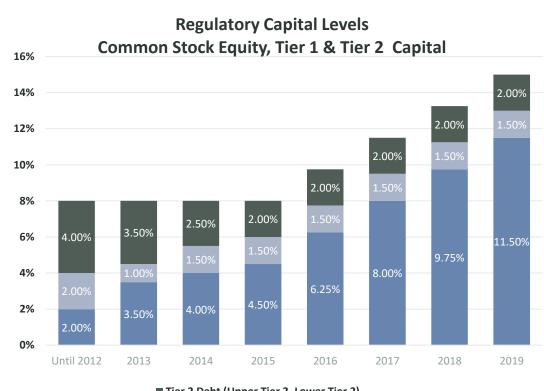
10.4

18.2%¹

Regulatory Capital Requirements Have Significantly Increased

The Transition to Stronger Balance Sheets

- In the aftermath of the 2008 financial crisis. regulatory reform was adopted globally (i.e., Dodd-Frank & Basel III).
- Bottom-line, capital requirements were significantly increased, and risk reduced. The slide shows that bank Common Equity Capital (CET1) levels have increased substantially.
- Regulatory capital requirements are based on riskweighted assets "RWAs" basis.
- CET1 = common equity Tier 1 = common share + retained earnings.
- **AT1 CoCos = Additional Tier 1 contingent** convertibles. A CoCo is a loss absorbing subordinated debt issued by an institution for regulatory purposes
- Tier 1 debt: "legacy Tier 1" are grandfathered securities issued under Basel II that have been largely phased out and replaced either by AT1 CoCos or CET1.
- U.S. and Non-US Bank capital has been strengthened a result of the regulatory reforms whereby Alternative **Tier 1 Capital (non-cumulative perpetual Preferreds** and CoCos) have a far greater CET1 buffer.

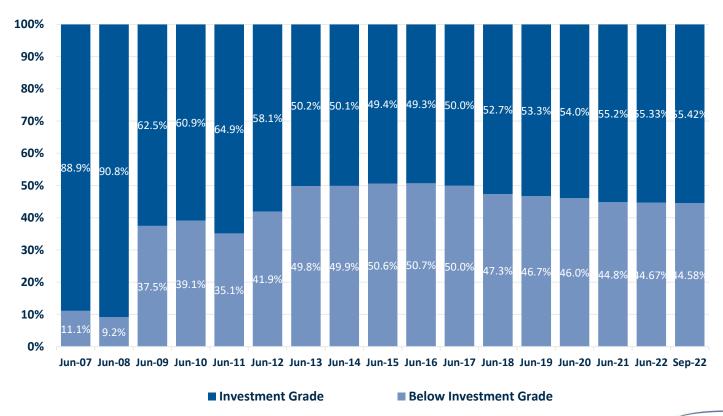


- Tier 2 Debt (Upper Tier 2, Lower Tier 2)
- Tier 1 Debt (Legacy Tier 1 and AT1 CoCos)
- Common Equity (minimum CET1 + combined ratio)

Credit Agency Ratings Have Been Significantly Lowered

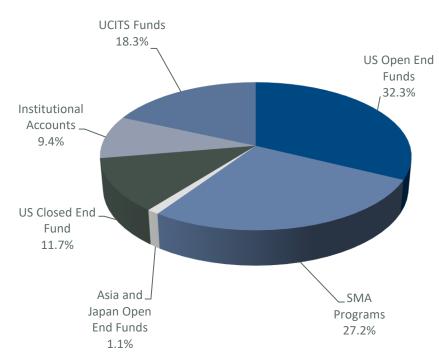
In the aftermath of the 2008 financial crisis credit rating agencies substantially lowered ratings guidelines and regulators mandated substantially higher capital requirements.

Stronger Financials & Lower Ratings = Investor Opportunity



Spectrum Asset Management

- Spectrum is headquartered in Stamford, Connecticut, and is one of the largest specialized managers of USD preferred and capital securities in the United States
- Founded in 1987 and acquired by Principal Global Investors in 2001
- An SEC registered investment advisor, with an affiliated FINRA member broker-dealer
- \$21.82 billion in assets under management as of 30 September 2022, which includes \$4.29 billion in SMA advisory assets (a)
 - Individual mandates for a global roster of institutional pension fund, insurance, corporate, endowment and foundation clients
 - Separately Managed Account wrap programs for US domiciled high net worth investors distributed by national and regional broker-dealers
 - Three open-end mutual funds and two preferred securities active ETFs domiciled and distributed in the United States, including the largest specialized openend mutual fund focused on preferred securities
 - One open-end UCITS funds domiciled in Dublin and distributed globally to non-United States taxpayers
 - Three open-end mutual funds domiciled and distributed in Asia and Japan
 - One closed-end fund listed on the New York Stock Exchange



The Firm - Spectrum Products - Funds & SMAs

FUNDS & SMA PROGRAM MANAGED BY SPECTRUM ASSET MANAGEMENT

Managed by a cohesive team, utilizing similar investment processes and drawing upon client directed portfolio guidelines.

FUNDS

US Onshore Funds for US Investors

Principal Spectrum Preferred & Cap Sec Income Fund

Launched: 2001

Sponsor: PGI US Fund Platform

AUM: \$6.0 Bil

Ticker: PPSIX (headline I Shares)

Tax Adv on US QDI holdings for US Investors

Offshore Funds for Non-US Investors
Principal Preferred Securities UCITS Fund

Launched: 2003

Sponsor: PGI Irish Fund Platform

AUM: \$4.0 Bil

Ticker: PGIPSIA (headline US\$ I Shares)

No US QDI holdings / No US Withholdings Tax

Funds Offered By Prospectus Only

INSTITUTIONAL PORTFOLIO ACCOUNTS WITH CUSTOMIZED GUIDELINES

Minimum Account Size: Typically, \$25 Mil.

Available for U.S. and Non-US Insurance Companies, Corporate Treasury, Pensions, Family Offices, Endowment & Foundations

SEPARTELY MANAGED MODEL ACCOUNTS

SMA Program for Wrap Accounts Platforms
Total AUM \$6.2 Bil

Minimum Account Size: Typically, \$100,000

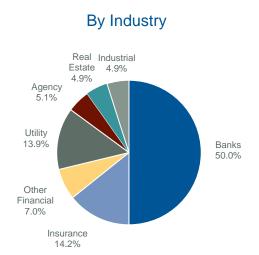
Available from leading Brokerage Firms and RIA

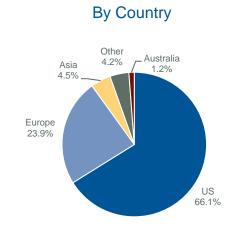
- 1) SMA \$25 Par with Standard Weighting
- 2) SMA \$25 Par with QDI Overweighting
- 3) SMA \$25 Par with Specialty \$1000 par Cap Sec Fund
- 4) SMA \$25 Par for NRA without QDI

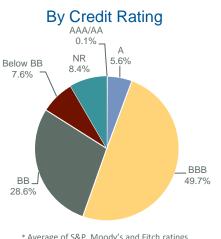
Capital Securities Market Universe

Spectrum vs. the Broad Market – Placing Added Emphasis On Credit Quality

The Broad Market Universe

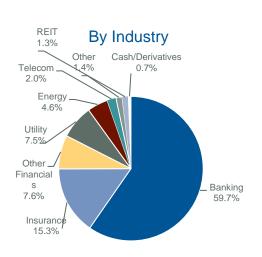


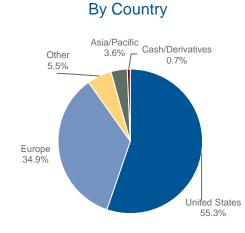


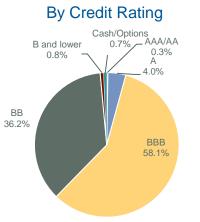


* Average of S&P, Moody's and Fitch ratings

Spectrum (PPSIX Fund)





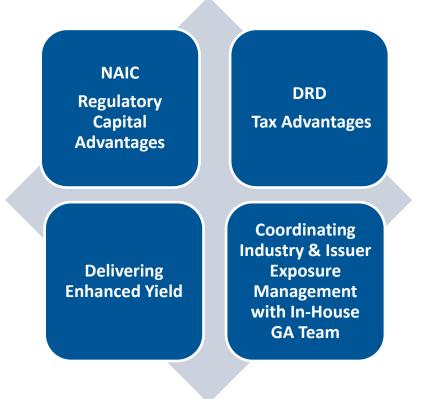


* Average of S&P, Moody's and Fitch ratings

Spectrum: Institutional SMA Portfolios Insurance GA - Customized Sub-Advisory

Spectrum has managed Preferred & Jr. Subordinated Securities Portfolios for Insurance Companies for more than 30 years. Tapping Spectrum expertise as a specialty external manager provides an attractive alternative to building a skilled in-house specialty team focused on the Preferred Securities Market.

Portfolios are designed to meet specific investor needs and objectives.



Spectrum: Product Comparative Returns: 2010 to September 2022 Funds & SMA Platform Models

YEAR	US Mutual Fund	UCITS Fund	Institutional REG D Fund*	SMA	SMA	SMA	SMA	
	PPSIX	PGIPSIA	SCSI Fund	Tax Adv-QDI \$25 par only	Taxable- Standard \$25 par only	\$25par plus 1000 par Cap Sec Fund	NRC \$25 par only	
	NET %	NET %	NET %	GROSS %	GROSS %	GROSS %	GROSS %	
YTD 2022	-13.4	-13.6	-14.2	-13.4	-13.4	-14.1	-10.5	
2021	3.0	2.7	2.5	2.3	2.2	2.7	0.9	
2020	5.5	5.2	6.6	8.1	8.0	7.5	6.6	
2019	16.4	17.0	17.9	17.8	17.4	16.6	18.7	
2018	-4.5	-4.8	-4.9	-4.4	-4.2	-4.1	-3.4	
2017	10.5	10.6	10.2	11.4	11.4	11.2	9.9	
2016	3.7	5.5	6.0	0.3	0.1	0.7	0.3	
2015	5.0	3.1	3.6	9.5	9.1	6.3	7.2	
2014	11.5	11.1	15.9	16.6	16.5	NA	15.4	
2013	1.8	3.7	NA	-4.4	-3.9	NA	-2.4	
2012	19.7	21.2	NA	18.0	17.0	NA	NA	
2011	1.5	-0.08	NA	0.9	3.1	NA	NA	
2010	16.5	13.9	NA	13.4	15.2	NA	NA	
Notes Headline Institutional "I" Share Class *PGIT until			*PGIT until 12/31/18	Composite Models - GROSS before fees				

Past performance is no guarantee of future results.

Spectrum Capital Securities Institutional Fund is designed for Qualified Purchasers under Section 3(c)(7) of the Investment Company Act. Fund Returns are NET after fees. SMA returns are GROSS before wrap fees. Wrap fees determined by sponsoring B/D and RIA Platform provider.

Each product is designed to meet specific investor objectives and needs.

Spectrum also provides customized institutional SMAs designed for institutions; including Corporate Treasury, Insurance Companies, FOFs, Endowments, Foundations and Family Offices.

Spectrum's Investment Process: Credit and Portfolio Management One Team, One Process Through the Life of All Funds

Credit Selection

- Fundamentals-based, defensive approach to credit selection
- Research process comprises many inputs including company financials and managagement engagement
- Macro view of geopolitical, macroeconomic, sovereign and industry challenges
- •ESG assessments integrated in credit analysis
- •Forward looking view of credit profile leading to an issuer recommendation

Portfolio Construction

- "Bottom-Up" approach to issuer selection, security selection and portfolio design
- Emphasis on issuer, geographic, industry, market sector diversification and security structure characteristics
- •Relative value with respect to capital securities of comparable issuers in the same industry
- •Relative value with respect to senior debt and the capital securities stack of the same issuer

Trading

- "Top-Down" approach as to market sector \$25 par market v. \$1,000 par market
- •Granular approach as to individual security selection in the context of credit selection and portfolio construction
- •Seek to take advantage of inefficiencies and structural value differences in the \$25 par retail market
- •Seek to optimize structural value differences between the capital securities sectors

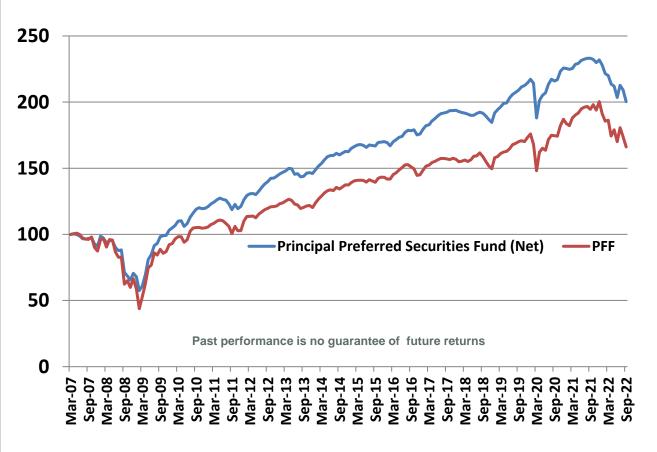
Compliance

- Pre- and post-trade review and testing of all trades and trade allocations
- Portfolio guidelines
- •Internal credit guidelines
- •Ongoing monitoring and review of trading for best execution

Active vs. Passive Management

Spectrum Actively Managed US Mutual Fund (PPSIX) vs. Passive iShare ETF (PFF)

Active Management Can Provide Added-Value Enhanced Performance + Credit Quality + Diversification



Source: Bloomberg

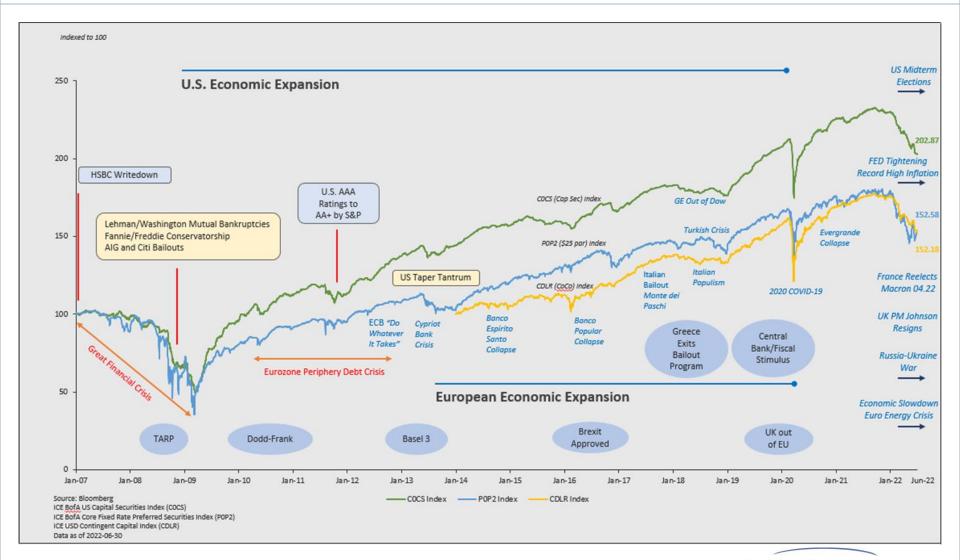
Snapshot as of 9/30/22

	Principal Spectrum Preferred Securities	PFF Passive ETF
%25 Par	7.38%	82.42%
% 1000 Par	65.77%	16.63%
Total Issuers	123	238
% Top 5 Issuers	17.76%	20.87%
% Top 10 Issuers	31.19%	29.12%
Industry Concentrations		
Banks	59.53%	35.71%
Other Financial	24.28%	34.77%
Non-Financial	15.40%	32.08%
Regional Concentrations		
North America	60.77%	94.90%
Europe	34.95%	0.50%
Other	3.64%	0.22%
Weighted Credit Rating	BBB-	BB+
Not Rated*	0%	20.49%
% Negative YTW	0.00%	0.66%

Timeline: Capital Securities vs. IG & HY



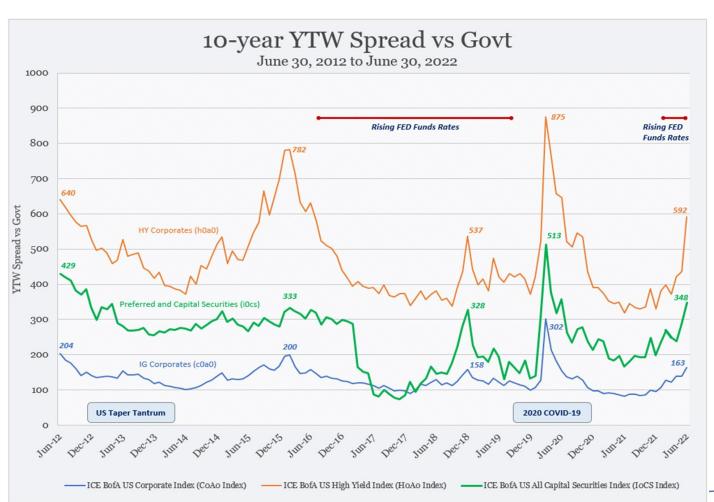
Timeline: Segments of Capital Securities



Timeline: Capital Securities vs. Sr Debt IG & HY

YTW Credit Spreads as of June 2022

Cap Securities Index (i0cs) @ 185bp over IG Sr. Debt Index (c0a0)



Spectrum Asset Management Team



Mark Lieb



L. Philip Jacoby IV



Manu Krishnan



Fred Diaz



Robert Giangregorio

Team Overview	Responsibilities	Education	Industry Start Date	Experience with Firm	Experience on Product
Mark Lieb	Founder & CEO	BA/MBA	1977	1987	1982
Phillip Jacoby	CIO & Sr. PM	BSBA	1982	1995	1982
Matthew Byer, JD	C00	BS/JD	1991	2007	1998
Joseph Urciuoli	Director Credit Research	BA/MBA	1980	1998	1993
John Kriz	Analyst Credit Research	BA/MA/MBA	1985	2008	2008
Chad Stogel	Analyst Credit Research	BS/MBA	2008	2011	2011
Victoria Cai	Analyst ESG / Credit Research	BA/MIA	2020	2021	2021
Fred Diaz	Portfolio Management	US Military	1992	2000	2000
Roberto Giangregorio	Portfolio Management	BS/MBA	2003	2003	2003
Manu Krishnan, CFA	Portfolio Management	BS/MBA	2004	2004	2004
Kevin Nugent	Portfolio Management	BA	1984	2012	1984
Albano Tunnera	Portfolio Management	AB	1996	1997	1997
Satomi Yarnell, CFA	Portfolio Management	MA	2006	2018	2013
Andrew Zint	Portfolio Admin & Client Services	BS	2012	2018	2018
Garrett Lieb	Portfolio Admin & Client Services	BS/MBA	2015	2018	2018
Matthew Molinski	Portfolio Admin & Client Services	BA	2014	2021	2021
Joseph Hanczor, J.D.	Compliance, Regularity & Risk Mgt,	BA/JD	1987	2009	1987
Steven Solmonson, JD	Product Specialist – Institutional Investors	BA/JD	1978	2012	1982
Dave Reichart, CFA CAIA	Product Specialist – Institutional Investors	BBA	1991	2021	2008
James Hodapp	Product Specialist – Retail Investors	BSBA	1981	2015	2015
Jean Orlando	CFO & Operations Manager	BBA	1980	1987	1987
Jennifer Simpson	Controller & Operations	BA/MS	2003	2017	2017
Thomas Kuna	Operations	BA	2011	2015	2011
Nancy Dray	Compliance & Regulatory	BA	1981	1987	1987
Patty Tyler	General Office Admin	N/A	1999	1999	1999

Spectrum Asset Management, Inc.

Al Tunnera

Fred Diaz

Asst. Vice President,

Portfolio Inv.

Mgmt. & Trading

Satomi Yarnell

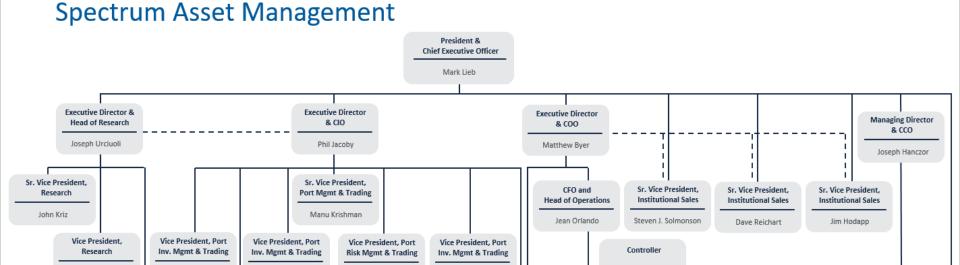
Kevin Nugent

Chad Stogel

Credit Research,

ESG

Victoria Cai



Bob Giangregorio

Asst. Vice President,

Client Service & Mktg

Andrew Zint

Client Service &

Marketing Assoc.

Matthew Molinski

Jennifer Simpson

Asst. Vice President,

Operations

Thomas Kuna

Port Administration

& Operations Assoc.

Garrett Lieb

Compliance Manager

Nancy Dray

Office

Manager

Patty Tyler

Spectrum Asset Management Team Biographies

SENIOR LEADERSHIP

MARK A. LIEB: Founder - President and Chief Executive Officer. Prior to founding Spectrum in 1987, Mr. Lieb served as Director and Partner of DBL Preferred Management, Inc., a wholly owned corporate cash management subsidiary of Drexel Burnham Lambert, Inc., Iricluding the daily management of preferred Management, Inc., including the daily management of preferred stock portfolios for institutional clients, hedging strategies, and marketing strategies. Mr. Lieb's prior employment included the development of the preferred stock trading desk at Mosley Hallgarten & Estabrook. Mr. Lieb holds a BA in Economics from Central Connecticut State College and an MBA (Finance) from the University of Hartford.

L. PHILLIP JACOBY, IV: Executive Director and Chief Investment Officer. Mr. Jacoby joined Spectrum in 1995 as a Portfolio Manager. He advanced to Senior Portfolio Manager and was appointmented as CIO on in 2010, following the planned retirement of his predecessor. Prior to joining Spectrum, Mr. Jacoby was a Senior Investment Officer at USL Capital Corporation (a subsidiary of Ford Motor Corporation) and co-manager of the preferred stock portfolio of its US Corporate Financing Division for six years. Mr. Jacoby began his career in 1981 with The Northern Trust Company, Chicago and then moved to Los Angeles to join E.F. Hutton & Co. as a Vice President and Institutional Salesman, Generalist Fixed Income Sales through most of the 1980s. Mr. Jacoby holds a BSBA (Finance) from the Boston University Questrom School of Business.

MATTHEW R. BYER: Executive Director and Chief Operating Officer. Mr. Byer joined Spectrum in 2007 and held the position of Senior Vice President with responsibilities for various areas of business and product development, client relations and asset management, until his appointment as COO on January 1, 2010. Prior to joining Spectrum, Mr. Byer was a Vice President and Director - Investment Banking at A.G. Edwards where he served as a senior member of the Financial Services Group for eight years. Mr. Byer began his career in 1991 as an attorney with Armstrong Teasdale LLP where his practice included the representation of issuers and underwriters of preferred securities. Mr. Byer holds a BS (Mathematics) and JD from the University of Illinois at Urbana - Champaign and is a Member of the Missouri and Illinois bar.

JOSEPH J. URCIUOLI: Executive Director and Head of Research. Mr. Urciuoli joined Spectrum in 1998. Prior to joining Spectrum, he was an analyst and assistant portfolio manager at Presidential Life Insurance recommending corporate, structured product and preferred security investments for the general account. Mr. Urciuoli started his career in 1980 as an equity analyst at Standard & Poor's, responsible for companies in the gaming, motion picture, lodging and recreation industries. Mr. Urciuoli also was a generalist in the Securities Division of the American Stock Exchange managing equity listings on the exchange, and manager of business valuations at American Appraisal Associates, where he was involved in LBO analyses, debt and equity valuations, and rendering fairness opinions. Mr. Urciuoli holds a BA/MBA (Finance) from Long Island University.

JOSEPH HANCZOR: Managing Director and Chief Compliance Officer. Mr. Hanczor joined Spectrum in 2009. Mr. Hanczor is responsible for the firm's compliance, regulatory and legal affairs, including its due diligence and risk management operations. Prior to joining Spectrum, Mr. Hanczor served for more than twenty years as legal counsel and compliance director for global investment advisory firms and broker/dealers, including Merrill Lynch, UBS and Smith Barney, advising them on a wide range of compliance, legal, regulatory, risk management and litigation matters. Mr. Hanczor also devoted several years to private law practice where he represented major financial services firms. Mr. Hanczor holds a BA (Economics) from Fordham College, a JD from Fordham Law School, FINRA Series 7, 24 and 63 registrations, and is a member of the Connecticut, New York and Florida bars. Mr. Hanczor participates in various securities industry legal and compliance associations.

JAMES E. HODAPP: Senior Vice President - Portfolio Specialist. Mr. Hodapp joined Spectrum in 2015. His responsibilities include retail distribution, relationship management and business development. Prior to ioining Spectrum, Mr. Hodapp was a Senior Vice President, Markets and Product Strategy at Wells Fargo Advisors, Mr. Hodapp began his career in 1981 at A.G. Edwards in the Fixed Income Department, and he has served as Director of the High-Net -Worth Portfolio Services Group, Manager of Taxable Trading, and as Manager of the Corporate Debt Syndicate Department. He holds a B.S.B.A from Southern Illinois University – Edwardsville.

STEVEN J. SOLMONSON: Senior Vice President - Portfolio Specialist. Mr. Solmonson joined Spectrum in 2012. Working closely with the portfolio team, his responsibilities include institutional mandates, solutions business development and investment solutions. Prior to joining Spectrum, Mr. Solmonson was the President and COO of Park Place Capital Ltd. for 12 years. Earlier in his career, Mr. Solmonson was the President of Value Investing Partners Inc, an investment banking boutique with offices in NY, London and Paris. Earlier, he was Managing Director at Lehman Brothers where he headed the international branch offices. Mr. Solmonson began his career at Drexel Burnham Lambert Inc., where he co-headed the Futures Division and was instrumental in the development and oversight of proprietary trading, brokerage services, risk management and the management of specialty investment advisory products. In that regard, he was a founding director of DBL Preferred Management Inc; working closely with Mark Lieb, who co-headed Preferred Management team. Mr. Solmonson attended Columbia College (BA Economics), The London School of Economics (Post-Grad / International Business) and Brooklyn Law School (JD). He is a member of the New York

DAVID L. REICHART, CFA, CAIA - Senior Vice President - Institutional Sales. Mr. Reichart joined Spectrum in 2021. His responsibilities include institutional sales distribution, relationship management, and business development. Prior to joining Spectrum, Mr. Reichart was responsible for business development as a Managing Director for Principal Portfolio Strategies (PPS). Prior to joining PPS, Mr. Reichart served as Global Head of GFR Investment Research for Principal Global Investors and previously spent two years with Guggenheim Partners Investment Management, building an asset allocation business. Previously, Mr. Reichart worked for Principal Global Investors, joining in 1991, and eventually serving as Executive Director of Relationship Management and Distribution. Mr. Reichart holds an MBA with an emphasis on International Business from Drake University and a bachelor's degree in Finance from the University of Nebraska. Mr. Reichart holds the Chartered Financial Analyst and the Chartered Alternative Investment Analyst designations. He is a member of the CFA Institute and the Life Office Management Association (LOMA).

Spectrum Asset Management Team Biographies

PORTFOLIO MANAGEMENT TEAM

FERNANDO "FRED" DIAZ: Vice President - Portfolio Manager. Mr. Diaz joined in 2000. As a senior member of the PM Team, his responsibilities include includes particular focus on the \$25par market. Prior to joining Spectrum, Mr. Diaz was head of preferred trading at Spear, Leeds & Kellogg and Pershing, a division of DLJ, where he initiated preferred trading operations at both firms. Mr. Diaz also worked at Goldman Sachs as an analyst in the Investment Banking division and in the Preferred Stock Department as a trader and product analyst. Mr. Diaz began his career in the aviation industry at Lockheed and earned the FAA Airframe & Powerplant certification before joining the U.S. Air Force and National Security Agency. In connection with his military service, Mr. Diaz attended the Defense Language Institute, the U.S. Department of Defense's educational and research institution to study Russian.

ROBERTO GIANGREGORIO: Vice President - Portfolio Manager. Mr. Giangregorio joined Spectrum in 2003. As a senior member of the PM team, his responsibilities include particular focus on \$1000 market. Prior to joining Spectrum, he was an intern with the Cayuga MBA Fund LLC where he covered Utility Sector equities. He also worked for the Ford Motor Company for over eight years as an engine design engineer. Mr. Giangregorio holds a BS (Mechanical Engineering) from S.U.N.Y. at Stony Brook, a MS (Mechanical Engineering) from the University of Wisconsin-Madison and an MBA (Finance) with distinction from Cornell University.

MANU KRISHNAN: Senior Vice President - Portfolio Manager. Mr. Krishnan joined Spectrum in 2004. He is a senior member of the Portfolio Management team and has been closely involved with managing Spectrum's strategies. Mr. Krishnan joined Spectrum in 2004 and in January of 2009 he joined the Portfolio Management team and has focused on the \$1000 par preferred market since then. Prior to joining Spectrum Mr. Krishnan worked as a software development engineer with the MathWorks, Inc. for three years developing algorithms for control and embedded systems. Mr. Krishnan is a CFA Charterholder and holds a MBA (Finance) from Cornell University, a MS (Mechanical Engineering) from the University of Delaware, a BS (Mechanical Engineering) from the College of Engineering, Osmania University India and has studied Computer Science in the Graduate School of Arts and Sciences at Harvard University.

KEVIN NUGENT: Vice President - Portfolio Manager. Mr. Nugent joined Spectrum in 2012 following 28 years of experience in trading and managing option derivative portfolios and has held senior trading and relationship management positions at Smith Barney, UBS and Prudential Securities where he developed risk reducing portfolio strategies for institutional clients using statistical analysis and a proprietary options trading model. Since 2007, Mr. Nugent has been managing a disciplined rules- based Volatility Flex Strategy in separately managed account, hedge fund and open-end mutual fund products. In his prior role as Co-Founder and Chief Investment Officer of Bishop Asset Management, Mr. Nugent managed a public fund named the Volatility Flex Fund. Mr. Nugent holds a BA from Ohio Wesleyan University as well as FINRA Series 65 registration.

ALBANO TUNNERA: Vice President - Portfolio Manager. Mr. Tunnera joined Spectrum in 1997. Mr. Tunnera responsibilities include particular focus on the portfolio management and trading of the SMA Model Portfolio provided by Spectrum. Prior to joining Spectrum, Mr. Tunnera was the Assistant Operations Manager for the Stamford, CT branch of Smith Barney, Inc. Mr. Tunnera holds an AB (Finance and Banking) from Norwalk Community and Technical College.

SATOMI YARNELL: Assistant Vice President - Portfolio Manager. Ms. Yarnell joined Spectrum in 2015. She initially served as a member of the Portfolio Admin team and moved to the PM team in 2021. Her responsibilities include particular focus on the Subordinated Debt market. Prior to joining Spectrum, she was a Marketing and Client Service Specialist at Principal Global Investors (Japan). Previously, Ms. Yarnell worked for more than three years in Japan at Mitsubishi UFJ Securities and Daiwa Asset Management. Ms. Yarnell is a CFA Charterholder and Chartered Member of Security Analyst Association of Japan (CMA) and holds a MA (Economics) from Waseda University, Japan.

JOHN J. KRIZ: Senior Vice President - Research Analyst. Mr. Kriz joined Spectrum in 2008. His responsibilities include particular focus on credit research and coverage of US and non-US banks and REITs. Prior to joining Spectrum, Mr. Kriz was a Managing Director of Moody's of the real estate finance rating team. In prior positions at Moody's, he was an analyst for US and foreign banks, securities firms and other financial institutions, and sovereigns. Mr. Kriz holds a MBA from the Kellogg School of Management, a MA (Political Science) from Northwestern, and a BA from St. John's University in Minnesota.

CHAD T. STOGEL: Vice President - Research Analyst. Mr. Stogel joined Spectrum in 2011 and currently serves as Vice President. He is responsible for coverage of the U.S. and global property & casualty and life insurance industries, as well as public utilities. Prior to joining Spectrum, Mr. Stogel was an equity trader with Trading. Mr. Stogel holds a MBA, specializing in Finance, Economics and Management from the NYU Stern School of Business, and a BS in Finance from the Smeal College of Business at The Pennsylvania State University.

VICTORIA CAI: Research Analyst - ESG Specialist Ms. Cai joined Spectrum in 2021. Ms. Cai responsibilities include research coverage and engagement with respect to Environmental, Social and Governance (ESG) bank, insurance companies, utility and other corporate issuer policies and practices issues. Ms. Cai holds a BA (double major: Economics & International Relations) from Mount Holyoke College and a Master of International Affairs, with a concentration in Energy and Environment from Columbia University, where she focused on corporate sustainability.

Spectrum Asset Management Team Biographies

PORTFOLIO MANAGEMENT ADMINISTRATION & OPERATIONS TEAMS

ANDREW ZINT: Assistant Vice President – Portfolio Admin. & Client Services. Mr. Zint joined Spectrum in 2018. Mr. Zint interfaces closely with portfolio management, operations, compliance teams in connection with portfolio guidelines & analytics and related client support services. Prior to joining Spectrum, Mr. Zint held the role of Operations Specialist at Raylor Asset Management Group, LLC and assisted with client service, reporting, trade-support, compliance, and operations and control functions. Previously, Mr. Zint was a member of the Graduate Training Program at UBS Investment Bank ("UBS") and held roles in three separate areas within the Finance department. Mr. Zint holds a B.S. in Finance from the University of Connecticut.

GARRETT LIEB: Associate - Portfolio Admin. & Client Services. Mr. Lieb joined Spectrum in 2018. Mr. Lieb interfaces closely with portfolio management, operations, compliance teams in connection with portfolio guidelines & analytics and related client reporting services. Portfolio Administration and Client Service. Prior to joining Spectrum, Mr. Lieb was an Analyst at the Falconwood Corporation, a fund incubator for a high net worth individual. Mr. Lieb holds a BS in Economics from Franklin and Marshall College and an MBA from the University of Hartford Barney School of Business.

MATTHEW MOLINSKI: Associate - Portfolio Admin. & Client Services. Mr. Molinski joined Spectrum in 2021. Mr. Molinski interfaces closely with portfolio management, operations, compliance teams in connection with portfolio guidelines & analytics and related client reporting services. Prior to joining Spectrum, Mr. Molinski held the roles of Investor Relations Manager at Q4, Inc, Associate Director, Alternative Investments at Oppenheimer & Co Inc. and Senior Associate of Investor Services at SS&C Technologies Inc. Mr. Molinski holds a B.A. in Liberal Studies from S.U.N.Y. at Purchase.

Capital Securities – General FAQs:

What is the size of the Capital Securities Market? The global capital securities public market totals approximately \$1 Trillion. However, Spectrum is predominately focused on the higher quality / most liquid segment of the market which is approximately \$600 Billion. At any given time, Spectrum is likely to be actively following approximately 250 issuers and approximately 400 to 500 issues. The market has evolved substantially since the early 1980s and continues to grow.

Is the Capital Securities Market Global? The market is global. That said, nearly all issuers are based in North America, Western Europe and developed Asia. Although Issuers also issue in GBP and EUR, Spectrum generally favors the US\$ denominated side of the market, which includes the Yankee issues by Non-US issuers. Why? Because the US\$ market has broad retail and institutional participation, and consequently, the US\$ denominated issues generally provide greater liquidity.

How do investors position Capital Securities in their portfolio? Capital Securities, together with High Yield and EMD, are often included within the "PLUS" category, when constructing the components of a Core Plus Fixed Income Portfolio. Including Capital Securities adds depth and breadth to the portfolio; especially given that there is nearly no overlap of issuers between the issuers of Capital Securities vs. issuers of High Yield Sr. Debt and EMD.

Is the Capital Securities Market Liquid? Capital Securities have a unique liquidity advantage since Capital Securities trade on a relative value basis to the Issuers High Grade Sr. Debt, which is extremely liquid. While spreads will narrow and widen, largely due to credit sensitivity, even in the depths of the financial crisis, Capital Securities liquidity remained active, and did not freeze, like some other specialty fixed income markets. Moreover, Capital Securities trade as \$25par Listed securities as well as \$1000par OTC securities. The \$25par side has strong retail participation and the \$1000par side has strong institutional participation. Spectrum is active in both and routinely focuses on relative value between the two sectors.

There seem to be many types of "Preferred" securities? The terminology can be confusing. There are various types of structures that are generically referred to as Preferred Securities, which were historically issued by utilities and banks. The market has evolved and there are now a variety of security structures – in addition to Traditional Preferreds -- that we include in the capital securities universe. (For clarity, it is noted that unlike Traditional Preferreds Securities - Convertible Preferred include a right for the holder convert the preferred stock to common stock – and therefore are not typically included in the universe fixed of income capital securities.)

The terms "preferreds", "hybrids" and "subordinated" securities are often used as generic reference to a range of fixed income securities that all fall within the capital securities market universe. As set forth on pages 6 & 8, these include: 1) \$25 par Baby Bonds (which are actually senior corporate debt that trades on a listed exchange along-side \$25 par Preferreds), 2) Subordinated Debt, 3) \$25par & \$1000 par Jr. Subordinated Debt, 4) \$25par & \$1000par Preferreds and 5) AT1 CoCos. Typically, all of these capital securities: i) make specified coupon payments, ii) are callable by the issuer (e.g., 5yr or 10 yr. call terms), and iii) have no (or limited) voting rights. Whether Dated or Perpetual / Cumulative or Non-Cumulative – they are senior to common stock.

How are Capital Securities coupon payments taxed under the current U.S. tax code? Spectrum does not provide tax advice and investors are advised to consult with their own tax advisor. Points to be addressed with your tax advisor include: i) most U.S. issuer perpetual Preferred coupons payments are DRD eligible for U.S. corporate investors - but are typically subject to U.S. withholding tax if held by a Non-U.S. investor. ii) Most U.S. and Non-U.S. issuer perpetual Preferred and CoCo coupon payments are QDI eligible for individual U.S. investors. Dated Baby Bond, Subordinated Debt and Jr. Subordinated Debt coupon payments are not DRD nor QDI eligible and are typically classified as ordinary interest income for U.S. corporate and individual investors and not subject to U.S. withholding tax U.S. withholding tax for Non-U.S. investors. Spectrum routinely takes these U.S. tax into considerations when establishing portfolio guidelines with investors.

Capital Securities—General FAQs cont'd

Are Capital Securities an "asset class"?: Here too - capital securities are not typically considered a standalone asset class. Rather -- the universe of capital securities are typically classified as a segment of the broader corporate fixed income asset class.

Why are Capital Securities issued? Most importantly - corporate borrowers find it attractive to issue capital securities in order to enhance their credit rating (and lower the cost) on their Senior Debt. That is, since Capital Securities are subordinate to Sr. Debt, the issuers' Sr. Debt rating gets a boost from issuing any form of subordinated capital securities (i.e., Subordinated Debt, Cumulative Jr. Subordinated Debt, Non-Cumulative Preferreds and/or Non-Cumulative CoCos). At the same time, by issuing capital securities rather than common equity, the issuer avoids diluting its common stock. Industrials like Comcast, Verizon, DuPont and others have issued capital securities. Banks, Insurance Companies and Utilities are all capital-intensive business that are regulated. As such, regulators and credit agencies alike recognize the benefits of issuing capital securities which lowers the cost of senior debt, while limiting the level of common stock dilution. Accordingly, some regulatory regimes provide applicable carve-out treatment for issuing capital securities. For example, U.S. banks are generally permitted to treat their non-cumulative perpetual Preferreds as Alternative Tier 1 Capital, subject to a 1.5% limit.

Similarly, we believe that capital securities (preferreds and jr. subordinated) are relatively advantaged under NAIC capital requirements.

What is the impact of Regulatory Reform? The 'financial crisis" in 2008-2009 gave rise to material regulatory reform of US and European Banks as well as Insurance Companies globally. While it is not possible to address the various regulatory changes in detail in this Q&A, it is notable that Basel III and Dodd Frank as well as Solvency II in Europe all similarly focused on and implemented reforms to materially strengthen the capital structure of banks and insurers. In common, bank regulation required an increase of loss-absorbing capital – staked from the bottom to the top from the common equity level, the subordinated level to the senior debt level.

In short, the regulatory reforms reaffirmed that the benefits of issuing capital securities - enhancing the credit quality of senior debt, without diluting Common Equity holders. Key changes under Basel III and Dodd Frank required banks to phase-out cumulative Bank TruPfds (Jr. Suborinated Debt), which was replaced by the issuance of non-cumulative perpetual Preferreds by Banks in the US and AT1 (CoCos) by Non-US Banks. The market has steadily grown larger and at the same time has increased the issuance of more Fixed-to-Float and Fixed to Reset securities (generally with 5 Year or 10 Year Calls) that afford reduced durations, that have proven to be very popular with investors.

Under Solvency II in Europe, Insurance companies, like banks, are subject to stricter capital requirements. New regulations and the credit agencies recognized the benefits of issuing Capital Securities (primarily Jr. Subordinated Debt) in order enhance senior debt, while minimizing common equity dilution. Moreover, Capital Securities continue to be an attractive investment allocation for insurance companies' general accounts. All in all, a benefit to preferred investors, who are senior to common equity stockholders, yet are paid an added premium for their subordination to senior debt holders.

Why not simply invest in a passive ETF? See page 16 comparing a passive ETF vs. PPSIX – the headline U.S. Mutual fund actively managed by Spectrum. In-depth credit analysis and attentive security selection based upon relative-value and security structure analysis not only serves to drive Alpha, but often overlooked, active management is a key ingredient for effective risk management. As a specialty credit strategy – active vs. passive is especially important. The ETF structure is attractive – but if considering an ETF rather than a Mutual Fund structure - consider using an actively managed ETF rather than a passive ETF. Spectrum manages two actively managed ETFs – Ticket PREF (focused on the \$1000par market) and PQDI (focused on the QDI market).



THE CASE FOR PREFERRED AND CAPITAL SECURITIES

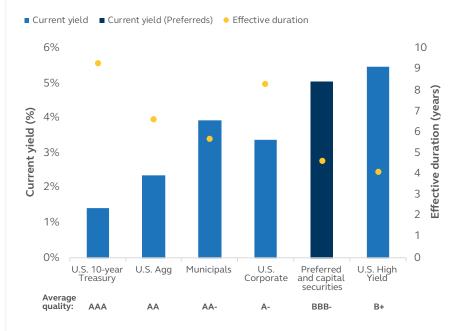
Quality, defensive, tax-advantaged income

In today's uncertain interest rate environment, global preferred and capital securities can offer attractive yields, higher income potential, and favorable lower duration when compared to other fixed income asset classes. Additionally, their various adjustable-rate coupon structures can help cushion the impact of rising interest rates risk while their high credit quality can be beneficial when global economic conditions become challenging. For individual U.S. taxpayers, the availability of qualified dividend income from some preferred and capital securities can selectively further enhance the after-tax yield available from the asset class

Potential investor benefits

- · Attractive income while maintaining a lower-duration, investment-grade portfolio
- Evolved security structures to help mitigate interest rate risk
- Reduced tax rates on qualified dividends for individual U.S. taxpayers

Favorable yield relative to duration and credit quality



Past index performance is not a reliable indicator of future performance.

Source: Spectrum Asset Management, Inc., Bloomberg LLP, and Barclays. As of December 31, 2021.

Index performance information reflects no deduction for fees, expenses, or taxes. Indices are unmanaged and individuals cannot invest directly in an index. See last page for index descriptions.

Active management based on specialized research and dynamic security selection to manage complex global markets

Deep and broad experience:

Specialized management of global high-quality preferred and capital securities across varied market, interest rate, and credit cycles for over 30 years.

Conservative, riskmanaged investment philosophy:

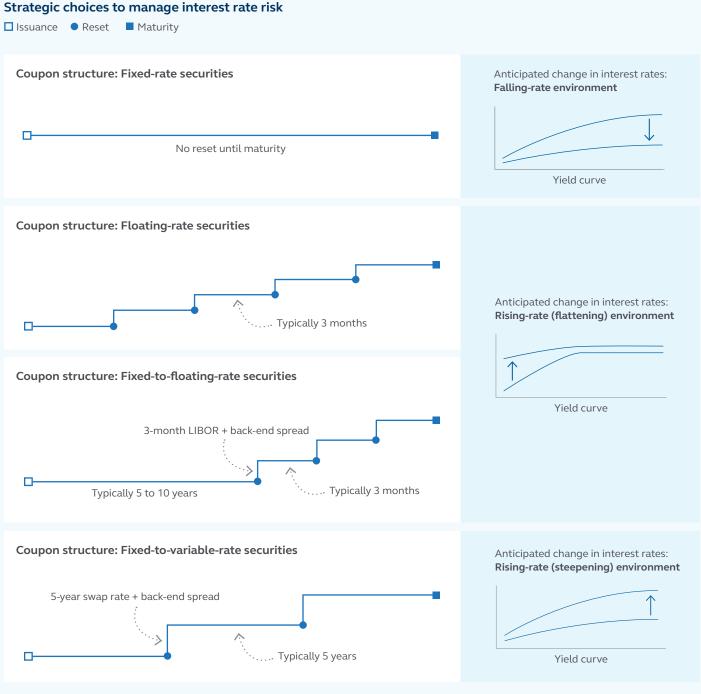
Emphasis on high current income consistent with capital preservation equates to higher quality bias relative to many competitors.

Dynamic management:

Focus on seeking an optimal combination of preferred and capital securities sectors and structures under a variety of credit, interest rate, evolving regulatory, and market conditions.

Evolved tools to help portfolio managers manage interest rate risks

Today's preferred and capital securities markets offer investors varied coupon structures that can benefit different types of interest rate movements. These structures include: fixed-rate, floating-rate, fixed-to-floating rate, and fixed-to-variable rate (i.e., re-fixed)—each having differing duration and call option features. Active portfolio management and security selection in anticipation of not only the overall direction on interest rates but the anticipated shape of the yield curve are valuable product flexibilities to help mitigate risks in both interest rate and credit cycles. By selecting securities trading at a premium due to wider back-end spreads on forward rates, preferred and capital securities can help to cushion the effect of widening spreads or rising interest rates.



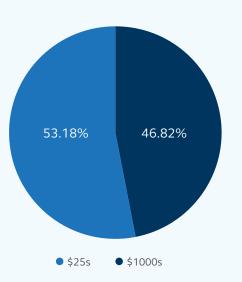
Source: Spectrum Asset Management For illustrative purposes only.

The preferred and capital securities market isn't what it used to be

The universe has vastly evolved due to regulation changes and with the introduction of contingent convertible securities (CoCos):

- The \$25 par preferred securities market —generally heavily comprised of fixed-rate structures that are sensitive to rising rates — has shrunk over the years.
- The current landscape, with a smaller \$25 par market, is made up of fewer fixed-rate structures and more adjustablerate structures that are less interest-rate sensitive.
- Preferred and capital securities are better positioned to be more defensive, which may help in rising rate environments.

Preferred and capital securities market size as of December 31, 2012



YIELD - 6.72% **EFFECTIVE DURATION -** 5.20 years

Preferred and capital securities market size

as of December 31, 2021



YIELD - 5.30% **EFFECTIVE DURATION -** 4.10 years

Source: ICE Data Services, Bloomberg. \$25s are represented by the ICE BofA Core Plus Fixed Rate Preferred Securities Index (P0P4); \$1000s are represented by the ICE BofA U.S. Investment Grade Institutional Capital Securities Index (CIPS) and ICE BofA U.S. High Yield Institutional Capital Securities Index (HIPS); CoCos are represented by the COCO index. Indices are unmanaged and individuals cannot invest directly in an index. See last page for index descriptions. Past index performance is not a reliable indicator of future performance.

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Preferred and capital securities have demonstrated the ability to hold up during rising rate environments

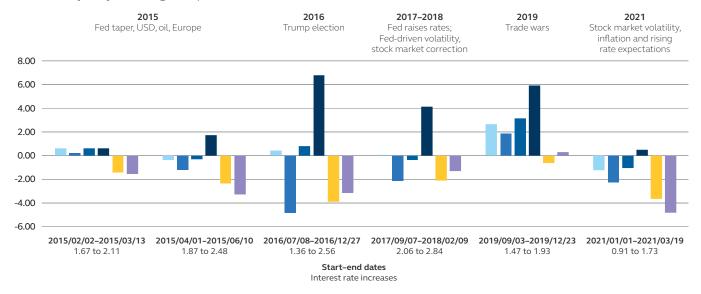
While not immune to broader volatility in the capital markets, preferred and capital securities have generally fared well and defended against income erosion, inflation, and credit risks during rising interest rate periods due to their yield potential, low duration, high credit quality profile, and various resetting coupon structures relative to other areas of the fixed income market.

Historical returns across previous rising rate periods

Federal funds rising rate periods



U.S. Treasury 10-year rising rate periods



Various factors other than rising rates, such as macro events, government policies, and yield demand, can affect the performance of fixed income markets. However, we believe that preferred and capital securities have the characteristics to help cushion against capital depreciation during times of rising rate volatility.

Past index performance is not a reliable indicator of future performance.

Source: Spectrum Asset Management, Inc., Morningstar. Index shown for comparison purposes only. Indices are unmanaged and individuals cannot invest directly in an index. See last page for index definitions.

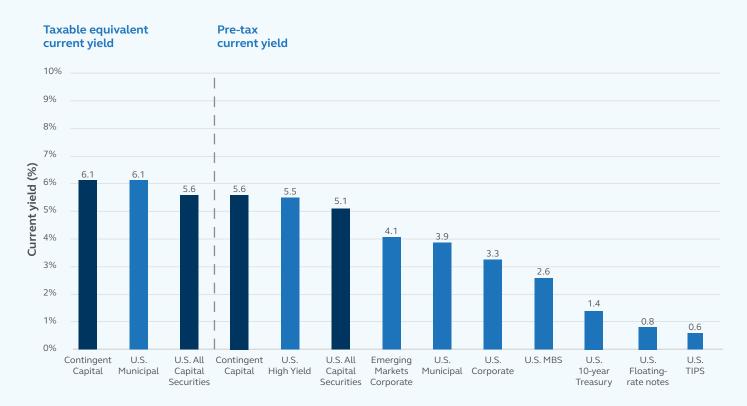
¹The time period shown above depicts 30 days before and after the federal funds rate increased on 2015/12/17.

²The time period shown above depicts 30 days before and after the federal funds rate increased on 2016/12/15.

Tax-advantaged dividends can augment after-tax income for U.S. taxpayers

Global U.S. dollar denominated preferred and capital securities currently offer among the highest after-tax current yields for individual U.S. taxpayers. Because dividends from some preferred and capital securities can qualify for a tax preference at lower rates, certain security selections can be more attractive than their bond equivalents. One way to implement a preferred allocation for a U.S. taxpayer would be to switch less tax-efficient high-yield debt or lower yielding investment-grade corporate bonds for more tax-efficient preferred and capital securities.

Qualified dividends favor individual U.S. taxpayers



Past index performance is not a reliable indicator of future performance.

Source: Spectrum Asset Management, Inc., Bloomberg LLP, Barclays. As of December 31, 2021.

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Index descriptions

Bloomberg U.S. Aggregate Index (U.S. Agg) provides a broad-based measure of the U.S. investment-grade fixed income markets.

Bloomberg Global-Aggregate Index (Global Agg) provides a broad-based measure of the global investment-grade fixed income markets.

Bloomberg U.S. Treasury Inflation-Linked Bond Index: U.S. TIPS index (U.S. TIPS) measures the performance of the U.S. Treasury Inflation Protected Securities (TIPS) market.

Bloomberg U.S. Mortgage Backed Securities Index (U.S. MBS) tracks fixed rate agency mortgage backed pass-through securities guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

Bloomberg U.S. FRN Index (U.S. FRN) measures the performance of USD denominated, investment-grade, floating-rate notes across corporate and government-related sectors.

ICE BofA Fixed Rate Preferred Securities Index (P0P1) tracks the performance of investment-grade exchange-traded preferred securities (\$25 par) with outstanding market values of at least \$100 million.

ICE BofA Core Fixed Rate Preferred Securities Index (P0P2) tracks the performance of fixed rate U.S. dollar denominated investment grade preferred securities issued in the U.S. domestic market.

ICE BofA Core Plus Fixed Rate Preferred Securities Index (P0P4) tracks the performance of fixed rate U.S. dollar denominated preferred securities issued in the U.S. domestic market.

ICE BofA U.S. Investment Grade Institutional Capital Securities Index (CIPS) tracks the performance of U.S. dollar denominated investment grade hybrid capital corporate and preferred securities publicly issued in the U.S. domestic market.

ICE BofA U.S. High Yield Institutional Capital Securities Index (HIPS) tracks the performance of U.S. dollar denominated sub-investment grade hybrid capital corporate and preferred securities publicly issued in the U.S. domestic market

ICE BofA U.S. All Capital Securities Index (IOCS) tracks the performance of fixed rate, U.S. dollar denominated hybrid corporate and preferred securities publicly issued in the U.S. domestic market.

ICE BofA Contingent Capital Index (COCO) tracks the performance of investment grade and below investment grade contingent capital debt publicly issued in the major domestic and eurobond markets.

ICE BofA U.S. High Yield Index (H0A0) tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market.

ICE BofA U.S. Corporate Index (COAO) tracks the performance of U.S. dollar denominated investment grade corporate debt publicly issued in the U.S. domestic market

ICE BofA Emerging Markets Corporate Plus Index (EMCB) tracks the performance of U.S. dollar and euro denominated emerging markets nonsovereign debt publicly issued in the major domestic and eurobond markets

ICE U.S. Broad Municipal Index (MUNI) tracks the performance of U.S. dollar denominated investment grade tax-exempt debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market.

ICE BofA Current 10-Year U.S. Treasury Index (GA10) is a one-security index comprised of the most recently issued 10-year U.S. Treasury note.

This material is provided by and reflects the current views and opinions of Spectrum Asset Management, Inc., is an affiliate of Principal Global Investors. Spectrum is a leading manager of institutional and retail preferred securities portfolios and manages portfolios for an international universe of corporate, insurance and endowment clients.

Risk Considerations

Past performance is no guarantee of future results. Investing involves risk, including possible loss of principal. Fixed-income investment options are subject to interest rate risk, and their value will decline as interest rates rise. Risks of preferred securities differ from risks inherent in other investments. In particular, in a bankruptcy preferred securities are senior to common stock but subordinate to other corporate debt.

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Compliance Review

PSPF Bond Portfolio in Compliance with the IPS Manager Guidelines, with the exception of MBS/CMOs under 1yr maturity with \$320K O/S.

Proposed revision to the IPS:

Allow holdings under 1yr to final maturity as an exception to the rule.

Appendix I: Investment Manager Guidelines

A. Colorado State Treasury Managed Market Duration Portfolio

The primary investment opportunity set is securities eligible for inclusion in the Bloomberg Barclays U.S. Aggregate index. Exceptions to this rule are itemized below under Additional Investment Opportunities.

Duration:

The effective duration of the portfolio shall be normally within +/- 30% of the Bloomberg Barclays U.S. Aggregate Index.

Bloomberg Barclays Aggregate Index Rules

- Must have at least one year to final maturity regardless of call features.
- Must have at least \$300 million par amount outstanding. Asset-backed securities
 must have at least \$500 million deal size and \$25 million tranche size. For
 commercial mortgage-backed securities, the original transaction must have a
 minimum deal size of \$500 million, and a minimum tranche size of \$25 million; the
 current outstanding transaction size must be at least \$300 million to remain in the
 index
- Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade.
- Must be fixed rate, although it can carry a coupon that steps up or changes according
 to a predetermined schedule.
- Must be dollar-denominated and non-convertible.
- Must be publicly issued. However, 144A securities with Registration Rights and Reg-S issues are included.

Additional Investment Opportunities

• Investment grade Collateralized Mortgage Obligation (CMO) tranches











2023 PLANNING - PUBLIC SCHOOL FUND INVESTMENT BOARD

February 27 Quarterly Meeting

Fund Manager presentation: Parametric Asset Allocation modeling (total fund level)

Education presentation by Callan

Q-4 Market Update

FY Q-2 Performance Report YTD Financial Report & Forecast

Rebalancing / Review of unrealized gains/losses

May 15 Quarterly Meeting

Vote on 1 year extension: MacKay Shields (July 20; total contract end 2025)

Asset class structure review (at portfolio level) *may be impacted by HB 1146 Working Group analysis

Annual review of IPS

Kickoff RFP Process – Janus Henderson (total contract end 2023)

Fund Manager presentation: Janus Henderson

Q-1 Market Update

FY Q-3 Performance Report

YTD Financial Report & Forecast

Rebalancing / Review of unrealized gains/losses

August 14 Quarterly Meeting

RFP Process Update: Janus Henderson (Oct. 11; total contract end 2023)

Vote on Parametric (Nov. 1; total contract end 2027)

Vote on 1 year extension: Portfolio Administrator (Oct. 25; total contract end 2026)

OMA education and review of Communication and Open Meetings Policy

Fund Manager presentation: Maruti More

Review fiscal year-end report for submission to State agencies

Board Membership (terms end in August/November)

Q-2 Market Update

FY End Q-4 Performance Report

YTD Financial Report & Forecast

Rebalancing / Review of unrealized gains/losses

November 13 Quarterly Meeting

Fund Manager presentation: MacKay Shields

Review of Spectrum Preferred Securities Fund - Steve Solomon

Conflict of Interest Policy Acknowledgement & Disclosure

Education presentation by Callan

Q-3 Market Update

FY Q-1 Performance Report

YTD Financial Report & Forecast

Rebalancing / Review of unrealized gains/losses

Other Dates to be set:

Review Preferred Spectrum Securities