<u>A GENDA</u>

A regular meeting of the Board of Trustees of the Waxahachie Firemen's Relief and Retirement (FR&R) Fund to be held at Waxahachie Fire Station No. 1, 407 Water Street, Waxahachie, Texas, on *Monday, December 11, 2023 at 8:30 a.m.*

BOARD MEMBERS: Gary Myers, Chairman

Matt Dorsey, Vice Chairman Scott Safford, Secretary Chris Wright, Mayor Pro Tem

Gail Turner. Assistant Finance Director

Lee Statham Phillip Young

- 1. Call to Order
- 2. **Public Comments:** Persons may address the Waxahachie Firemen's Relief and Retirement (FR&R) Fund on any issues. This is the appropriate time for citizens to address the Board on any concern whether on this agenda or not. In accordance with the State of Texas Open Meetings Act, the Board may not comment or deliberate such statements during this period, except as authorized by Section 551.042, Texas Government Code.
- 3. Consent Agenda

All matters listed under Item 3, Consent Agenda, are considered to be routine by the Board Members and will be enacted by one motion. Approval of the Consent Agenda authorizes the Chairman to execute all matters necessary to implement each item. Any item may be removed from the Consent Agenda for separate discussion and consideration by any Board Member.

- a. Minutes of the regular Firemen's Relief & Retirement Fund meeting of November 13, 2023
- b. Annuity checks for FR&R Retirees and other disbursements for the month of January 2024
- 4. Review and consider 2022-2023 Annual Report
- 5. Discuss Assets Allocation with Tony Kay, AndCo Consulting
- 6. Set next meeting date and time of Firemen's Relief and Retirement Fund Board
- 7. Adjourn

The Board reserves the right to go into Executive Session as authorized by Section 551.071(2) of the Texas Government Code, for the purpose of seeking confidential legal advice from legal counsel on any agenda item listed herein. This meeting location is wheelchair-accessible. Parking for mobility-impaired persons is available. Any request for sign interpretive services must be made forty-eight hours ahead of the meeting. To make arrangements, call the City Secretary at 469-309-4006 or (TDD) 1-800-RELAY TX

Notice of Potential Quorum

One or more members of the Waxahachie City Council may be present at this meeting.

No action will be taken by the City Council at this meeting.

Firemen's Relief and Retirement November 13, 2023

A regular meeting of the Board of Trustees of the Waxahachie Firemen's Relief and Retirement (FR&R) Fund was held at Waxahachie Fire Station No. 1, 407 Water Street, Waxahachie, Texas, on Monday, November 13, 2023 at 8:30 a.m.

Members Present: Gary Myers, Chairman

Matt Dorsey, Vice Chairman Scott Safford, Secretary Chris Wright, Mayor Pro Tem

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Gail Turner, Assistant Finance Director Lee Statham

Phillip Young

1. Call to Order

Chairman Gary Myers called the meeting to order.

2. Public Comments

None.

3. Consider appointment of Civilian Member to the FR&R Board

Action:

Secretary Scott Safford moved to appoint Phillip Young as a civilian member to the FR&R Board. Motion was seconded by Mayor Pro Tem Chris Wright and carried unanimously (7-0).

4. Administer Oath of Office to Civilian Board Member

Chairman Myers administered the Oath of Office to Phillip Young.

5. Consent Agenda

- a. Minutes of the regular Firemen's Relief & Retirement Fund meeting of October 9, 2023
- b. Annuity checks for FR&R Retirees and other disbursements for the month of December 2023

Action:

Phillip Young moved to approve all items on the Consent Agenda as presented. Motion was seconded by Secretary Scott Safford and carried unanimously (7-0).

6. Hear presentation from Doug Borths, Wolfpopper LLP and take action

Action:

Secretary Scott Safford moved to hire Wolfpopper LLP as the monitoring firm. Motion was seconded by Mayor Pro Tem Chris Wright and carried unanimously (7-0).

7. Discuss and consider Don't Tax Our Fallen Public Safety Heroes Act, IRS code 104(a)6

Firemen's Relief and Retirement November 13, 2023 Page 2

Action:

Phillip Young moved to hire Lauterbach & Amen, LLP to provide an official determination and draft a letter for the Firemen's Relief and Retirement Fund. Motion was seconded by Lee Statham and carried unanimously (7-0).

8. Review and consider 2022-2023 Annual Report

The item was continued to the December meeting.

9. Discuss and consider TEXPERS membership

Action:

Lee Statham moved to approve the TEXPERS membership renewal. Motion was seconded by Mayor Pro Tem Chris Wright and carried unanimously (7-0).

10. Discuss and consider refund of contributions for Latham Roden

Action:

Mayor Pro Tem Chris Wright moved to refund contributions for Latham Roden. Motion was seconded by Phillip Young and carried unanimously (7-0).

11. Set next meeting date and time of Firemen's Relief and Retirement Fund Board

The Firemen's Relief and Retirement Board set their next meeting for Monday, December 11, 2023 at 8:30 a.m. at Waxahachie Fire Station No. 1.

10. Adjourn

There being no further business, the meeting adjourned at 9:45 a.m.

Respectfully submitted,

Jami Bonner Assistant City Secretary

(36)

MEMORANDUM

TO: FR&R Board Members

FROM: Amber Villarreal, City Secretary DATE: Monday, December 11, 2023

SUBJECT: Approve Annuity Payments for the Month of January 2024 for

Retirees/Beneficiaries as Presented

Alexander Donald Alexander Jeffery Bennett Don Bratcher Billy Carrington Paul Chenault John Cobb Sharon Crecelius Dennis Creed Lori Crow Len Evans Karen Fuller Donald Gilley Dorothy Hamilton Denise Hamilton Steven Irvin **James** Johnston Randy Junkin Pam Kuykendall Terry Lewis Sammy Maeker David Martin J Morgan Alan Muirhead Randal Nunn Carol Ogletree Billy Potter Randall Rodgers John Rust Paul Skipper Terry Slay Mike Sport Jeffery Sykes Jerry Tillery Daryl Anne Turner John Olin Turner Sharon Warren Lisa Williams Sidney Wilson Darla

TOTAL

\$106,846.30





Waxahachie Firemen's Relief & Retirement Fund

September 30, 2023

REGISTRATION

Department Name	Waxahachie Firemen's Relief & Retirement Fund
Department Address	407 Water St. PO Box 1045
City, State, Zip	Waxahachie, TX 75165
Business Phone #	(469) 309-4200
Business Fax #	
Fiscal Year End	September 30, 2023

BOARD OF TRUSTEES

#	Statutory Position	Name	Email Address	Phone Number	Board Title	Beginning Term Date	Ending Term Date
1	Mayor or Designee	David Hill		(469) 309-4000 Trust	tee	N/A	N/A
2	CFO or Designee	Chad Tustison	Chad.tustison@waxahachie.com	(469) 309-4000 Trust	tee/City Finance Director	N/A	N/A
3	Elected Member	Gary Myers	GMyers@waxahachieFire.org	(469) 309-4200 Chair	rman	January-23	January-26
4	Elected Member	Matt Dorsey	MDorsey@waxahachieFire.org	(469) 309-4200 Vice	Chairman	January-21	January-24
5	Elected Member	Scott Safford	SSafford@waxahachieFire.org	(469) 309-4200 Secre	etary	January-22	January-25
6	Citizen Member	Lee Stratham		(469) 309-4000 Trust	tee	March-22	March-25
7	Citizen Member	Phillip Young		(469) 309-4000 Trust	tee	March-21	March-24

Administrator

#	Position	UT 55 ST	are a second sec				
1	Administrator	Gary Myers	GMyers@waxahachieFire.org	(469) 309-4200	Chairman	N/A	N/A
2							





Waxahachie Firemen's Relief & Retirement Fund

September 30, 2023

REGISTRATION

Department Name: Waxahachie Firemen's Relief & Retirement Fund

Fiscal Year End: September 30, 2023

CONTRACTORS

Ħ	Service Provided	Firm Name	Contact	Address	City	State	Zip Code	Email	Phone	Fax
1	Accountant	Helen R Duvall CPA	Helen Duvall	117 Misty Morning	League City	TX	77573	helen.duvall@cpa.com	(832) 620-0424	(281) 754-4580
2	Actuary	Retirement Horizons	David Sawyer	2201 Timberloch, Suite 150	The Woodlands	TX	77380	dsawyer@retirement-horizons.com	(281) 296-1100	(281) 296-1118
3	Attorney	Hund, Krier, Wilkerson & Wright, PC	Kimberly E. Wilkerson	4021 84th Street	Lubbock	TX	79423	kwilkerson@hkwlaw.com	(806) 783-8700	(806) 783-8710
4	Auditor	Yeldell, Wilson, Wood & Reeve, PC	Greer Yeldell	611 S Clay Street	Ennis	TX	75119	contact@ywrd.com	(972) 878-2611	(972) 878-2220
5	Investment Custodian	Frost Bank	Ed Peschke	4200 South Hulen Street	Fort Worth	TX	76109	Ed.Peschke@frostbank.com	(817) 420-5626	(817) 420-5106
6	Investment Manager	Driehaus Small Cap	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
7	Investment Manager	Invesco SteelPath MLP	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
8	Investment Manager	Driehaus Emerging Mkts.	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
9	Investment Manager	Virtus AllianzGI Conv Fd.	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
10	Investment Manager	Thornburg Stategic Income R6	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
11	Investment Manager	State Street Sm/Mid Cap	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
12	Investment Manager	Baron Real Estate Income Instl Fd	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
13	Investment Manager	Kopernik Intl	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
14	Investment Manager	Parnassus Endeavor Insti	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
15	Investment Manager	Fide lity Advisor Growth Opps	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex.Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
16	Investment Manager	WCM International Growth	Alex Tarver	4200 South Hulen Street	Fort Worth	TX	76109	Alex Tarver@frostbank.com	(817) 420-5626	(817) 420-5106
17	Investment Manager									





Waxahachie Firemen's Relief & Retirement Fund

September 30, 2023

Asset Class		September 30,	2022	September 30, 2023			
		Market Value	%	Market Value	%		
a Cash and equiva	lents	388,724.10	2.1%	886,415.70	4.1%		
b Mutual funds - f	ixed income	6,459,327.46	34.1%	6,175,376.08	28.5%		
c Mutual funds - a	alternatives	The second second	0.0%		0.0%		
d Mutual funds - e	equities domestic	5,528,055.22	29.2%	8,033,561.55	37.1%		
e Mutual funds - e	equities international	2,317,065.09	12.2%	1,932,272.30	8.9%		
f Mutual funds - r	real estate	1,244,667.26	6.6%	1,395,320.87	6.4%		
g Common stock	- domestic	185,144.14	1.0%	164,100.15	0.8%		
h Common stock	- international	1,328,074.66	7.0%	1,570,090.05	7.2%		
Alternatives - bo	and fund		0.0%	- AND STREET	0.0%		
j Alternatives - ed	quities international	1,491,538.71	7.9%	1,516,040.38	7.0%		
k					0.0%		
i i					0.0%		
m					0.0%		
n					0.0%		
0	2 3 2 2 3 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		0.0%		0.0%		
р	700 Fay	2000 000 000			0.0%		
	200	18,942,596.64	100.0%	21,673,177.08	100.0%		

	18,942,596.64	100.0%	21,673,177.08	100.0%
Aiternatives	1,491,558.71	7.370	1,510,040.56	7.070
Alternatives	1,491,538.71	7.9%	1,516,040.38	7.0%
Equities	10,603,006.37	56.0%	13,095,344.92	60.4%
Fixed Income	6,459,327.46	34.1%	6,175,376.08	28.5%
Cash Equivalents	388,724.10	2.1%	886,415.70	4.1%

Other Assets

Total Assets	19,023,701.88	21,817,035.49
Payables (enter negative amount)	(3,000.00)	(3,766.68)
Accrued Income	16,772.24	72,389.88
Receivables	67,333.00	75,235.21
Other		





Waxahachie Firemen's Relief & Retirement Fund

September 30, 2023

Revenues for Reporting Year

A Contributions	Percent of Salary Amou	int
Fire Fighters' Contribution	12.00%	00,182.25
City Matching Contributions as a Percent of Salary	16.10%	73,399.46
Total Contributions	28.10% 1,87	73,581.71 \$1,873,581.71
B Interest or Dividends on:		
Securities - equity and debt	40	08,654.72
Securities - gains/(losses)	1,91	70,190.24
Other income		325.92
Total Interest or Dividends	2,37	79,170.88 \$2,379,170.88
		72,000
C Miscellaneous Revenues		
(i.e transfers, refunds, etc)		\$0.00
Total Revenue		\$4,252,752.59



Texas Local Fire Fighters' Retirement Act Annual Report Waxahachie Firemen's Relief & Retirement Fund September 30, 2023



Disbursements (or Expenses) for Reporting Year

enefit Expenditures	Count	Amount	
Monthly Payments for Service & Early Ret. Benefits		1,059,476.92	
Paid on Disability (On-Duty)		54,302.16	
Paid on Spouses Benefits		84,250.06	
QDRO Payments		41,551.68	
Paid on Children's Benefits		1,906.80	
Paid on Disability (Off-Duty)			
"DROP" Lump Sum distributions		115,344.98	
Refund of Contributions		45,823.82	
Lump Sum Death Benefit			
Total Benefits		1,402,656.42	\$1,402,656.
on-Benefit Expenditures		Amount	
Actuarial Fees		12,000.00	
Audit Fees		14,098.35	
Investment Custodial Fees		7,871.22	
Investment Consultant Fees			
Investment Managers' Fees		13,615.01	
Travel Expense			
Conference & Training		2,096.85	
Professional Memberships			
Fiduciary Insurance			
Physicians' Fees			
Legal Fees			
Accounting Fees		5,487.50	
Dues and Subscriptions		95.80	
Bank Charges	321	1,498.00	
Miscellaneous (postage, checks, etc.)	12		
Other (indicate type of expense)			
Total Non-Benefit Expenditures		56,762.73	\$56,762.





Waxahachie Firemen's Relief & Retirement Fund

September 30, 2023

	Total Revenue	\$4,252,752.59
	Total Expenses	\$1,459,419.15
	Net Income (Total Revenues - Total Expenses)	\$2,793,333.44
omparing	g End of Year Assets	
	Generated By FFPC (A)	\$21,817,035.49
	End of Year Assets September 30, 2023 (B)	\$21,817,035.49
	Difference (A-B)	\$0.00
		Match
proxima	ate Rate of Return for the Year	12.06%
umber of	f Active Fire Fighters During the Reporting Year	78
iumber of	Active the righters burning the Reporting Tear	76
	Information Attested By:	Date
inancial		
nancial	Information Attested By: Gary Myers , Chairman	
inancial gned: gned:	Information Attested By:	
inancial gned: gned:	Information Attested By: Gary Myers , Chairman	
inancial gned: gned: gned:	Information Attested By: Gary Myers , Chairman Matt Dorsey , Vice-Chairman	

Asset Allocation Analysis December 2023

Waxahachie Firemen's Relief and **Retirement Fund**



ASSET ALLOCATION ANALYSIS



Set Objectives · Assess liquidity needs - current and future cash flows Assess investment time horizon Assess return target Provide AA 2 **Determine Risk Level** Recommendations • Assess risk tolerance • Select an appropriate asset Clients first. allocation target model **Model Portfolio Select Asset Classes** Historical model • Determine appropriate • Forecasting model asset classes • Monte Carlo simulations • Human overlay



Developing an investment strategy is based on a number of different decisions:

- What is the target return of the Plan?
- What asset classes should be considered for potential investment?
- What strategic (long-term) weights should be assigned to each asset class?
- What are the appropriate allocation ranges (+/-) around the strategic weight of each asset class?
- What are the most appropriate managers/vehicles to implement and retain for each asset class?

While manager and investment vehicle selection is an important part of implementing and maintaining an investment strategy, majority of a portfolio's variability over time is determined by the selection of asset classes and strategic (long-term) weights.



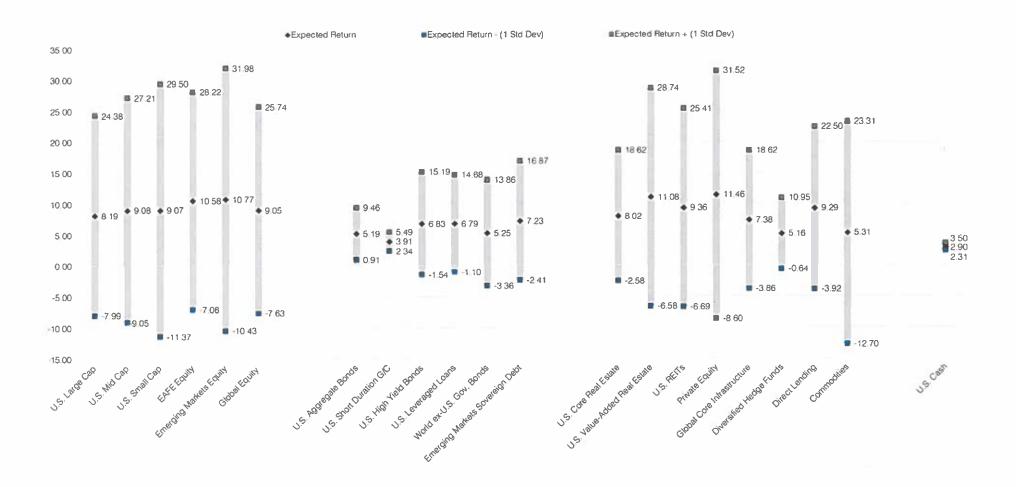
Limitations of Asset Allocation Models:

- The model output is based on the capital market assumptions; accurately predicting the expected return, standard deviation, and correlation coefficients for each asset class is very difficult.
- Many asset classes have historically exhibited non-normal return distributions (fat-tails and/or skewness); models generally assume normal distributions.
- Correlation coefficients change over time and may potentially overestimate the diversification benefits of combining asset classes (particularly during periods of market stress).
- Alternative asset classes introduce risk factors that are not captured in their standard deviation.

The return, risk, and correlation forecasts utilized in this report were developed by JPMorgan Asset Management.* These projections are based on its expectations over the next 10 to 15 years.



Expected Returns and Standard Deviations





Input Correlation Matrix

As	set Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	U.S. Cash	1.00																				
2	U.S. Aggregate Bonds	0.10	1.00																			
3	U.S. Short Duration Government/Credit	0.26	0.82	1.00																		
4	U.S. High Yield Bonds	-0.07	0.35	0.26	1.00																	
5	U.S. Leveraged Loans	-0.09	0.03	-0.07	0.78	1.00																
6	World ex-U.S. Government Bonds	0.09	0.72	0.68	0.38	0.03	1.00															
7	Emerging Markets Sovereign Debt	0.03	0.63	0.47	0.74	0.47	0.62	1.00														
8	U.S. Large Cap	-0.04	0.21	0.09	0.74	0.58	0.34	0.60	1.00													
9	U.S. Mid Cap	-0.05	0.19	0.07	0.78	0.63	0.31	0.60	0.96	1.00												
10	U.S. Small Cap		0.11		-			-	1	Section 2015	1000											
11	EAFE Equity		0.26					Contract Con	THE RESERVE													
12	Emerging Markets Equity	0.02	0.27	0.21	0.72	0.57	0.46	0.69	0.74	0.76	0.68	0.86	1.00									
13	Global Equity	-0.01	0.25	0.15	0.79	0.62	0.43	0.67	0.96	0.95	0.87	0.97	0.87	1.00								
14	U.S. Core Real Estate		-0.08	Transport of the last of the l									Total Control		Name and Address of							
15	U.S. Value-Added Real Estate		-0.08							1111												
16	U.S. REITs	-0.06	0.35	0.15	0.67	0.43	0.38	0.58	0.77	0.78	0.74	0.70	0.58	0.75	0.52	0.52	1.00					
17	Private Equity		-0.03		Section 1	The same of the sa		- 70	THE RESERVE	200	1000	STATE OF THE OWNER, TH	1	A CONTRACTOR			0.54	and the same of				
18	Global Core Infrastructure				September 1981	Billian III						- 23		Street, Square, Square				Sentret to 100	1.00			
19	Diversified Hedge Funds					The same of the sa						The second second	Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, which i					the same of the same of	0.43			
20	Direct Lending				The same of	the second named in					The second named in	The state of the s								_	1.00	-
21	Commodities	-0.04	0.00	0.03	0.46	0.42	0.31	0.35	0.45	0.48	0.40	0.54	0.57	0.54	0.35	0.35	0.32	0.57	0.46	0.53	0.54	1.00
		0.75 to -0.25								to 0.2 to -0	-						5 to 0. 75 to -					



		Н	istoric Capital	Market Assu	Imptions		Change (2	024 - 2023)
	2021 Arith Mean	2022 Arith, Mean	2023 Arith Mean	2023 Std. Dev	2024 Arith Mean	2024 Std. Dev	Arithmetic Mean	Standard Deviation
U.S Cash	1.10	1.30	2.40	0.50	2.90	0.59	0.50	0.09
U.S. Aggregate Bonds	2.16	2.66	4.68	4.09	5.19	4.28	0.51	0.19
U.S. Short Duration Government/Credit	1.71	2.11	3.61	1.63	3.91	1.58	0.30	-0.05
U.S. High Yield Bonds	5.13	4.22	7.14	8.53	6.83	8.36	-0.31	-0.17
U.S. Leveraged Loans	5.40	5.00	6.50	7.98	6.79	7.89	0.29	-0.09
World ex-U.S. Government Bonds	2.09	2.69	4.94	8.51	5.25	8.61	0.31	0.10
Emerging Markets Sovereign Debt	5.57	5.57	7.58	10.23	7.23	9.64	-0.35	-0.59
U.S. Large Cap	5.13	5.16	9.07	16.13	8.19	16.19	-0.88	0.06
U.S. Mid Cap	5.73	5.65	9.46	18.04	9.08	18.13	-0.38	0.09
U.S. Small Cap	6.33	6.17	9.94	20.37	9.07	20.44	-0.87	0.07
EAFE Equity	7.80	7.82	11.14	17.40	10.58	17.64	-0.56	0.24
Emerging Markets Equity	9.19	8.86	11.96	20.65	10.77	21.20	-1.19	0.55
Global Equity	6.25	6.17	9.74	16.63	9.05	16.68	-0.69	0.05
U.S. Core Real Estate	6.46	6.32	6.22	10.57	8.02	10.60	1.80	0.03
U.S. Value-Added Real Estate	9.48	8.92	9.09	17.58	11.08	17.66	1.99	0.08
U.S. REITs	7.58	6.75	7.94	15.84	9.36	16.05	1.42	0.21
Private Equity	9.36	9.66	11.64	19.96	11.46	20.06	-0.18	0.10
Global Core Infrastructure	6.64	6.64	6.84	10.82	7.38	11.24	0.54	0.42
Diversified Hedge Funds	3.52	3.82	5.22	6.89	5.16	5.80	-0.06	-1.09
Direct Lending	7.67	7.71	8.65	13.65	9.29	13.21	0.64	-0.44
Commodities	3.53	3.86	4.60	17.88	5.31	18.00	0.71	0.12



		Historic Trailing Returns		LT Std. Dev.	10-15 Year	Forecasts	
	3 Years	5 Years	10 Years	15 Years	15 Years	Arithmetic Mean	Standard Deviation
U.S. Cash	0.70	1.22	0.73	0.63	0,27	2.90	0.59
U.S. Aggregate Bonds	-2.71	0.02	1.05	2.65	3,97	5.19	4.28
U.S. Short Duration Government/Credit	-0.32	0.92	0.88	1.54	1.28	3.91	1,58
U.S. High Yield Bonds	0.05	2.31	4.02	6.07	10.12	6.83	8.36
U.S. Leveraged Loans	2,49	3.27	3,64	4.31	7.77	6.79	7.89
World ex-U.S. Government Bonds	-7.96	-4.21	-2.27	0.17	8.45	5.25	8.61
Emerging Markets Sovereign Debt	-5.66	-1.86	-0.18	2.97	10.67	7.23	9.64
U.S. Large Cap	7.35	9.13	12,35	8.75	16.63	8.19	16.19
U.S. Mid Cap	5.88	7.10	10.94	8-41	18.82	9.08	18.13
U.S. Small Cap	3.10	4.13	8.99	7.14	21.11	9.07	20.44
EAFE Equity	0.87	1,54	4.66	1.80	18,13	10.58	17.64
Emerging Markets Equity	-2.69	-1.40	1.43	0.64	21.53	10,77	21,20
Global Equity	0.07	0.88	3.79	1.52	18.34	9.05	16.68
U.S. Core Real Estate	8.97	7.72	9.09	5.26	7.99	8,02	10,60
U.S. Value-Added Real Estate	17.76	16.44	17.87	13.81	9.45	11,08	17.66
U.S. REITs	-0.46	3.91	6.85	6.42	22.15	9.36	16.05
Private Equity	17.69	15.46	14.69	11.74	10.86	11.46	20.06
Global Core Infrastructure	1.72	3.88	6.50	3.56	16.92	7.38	11.24
Diversified Hedge Funds	4.27	3.46	3.70	1.93	5.16	5.16	5.80
Direct Lending	8.13	8.29	8.88	8.88	5.20	9.29	13.21
Commodities	12,65	6.44	-1.28	-2,59	17.08	5.31	18.00
		Historic Trai	ling Returns			1 Year F	Forecast
	3 Years	5 Years	10 Years	15 Years		Return	Standard Deviation
Current Mix	2.95	4.30	6.75	5.10		8.62	13.74



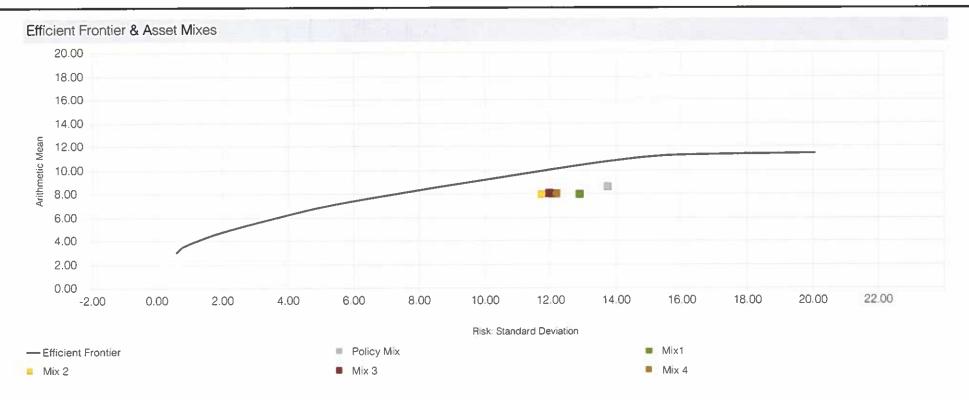
Asset class allocations proxied for the current mix where historic data was not available.



Broad Asset Class Allocation (%)					
	Policy Mix	Mix1	Mix 2	Mix 3	Mix 4
J.S. Aggregate Bonds	16.00	20.00	20.00	15.00	17.50
J.S. High Yield Bonds	0.00	2.50	2.50	5.00	5.00
J.S. Leveraged Loans	0.00	2.50	2.50	5.00	5.00
J.S. Large Cap	23.00	46.50	36.50	36.50	36.50
J.S. Mid Cap	9.00	9.50	9,50	9.50	9.50
J.S. Small Cap	8.00	4.00	4.00	4.00	4.00
EAFE Equity	25.00	10.00	10.00	10.00	12.50
Emerging Markets Equity	7.00	5.00	5.00	5.00	5.00
J.S. Core Real Estate	0.00	0.00	10.00	10.00	5.00
J.S. REITs	8.00	0.00	0.00	0.00	0.00
Commodities	4.00	0.00	0.00	0.00	0.00

Single Year Expectations (%)					
	Policy Mix	Mix1	Mix 2	Mix 3	Mix 4
Arithmetic Mean	8.62	8.01	7.99	8.07	8.07
Standard Deviation	13.74	12.88	11.72	11.96	12.17
Sharpe Ratio	0.63	0.62	0.68	0.68	0.66





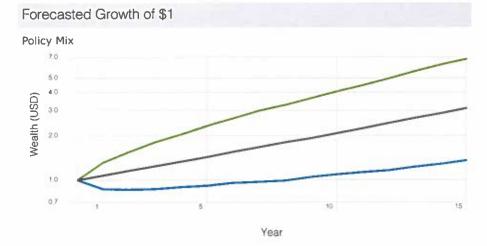
Asset Mix Statistics					
	Policy Mix	Mix1	Mix 2	Mix 3	Mix 4
Arithmetic Mean	8.62	8.01	7.99	8.07	8.07
Standard Deviation	13.74	12.88	11.72	11.96	12.17
Sharpe Ratio	0.63	0,62	0.68	0.68	0.66



Broad Asset Class Allocation (%)	Policy
U.S. Aggregate Bonds	16.00
U.S. Large Cap	23.00
U.S. Mid Cap	9.00
U.S. Small Cap	8.00
EAFE Equity	25.00
Emerging Markets Equity	7.00
U.S. REITs	8.00
Commodities	4.00

Single Year Expectations (%)	Policy
Arithmetic Mean	8.62
Standard Deviation	13.74
Sharpe Ratio	0 63

Return Percentiles Policy Mix 50 Compound Return (%) 40 30 20 10 0 -10 -20 15 5 10 Year -5th -95th -50th



Return Percenti	les		
		Percentile	
	95th	50th	5th
Policy Mix			
1 Year	32.71	7.67	-13,10
5 Year	18.81	7.61	-1.79
10 Year	15 14	7.73	0.90
15 Year	13.76	7.89	2.12

	Percentile			
	95th	50th	5th	
Policy Mix				
1 Year	1.33	1.08	0.87	
5 Year	2.37	1,44	0.91	
10 Year	4.09	2.11	1,09	
15 Year	6.92	3:12	1.37	

-50th

-Sth

Source: Morningstar



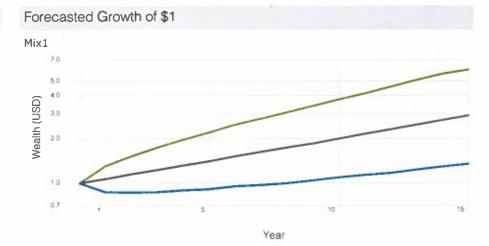
-95th

Forecasted Growth of \$1

Broad Asset Class Allocation (%)	Mix 1
U.S. Aggregate Bonds	20.00
U.S. High Yield Bonds	2.50
U.S. Leveraged Loans	2.50
U.S. Large Cap	46.50
U.S. Mid Cap	9.50
U.S. Small Cap	4.00
EAFE Equity	10.00
Emerging Markets Equity	5.00

Single Year Expectations (%)	Mix 1
Arithmetic Mean	8.01
Standard Deviation	12.88
Sharpe Ratio	0.62

Return Percentiles Mix1 50 (% 40 10 10 -20 5 10 15 Year



Return Percentiles							
		Percentile					
	95th	50th	5th				
Mix1		· <u> </u>					
1 Year	30.84	6.93	-12.38				
5 Year	17.42	7.07	-1.84				
10 Year	14.26	7.28	0.88				
15 Year	12,77	7.42	2.01				

-5th

	Percentile				
	95th	50th	5th		
Mix1					
1 Year	1.31	1.07	0.88		
5 Year	2,23	1.41	0 91		
10 Year	3.79	2.02	1.09		
15 Year	6.07	2.93	1.35		

-5th

-50th

Source: Morningstar

-95th



-50th

-95th

Forecasted Growth of \$1

Broad Asset Class Allo	ocation (%)	Mix	2	Single Year Exped	tations (%)	Mix 2	2
U.S. Aggregate Bonds		20.0	00	Arithmetic Mean		7.99	
U.S. High Yield Bonds		2.5	0	Standard Deviation		11.72	
U.S. Leveraged Loans		2.5	0	Sharpe Ratio		0.68	
U.S. Large Cap		36.5	50	Sharpe hallo		0.00	
U.S. M.d Cap		9.5	0				
U.S. Small Cap		4.0	0				
EAFE Equity		10.0	00				
Emerging Markets Equity		5.0	0				
U.S. Core Real Estate		10.0	00				
Return Percentiles				Forecasted Growth	h of \$1		
Mix 2				Mix 2			
50				7.0			
				5.0			
Compound Beturn (%) 30 0 10 0 10 10 10 10 10 10 10 10 10 10 1				G 40			
in 30				30			_
<u>能</u> 20				ŧ.			
<u>10</u>				Wealth (USD)			
du o				5			
8 -10				10			
-20	5	10	15	07	5	10	
		Year				Year	
- 95th	-50th	- 5th		-95th	— 50th	- 5th	
Return Percentiles				Forecasted Growth	h of \$1		
Percentile		Percentile			Percentile		
	95th	50th	5th		95th	50th	5th
Mix 2		-		Mix 2			
1 Year	28.84	7.17	-10.69	1 Year	1.29	1.07	0.89
		7.20	-0.85	5 Year	2.16	1.42	0.96
Year	16.67	1.20					
5 Year 10 Year	16.67 13.72	7.38	1.47	10 Year	3.62	2.04	1.16

Source: Morningstar



Broad Asset Class Alloca	ation (%)	Mix	3	Single Year Expe	ctations (70)	Mix 3	
U.S. Aggregate Bonds		15.0		Arithmetic Mean		8.07	
U.S. High Yield Bonds		5.00		Standard Deviation		11.96	
U.S. Leveraged Loans		5.00		Sharpe Ratio		0.68	
U.S. Large Cap		36.5		,			
U.S. Mid Cap		9.50					
U.S. Small Cap		4.00					
EAFE Equity		10.0					
Emerging Markets Equity		5.00					
U.S. Core Real Estate		10.0	00				
Return Percentiles				Forecasted Grow	th of \$1		
Mix 3				Mix 3			
50				7.0			
9 40				5.0			
6° 4U						10.00	and the same of th
% 40 E 30				Q 4.0			
Return (%				(QSN)			
%) 40 30 20				alith (USD)			
%) 40 30 20 10				OSD) 4			
%) 40 30 20 10				Wealth (USD)			
30 John 10 Joh				Wealth (USD)			
20	5	10	15	Wealth (USD)	5	10	
20	5	10 Year	15	Wealth (USD)	5	10 Year	,
-201	5 —50th		15	Wealth (USD)	-50th		
-201		Year	15	Wealth (USD)	- 50th	Year	,
-20 ₁		Year	15	Mealth (USD)	- 50th	Year	
-20 ₁		Year5th	15 5th	-95th Forecasted Grow	- 50th	Year -5th	5th
-20 ₁	—50th	Year -5th Percentile	5th	OSn) the second	-50th vth of \$1	Year -5th Percentile 50th	5th
-95th Return Percentiles Mix 3	—50th	Year -5th Percentile 50th	5th -11.00	-95th Forecasted Grow Mix 3 1 Year	-50th /th of \$1 95th	Year -5th Percentile 50th	5th 0.89
-95th Return Percentiles	-50th 95th	Year -5th Percentile 50th	5th -11.00 -0.89	-95th Forecasted Grow Mix 3 1 Year 5 Year	-50th /th of \$1 95th 1.30 2.19	Year -5th Percentile 50th 1.07 1.42	5th 0.89 0.96
-95th Return Percentiles Mix 3 1 Year	-50th 95th 29.77	Year -5th Percentile 50th	5th -11.00	-95th Forecasted Grow Mix 3 1 Year	-50th /th of \$1 95th	Year -5th Percentile 50th	5th 0.89

Source: Morningstar



Broad Asset Class Al	location (%)	on (%) Mix 4		Single Year Expectations (%)		Mix 4	
U.S. Aggregate Bonds U.S. High Yield Bonds U.S. Leveraged Loans U.S. Large Cap U.S. Mid Cap U.S. Small Cap EAFE Equity		17.5 5.0 5.0 36.5 9.5 4.0	00 00 50 00	Arithmetic Mean Standard Deviation Sharpe Ratio		12	.07 2.17 66
Emerging Markets Equity U.S. Core Real Estate		5.0 5.0	0				
Return Percentiles				Forecasted Growth	n of \$1		
Mix 4 50 8 40				Mix 4			
(%) 40 30 20 10 -20 1	5	10 Year	15	Mealth (USD) 30 20 20 20 20 20 20 20 20 20 20 20 20 20	5	10 Year	
-10	5 -50th		15	Wealth (USD)	-50th		
-20 ₁	- 50th	Year -5th Percentile		Mealth (USD)	-50th n of \$1	Year -5th Percentile	5 t h
-20 ₁ -95th Return Percentiles		Year -5th	15 5th	OSD 30 Nearth (USD) 30 Nearth	- 50th	Year —5th	5th
-20 ₁ -95th Return Percentiles Mix 4	– 50th 95th	Year —5th Percentile 50th		OSD) 4the 20 10 10 10 10 10 10 10 10 10 10 10 10 10	-50th n of \$1	Year -5th Percentile	5th 0.89
-20 ₁	- 50th	Year -5th Percentile	5th	OSD) 41189A 20 20 20 20 20 20 20 20 20 20 20 20 20	-50th n of \$1 95th	Year -5th Percentile 50th	
-20 ₁ -95th Return Percentiles Mix 4 1 Year	-50th 95th 29,83	Year -5th Percentile 50th	5th -11.41	OSD) 41 rear	-50th n of \$1 95th	Year -5th Percentile 50th	0.89

Source: Morningstar



APPENDIX



Proxies:

Proxies are used for GTAA and MLP allocations. The proxies are constructed to mirror the properties of these asset classes as well as reflect the overall risk and return behavior.

- GTAA: U.S. Large Cap 21%, EAFE Equity 20%, Emerging Markets Equity 9%, U.S. Aggregate Bonds 50%
- MLP: U.S. Small Cap 50%, Commodities 50%

Constraints:

A minimum and/or maximum allocation constraint can be applied on a group or an individual asset class level.



Mean/variance optimization using forecast capital market assumptions:

Asset Allocation model inputs include:

- Expected Return the arithmetic average expected return (mean) of each asset class
- Expected Risk the variability (standard deviation) of each asset class around its mean return
- Correlation the degree of co-movement (correlation coefficient) of each asset class relative to other asset classes

Understanding asset allocation model limitations:

- Output is based on forecasts (guesses) of each capital market assumption. Accurately predicting the expected return, expected risk (standard deviation), and correlation coefficients for each asset class is not a science, it's an economic methodology that varies by organization and forecast timeframe.
- Assumes asset class returns are normally distributed (bell-shape curve). However, many asset classes exhibit non-normal (kurtosis fat-tails and/or skewness) return distributions.
- Assumes correlations between asset class pairs are static. However, since correlation coefficients can and do change
 over time, diversification and/or stability benefits of combining different asset classes may be overstated. Even
 historically stable correlation relationships may break down during periods of market stress.
- Alternative asset classes introduce a variety of important risk factors that are not captured in their standard deviation measures.

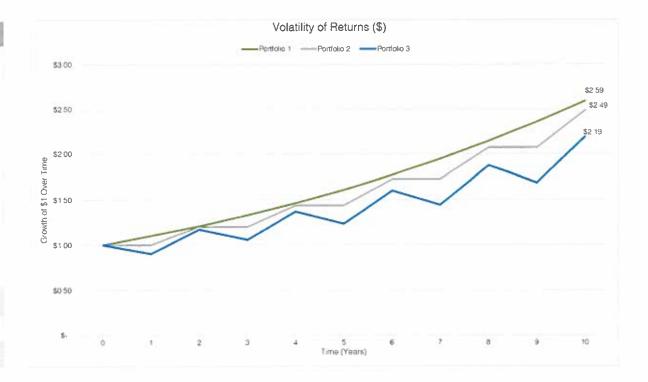
Despite its shortcomings, asset allocation modeling provides a foundational framework for making sound portfolio decisions.



Arithmetic vs. Geometric Returns

- Arithmetic Returns the simple average of annual returns
- Geometric Returns the average of annual returns compounded over multiple periods
- The larger the volatility, the greater the dispersion is between an arithmetic and geometric return

Years	Portfolio 1	Portfolio 2	Portfolio 3
1	10%	0%	-10%
2	10%	20%	30%
3	10%	0%	-10%
4	10%	20%	30%
5	10%	0%	-10%
6	10%	20%	30%
7	10%	0%	-10%
8	10%	20%	30%
9	10%	0%	-10%
10	10%	20%	30%
Arithmetic Return	10.00%	10.00%	10.00%
Std. Deviation	0.00%	10.54%	21.08%
Geometric Return	10.00%	9.54%	8.17%

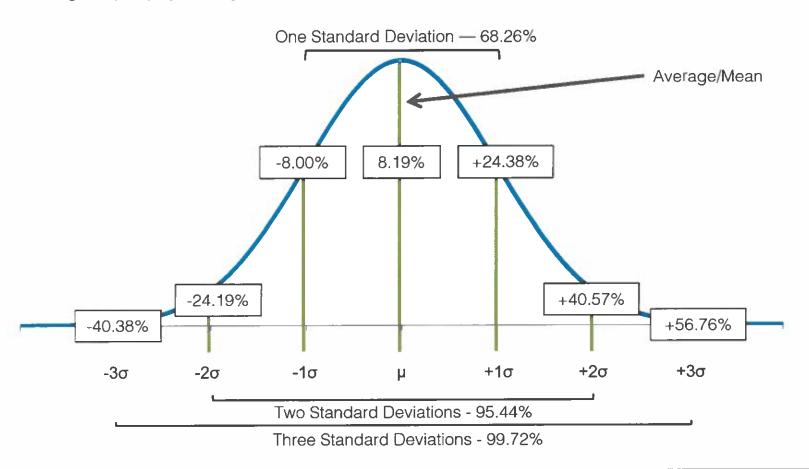




Risk = Variability Around Mean = Standard Deviation

Variability of return around its arithmetic average

Large Cap Equity Average Expected Return of 8.19% with a Standard Deviation of 16.19%





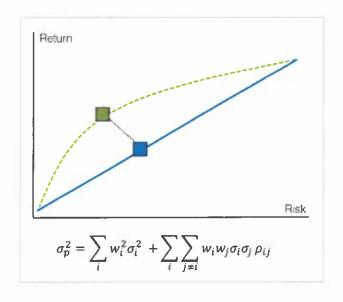
Understanding Correlations

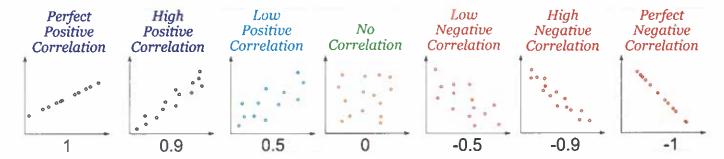
Where the magic happens: How asset class pairs move relative to one another

A statistical measure of co-movement withing a range between +1 and -1.

- +1 = Perfect positive correlation. Assets move in tandem in the same direction.
- 0 = No correlation. Assets move independently of one another essentially no distinguishable pattern, more random.
- -1 = Perfect negative correlation. Assets move in opposite directions - one goes up, the other goes down and vice versa.

It is important to remember that correlations are not consistant through time.







Beyond Variability - Other Risks are always Present

- Business Underlying operational volatility/uncertainty
- · Call Debt security called prior to maturity
- Credit Bond Issuer defaults on interest/principal payment
- Currency/Exchange Rate Change in price of one currency against another
- Fiduciary Potential non-arm's length transactions
- Headline Manager makes the headlines or negative press
- Inflationary Value of a security is eroded by inflation
- Interest Rate Bonds decline in value when rates rise
- Investment Manager Changes in investment style or management team
- Leverage Amplifies losses
- Liquidity Lock-up terms or gates during market stress
- Social/Political/Legislative Investment landscape changes
- Systemic/Market Correlations go to "1" (like 2008)
- · Valuation Some assets are difficult to price



Allocation Ranges - the range a specific asset class' allocation must fall between.

Arithmetic Mean- the average of annual returns.

Asset Allocation - the process of determining how investment fund should be distributed among asset classes to optimize the balance between risk and reward based on investment needs.

Asset Classes - a grouping of investments that exhibit similar characteristics and behave similarly in the marketplace. Examples include equities, fixed income, cash equivalent or money market instruments, and alternatives.

Capital Market Assumptions - expected returns, standard deviations, and correlation estimates that represent the long-term risk/return forecasts for various asset classes.

Correlation - statistical measurement of the relationship between two variables. Possible correlations range from +1 to -1. A zero correlation indicates that there is no relationship between the variables. A correlation of -1 indicates a perfect negative correlation and +1 indicates a perfect positive correlation.

Diversification - the process of owning different investments that tend to perform well at different times in order to reduce the effects of volatility in a portfolio, and also increase the potential for increasing returns.

Efficient Frontier - a representation of potential portfolios that offer the highest expected return for a specific level of risk (standard deviation).

Expected Return- the arithmetic average (mean) of each asset class.

Geometric Mean- the average of annual returns compounded over multiple periods.

Kurtosis- indicates the peakedness of a distribution. For normal distribution, Kurtosis is 3.

Monte Carlo Simulation - a model used to predict the probability of different outcomes and used to understand the impact of risk and uncertainty in prediction and forecasting models.

Optimized Portfolio - a portfolio that lies along the efficient frontier and is determined by target risk/return objectives. The underlying exposures are dependent on forecasted asset class expectations.

Risk Tolerance- the degree of uncertainty that an investor can handle in regard to a negative change in the value of the portfolio.

Skewness- reflects the degree of asymmetry of a distribution. If the distribution has a longer left tail, the function has negative skewness. Otherwise, it has positive skewness. A normal distribution is symmetric with skewness 0.

Sharpe Ratio- In this report, a reward-to-variability ratio and a measure of the return per unit of risk in an investment asset or a trading strategy. This is based on methodology used by Morningstar, whose software was used to create these charts. This definition differs from the ratio that Dr. William Sharpe created in that the risk-free rate has not been deducted in Morningstar's calculations.

Standard Deviation - A measure of the dispersion of a set of data from its mean. Calculated by the square-root of the variance.

Target Return- the specific return the investor is modeling to reach, usually sent in place by the actuary.

Time Horizon- the total length of time that an investor expects to hold a security or a portfolio before it is liquidated.

Volatility- the amount and frequency an investment fluctates in value.



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This Asset Allocation Analysis (the "Analysis") uses assumptions from the 2024 JPMorgan Long Term Capital Market Assumptions (the "2024 JPMorgan Assumptions"). Accordingly, there are statements of future expectations, estimates, projections, and other forward-looking statements that are based on available information and views as of the time of those statements. Such forward-looking statements are inherently speculative as they are based on assumptions which may involve known and unknown risks and uncertainties. Actual results, performance or events may differ materially from those expressed or implied in such statements.

Furthermore, the reader should be aware that the outputs presented in this Analysis are slightly different than those presented in the original 2024 JPMorgan Assumptions. Due to changes in the underlying forecasted correlations from the 2024 JPMorgan Long Term Capital Assumptions, and thereby changes to the methodology used by JPMorgan to create correlation estimates, a malfunction occurs when the 2024 JPMorgan Assumptions interface with Morningstar (i.e., one of the means by which AndCo creates this Analysis). Accordingly, the utilization of a secondary resource created by Morningstar is utilized to remediate this issue; however, this remedy causes some deviation in figures from the original 2024 JPMorgan Assumptions. We consider these deviations to be generally immaterial.

Performance data is provided for historical and informational purposes only. Where applicable, results shown represent past performance and do not represent expected future performance or experience. Past performance does not guarantee future results. Returns are typically stated net of fees, which may include: investment advisory fees, taxes and other expenses. There may be instances where certain returns are shown gross of fees (i.e., before the aforementioned fees are deducted) and would be noted as such. Generally, there are two instances where returns may be shown as gross figures. In the case of separate accounts, typically returns are demonstrated as gross of fees due to the fact that the fee structure would generally vary widely depending on the client's size and circumstances. Additionally, there are instances where a strategy vehicle is relatively new and does not have a sufficiently long track record to represent a viable comparison relative to other strategies. Accordingly, the returns for the separate account version of such a strategy could be used as demonstrative of the performance for a similar vehicle; separate account returns are generally shown as gross of fees. It is important to note that any such separate accounts being used as a "proxy" are strictly for illustrative purposes. An investor should not expect the same results from the actual strategy(ies) under consideration. When client-specific performance is shown, AndCo uses time-weighted calculations, which are founded on standards recommended by the CFA Institute. In these cases, the performance-related data shown are based on information that is received from custodians. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement.

RISK FACTORS

As presented in this report, although investing in equities can be beneficial, it is also important to consider the associated risks. Investing in such funds may not be suitable for all investors. Equity markets can be volatile and can decline significantly in response to, or investor perceptions of, issuer, market, economic, industry, political, regulatory, geopolitical, and other conditions. These conditions can affect a single issuer or type of security, issuers within a broad market sector, industry or geographic region, or the equity markets in general. The primary risk factors to consider include, but are not limited to: stock market risk, manager risk, investment style risk, sector-focus risk, issuer risk and liquidity risk. The securities markets are volatile and the market prices of the funds' securities may decline generally. Securities fluctuate in price based on changes in a company's financial conditions and overall market and economic conditions. If the market prices of the securities owned by the fund fall, the value of your investment in the fund will decline. Depending on the specific strategy, there many additional considerations such as the risks associated with equity investing.

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