

Fund Rating System (FURS) Performance Report

Return Date	04/30/2023
1yrs Rating Date	04/30/2022
3yrs Rating Date	04/30/2020
5yrs Rating Date	04/30/2018

Section 1. Hit Rate
Section 2. Information Coefficient
Section 3. Categories
Section 4. Fund Lists

1. Hit Rate

Hit Rate Calculation

Calculated intra-category as defined by Morningstar's fund categorization scheme. A fund receives a Boolean true (false) if it outperforms (underperforms) its category median holding period return of 12, 36, and 60 months. This Boole is assigned to the fund rating at the onset of each holding period. We can aggregate across multiple dimensions (category, asset class, or all rated funds) and we do this with fund-weighted averages.

Morningstar Methodologies

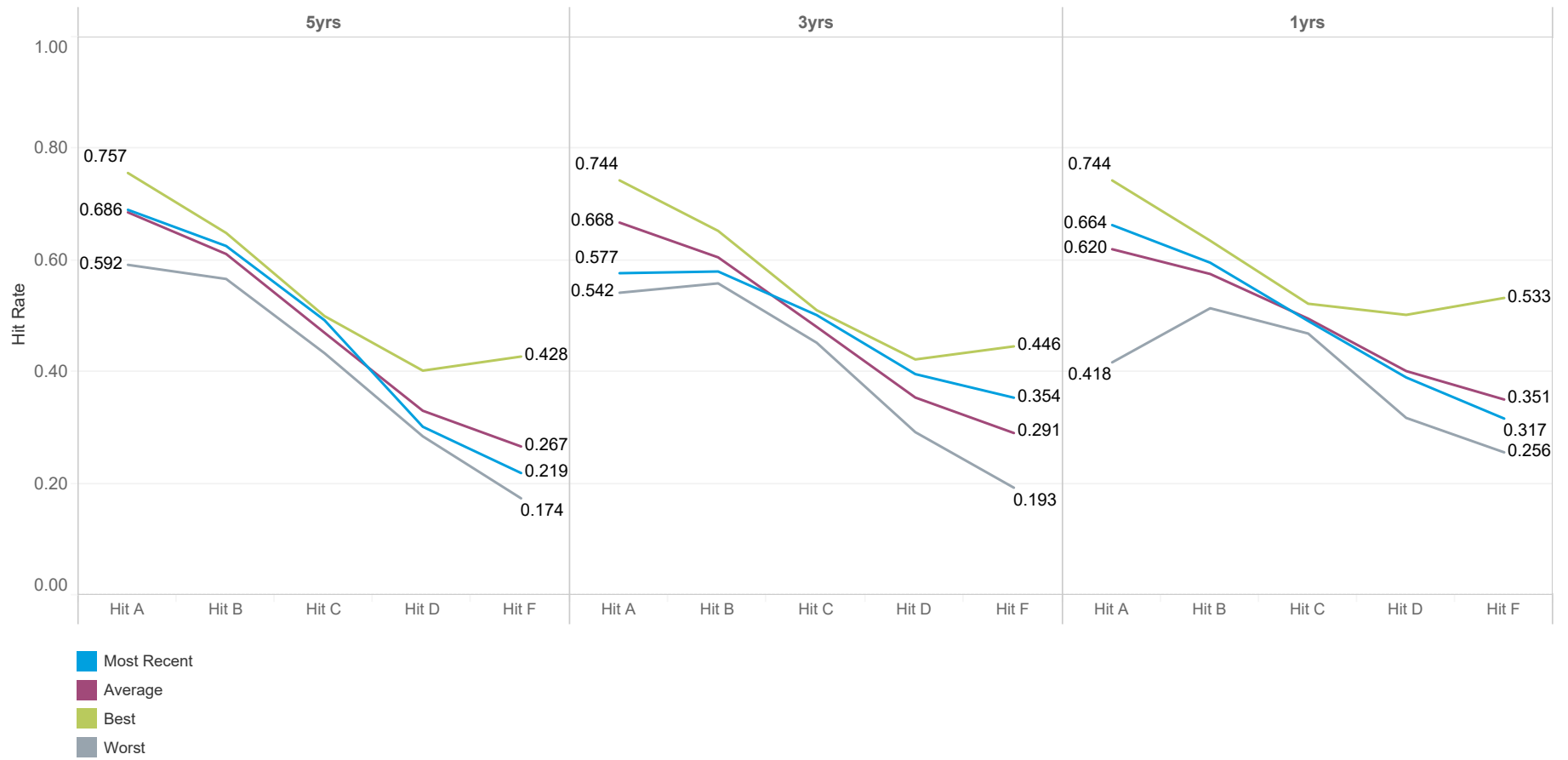
Morningstar Stars is quantitative and backward-looking only. It is a measure of a fund's delivery of risk-adjusted returns to investors over the last three, five, and 10 years where higher weights are given to the longer track record. The star system is separate from the Morningstar analyst and quantitative rating systems.

Morningstar Medalist begins May 2023. Morningstar will combine its Analyst rating and Quantitative rating into a single forward-looking rating. Morningstar fund research was expressed globally through the Analyst rating since 2011. In 2017, Morningstar expanded its manager research with the launch of the Quantitative rating in 2017, which used machine learning to assign ratings to strategies and vehicles that human analysts didn't cover. For these reasons we stitch the Quant ratings history to the beginning of the Medalist Ratings history and note this demarcation in all reporting.

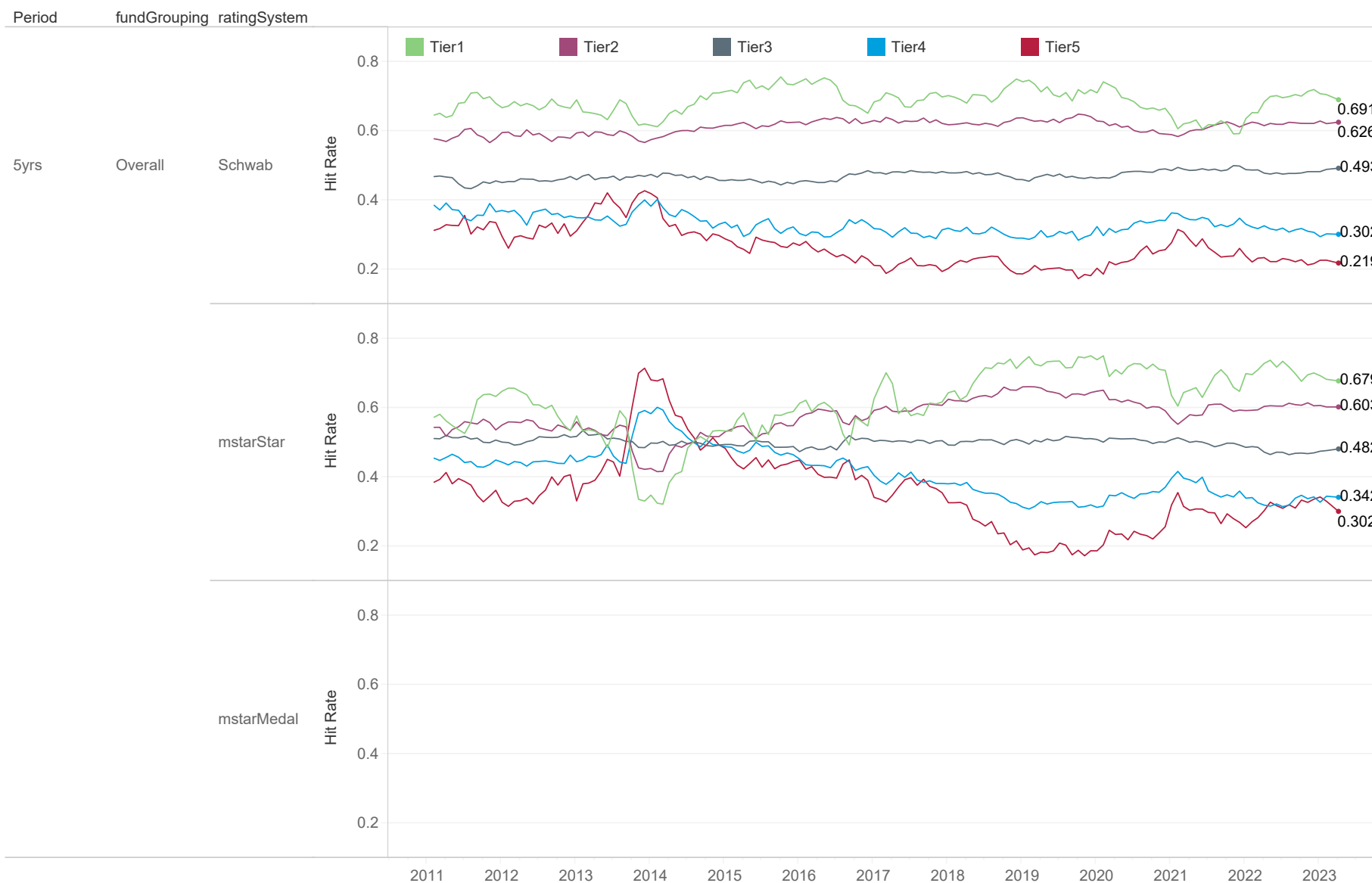
Mapping Three Rating Systems

Since Schwab Grades={A,B,C,D,F} Morningstar Stars={5,4,3,2,1} Morningstar Medals={Gold, Bronze, Silver, Neutral, Negative} have the same number of elements we use five tiers when comparing rating models such that tier1={A,5,Gold} tier2={B,t4,Silver} tier3={C,3,Bronze} tier4={D,2,Neutral} tier5={F,1,Negative}.

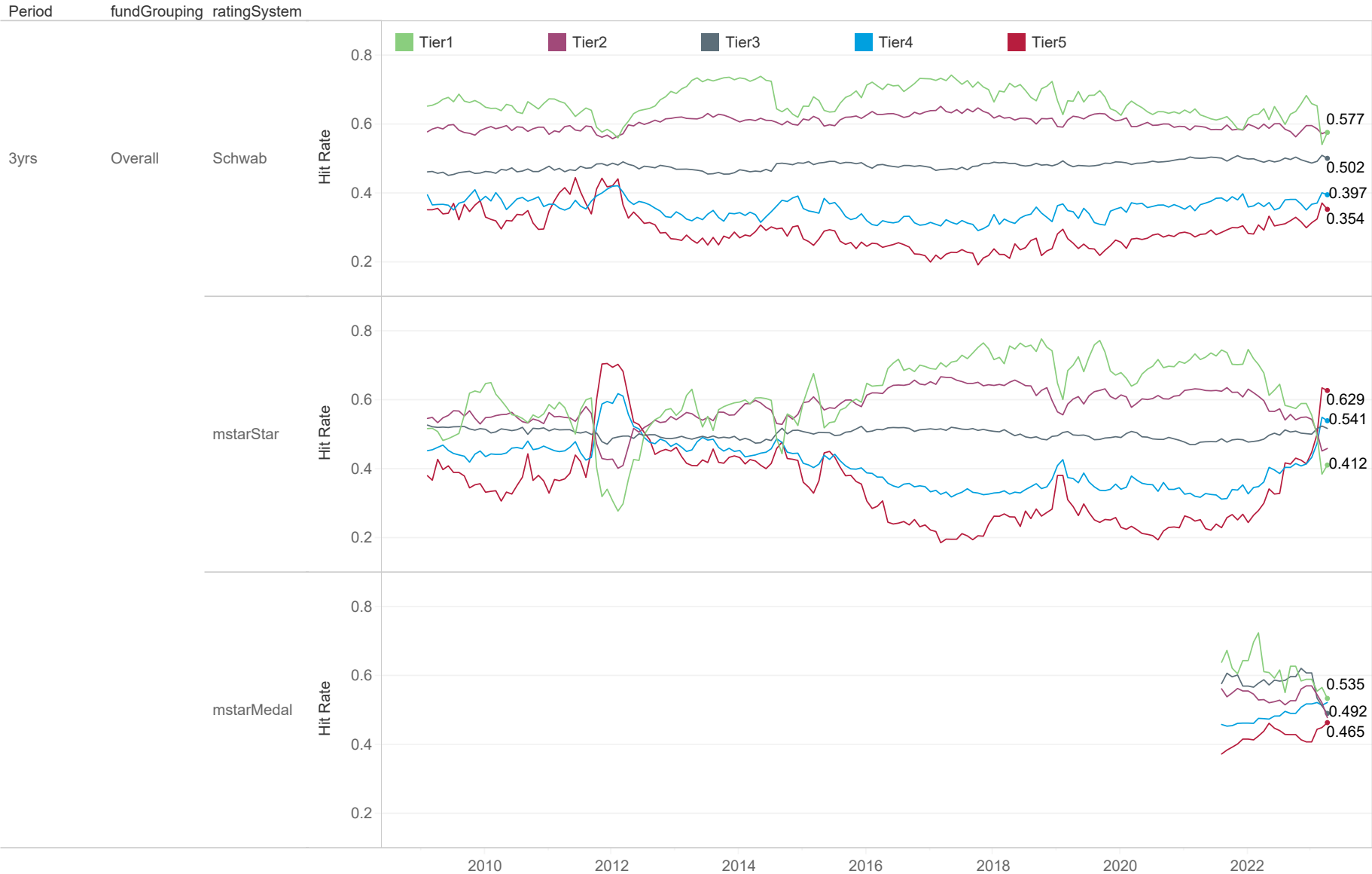
Schwab Hit Rates as of 4/30/2023



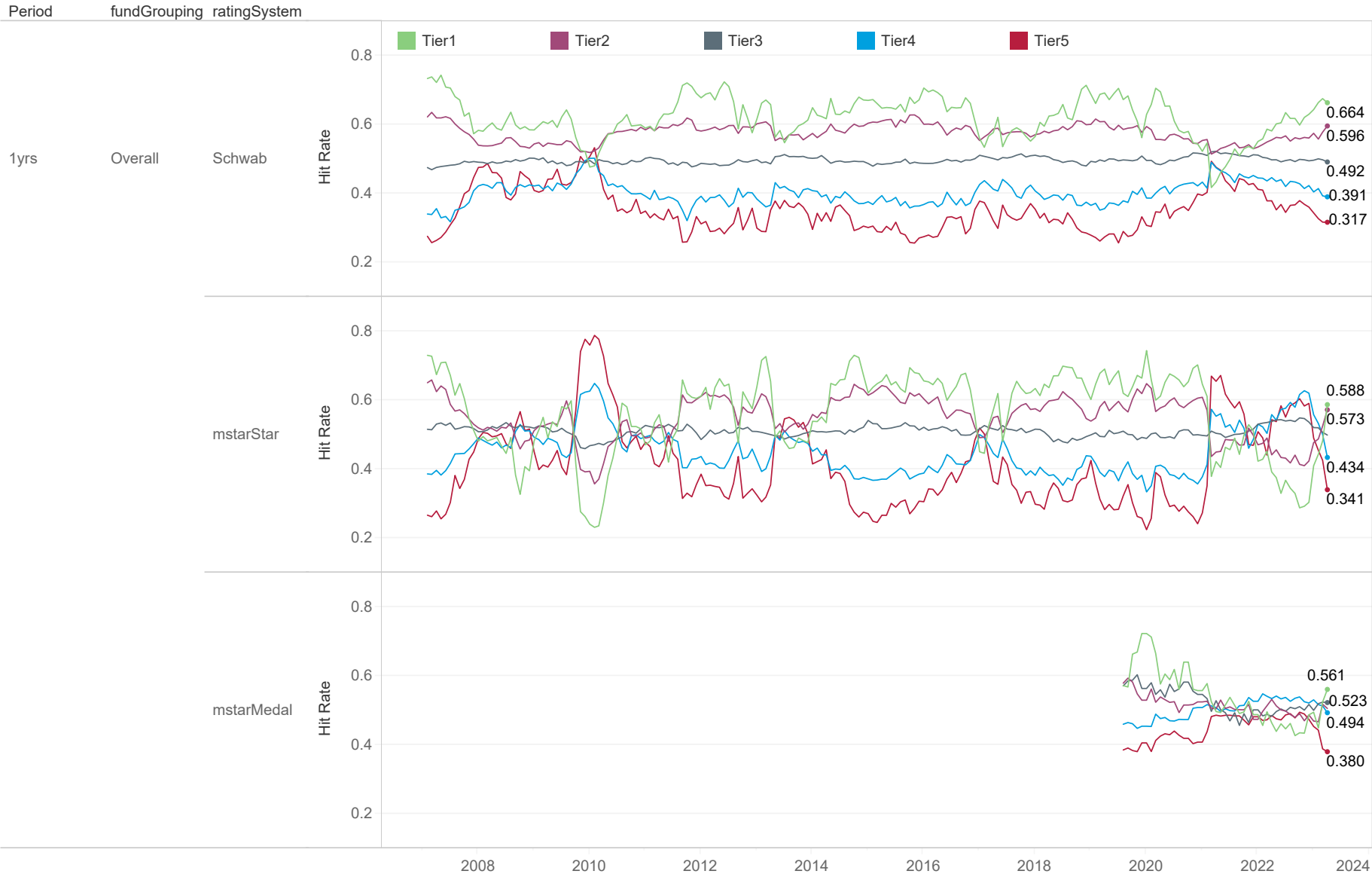
Overall Fund Rating System Hit Rates as of 4/30/2023



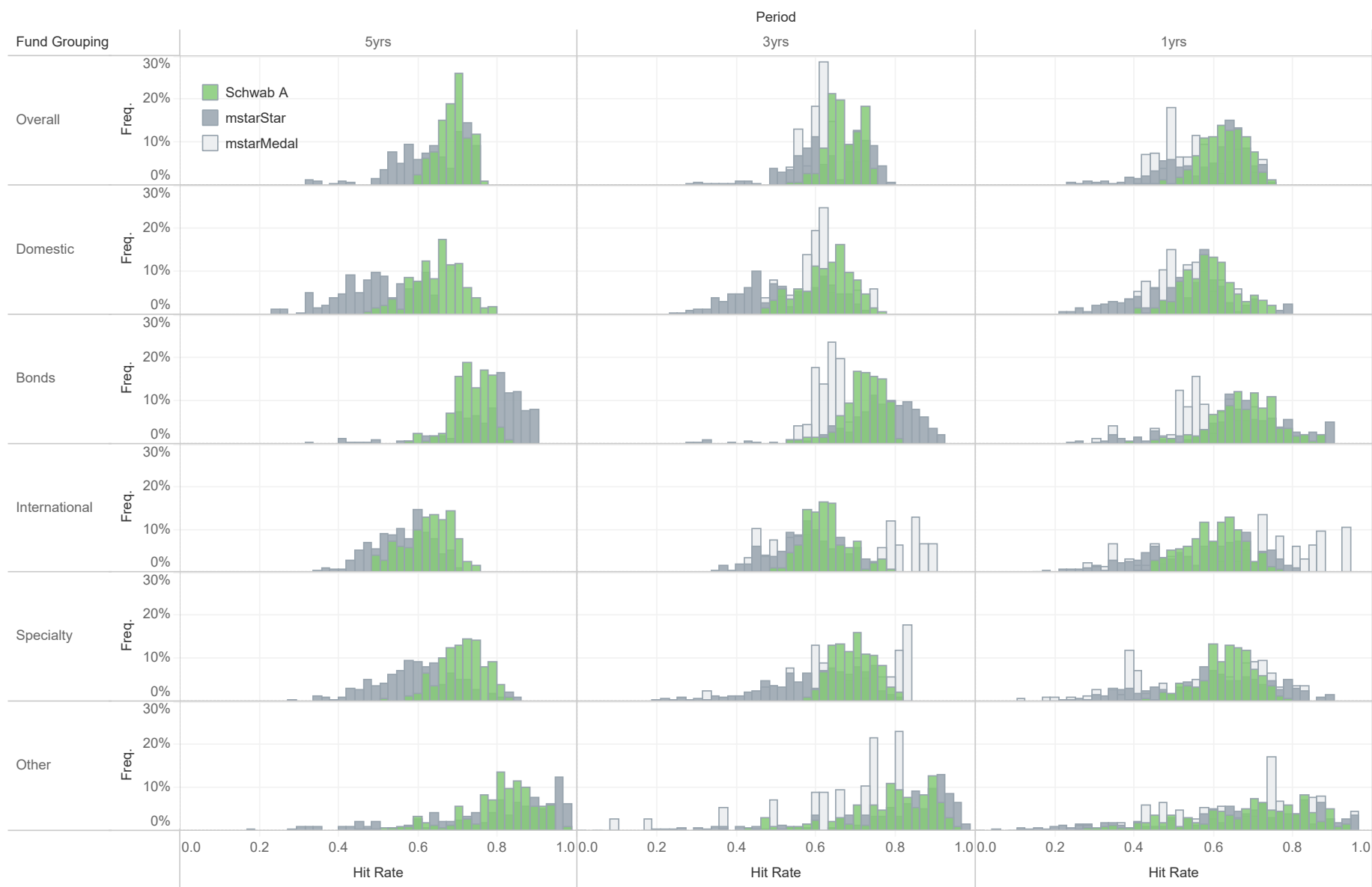
Overall Fund Rating System Hit Rates as of 4/30/2023



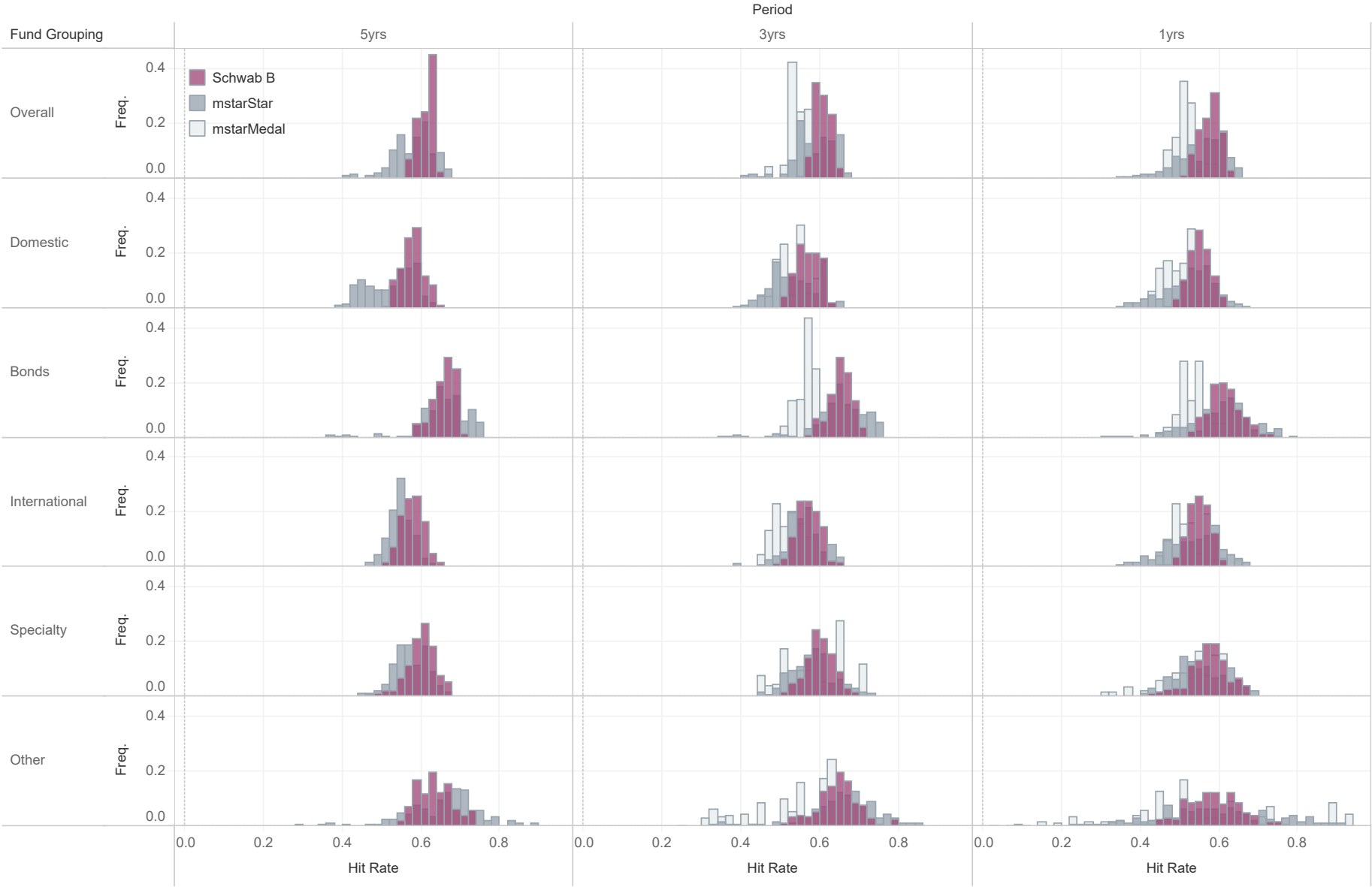
Overall Fund Rating System Hit Rates as of 4/30/2023



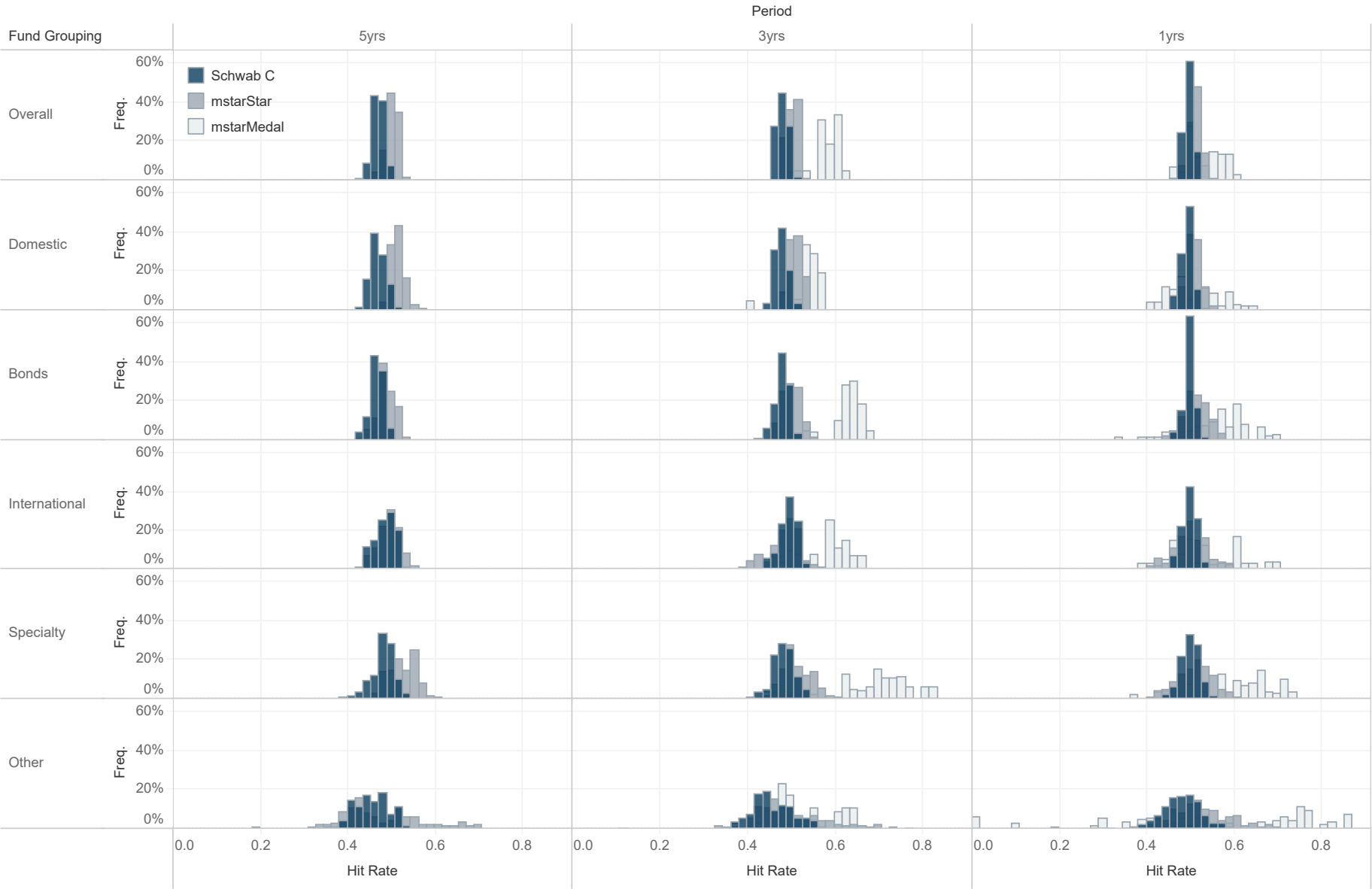
Tier1={A,5-Star,Gold} Rating System Hit Rate Distributions as of 4/30/2023



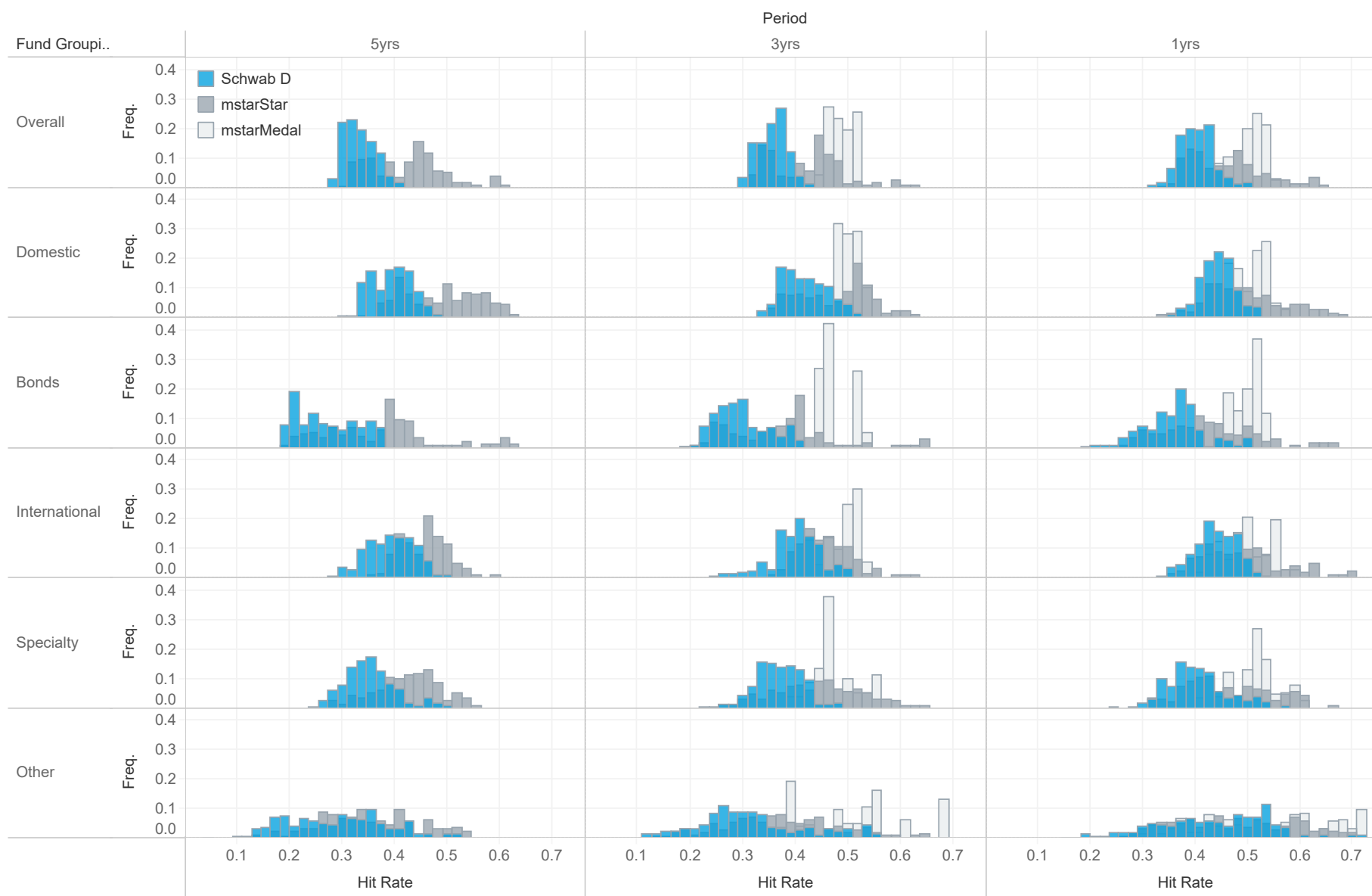
Tier1={B,4-Star,Silver} Rating System Hit Rate Distributions as of 4/30/2023



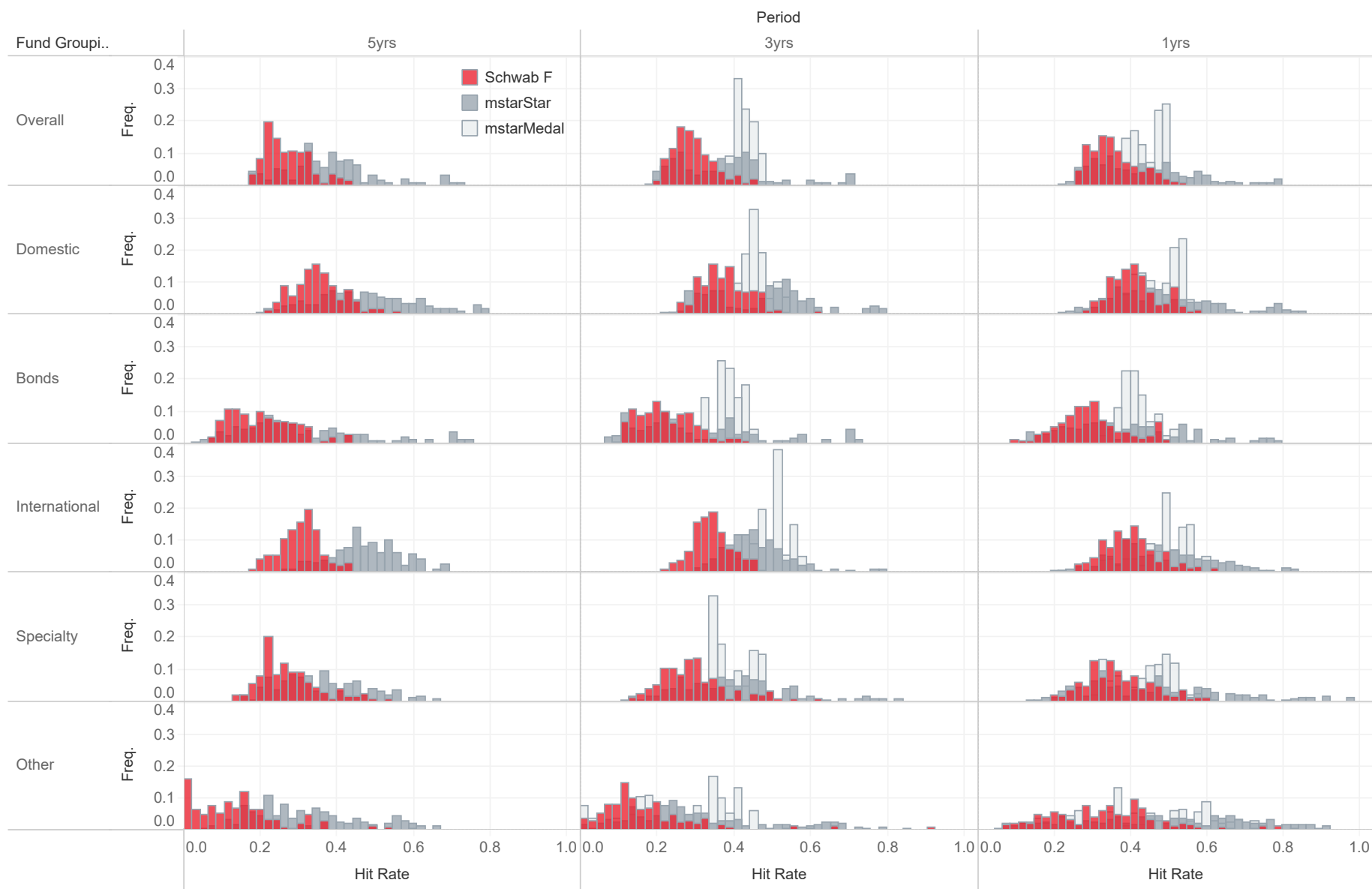
Tier3={C,3-Star,Bronze} Rating System Hit Rate Distributions as of 4/30/2023



Tier4={D,2-Star,Neutral} Rating System Hit Rate Distributions as of 4/30/2023



Tier5={F,1-Star,Negative} Rating System Hit Rate Distributions as of 4/30/2023



Hit Rates

Overall Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Overall	Most Recent	0.69	0.63	0.49	0.30	0.22	0.68	0.60	0.48	0.34	0.30					
		Mean	0.69	0.61	0.47	0.33	0.27	0.62	0.58	0.50	0.41	0.36					
		Median	0.69	0.62	0.47	0.33	0.25	0.63	0.59	0.50	0.41	0.34					
		Sigma	0.04	0.02	0.01	0.03	0.06	0.10	0.05	0.01	0.07	0.11					
		Min	0.59	0.57	0.43	0.29	0.17	0.32	0.42	0.47	0.31	0.17					
		Max	0.76	0.65	0.50	0.40	0.43	0.75	0.66	0.54	0.60	0.72					
		Max Drawdown	-0.16	-0.06	-0.04	-0.12	-0.25	-0.34	-0.15	-0.07	-0.29	-0.54					
		Max Drawup	0.14	0.08	0.07	0.08	0.17	0.43	0.25	0.05	0.17	0.40					
		Count	146.00	146.00	146.00	146.00	146.00	146.00	146.00	146.00	146.00	146.00					
3yrs	Overall	Most Recent	0.58	0.58	0.50	0.40	0.35	0.41	0.46	0.52	0.54	0.63	0.54	0.48	0.49	0.52	0.46
		Mean	0.67	0.61	0.48	0.35	0.29	0.62	0.58	0.50	0.41	0.35	0.62	0.54	0.58	0.49	0.42
		Median	0.66	0.60	0.48	0.36	0.28	0.62	0.58	0.50	0.41	0.35	0.61	0.54	0.59	0.48	0.43
		Sigma	0.04	0.02	0.01	0.03	0.05	0.10	0.05	0.01	0.07	0.11	0.05	0.02	0.03	0.02	0.02
		Min	0.54	0.56	0.45	0.29	0.19	0.28	0.40	0.47	0.31	0.19	0.54	0.48	0.49	0.45	0.37
		Max	0.74	0.65	0.51	0.42	0.45	0.78	0.67	0.53	0.62	0.71	0.73	0.57	0.62	0.52	0.46
		Max Drawdown	-0.20	-0.09	-0.04	-0.13	-0.25	-0.39	-0.22	-0.06	-0.31	-0.52	-0.19	-0.09	-0.13	-0.01	-0.05
		Max Drawup	0.18	0.09	0.06	0.11	0.18	0.50	0.27	0.05	0.24	0.45	0.12	0.06	0.05	0.07	0.09
		Count	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	21.00	21.00	21.00	21.00	21.00
1yrs	Overall	Most Recent	0.66	0.60	0.49	0.39	0.32	0.59	0.57	0.50	0.43	0.34	0.56	0.51	0.52	0.49	0.38
		Mean	0.62	0.58	0.50	0.40	0.35	0.56	0.55	0.51	0.45	0.41	0.54	0.51	0.53	0.50	0.45
		Median	0.62	0.58	0.49	0.40	0.34	0.60	0.56	0.51	0.44	0.39	0.53	0.51	0.52	0.51	0.45
		Sigma	0.06	0.03	0.01	0.03	0.06	0.12	0.06	0.02	0.07	0.12	0.08	0.03	0.04	0.03	0.04
		Min	0.42	0.51	0.47	0.32	0.26	0.23	0.36	0.46	0.33	0.22	0.43	0.47	0.46	0.45	0.38
		Max	0.74	0.64	0.52	0.50	0.53	0.74	0.66	0.55	0.65	0.79	0.72	0.59	0.60	0.55	0.50
		Max Drawdown	-0.33	-0.12	-0.04	-0.18	-0.28	-0.50	-0.30	-0.08	-0.31	-0.56	-0.30	-0.13	-0.15	-0.05	-0.11
		Max Drawup	0.26	0.11	0.05	0.18	0.28	0.51	0.29	0.09	0.29	0.53	0.16	0.06	0.07	0.10	0.11
		Count	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	45.00	45.00	45.00	45.00	45.00

Hit Rates

Domestic Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Domestic	Most Recent	0.58	0.58	0.50	0.40	0.33	0.61	0.55	0.50	0.42	0.36					
		Mean	0.64	0.58	0.47	0.39	0.35	0.48	0.52	0.51	0.48	0.46					
		Median	0.65	0.58	0.47	0.39	0.34	0.48	0.53	0.51	0.48	0.44					
		Sigma	0.06	0.03	0.02	0.04	0.07	0.10	0.06	0.02	0.07	0.13					
		Min	0.48	0.52	0.43	0.30	0.21	0.24	0.39	0.48	0.33	0.20					
		Max	0.79	0.64	0.51	0.48	0.56	0.64	0.63	0.56	0.63	0.79					
		Max Drawdown	-0.32	-0.13	-0.06	-0.15	-0.35	-0.27	-0.14	-0.08	-0.30	-0.59					
		Max Drawup	0.26	0.12	0.08	0.17	0.30	0.40	0.24	0.05	0.17	0.35					
		Count	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00					
3yrs	Domestic	Most Recent	0.52	0.55	0.49	0.46	0.47	0.30	0.43	0.51	0.60	0.77	0.54	0.45	0.41	0.54	0.54
		Mean	0.62	0.57	0.48	0.41	0.37	0.50	0.53	0.51	0.47	0.45	0.59	0.52	0.53	0.50	0.46
		Median	0.63	0.57	0.48	0.40	0.36	0.49	0.53	0.51	0.47	0.47	0.61	0.52	0.54	0.51	0.45
		Sigma	0.07	0.03	0.02	0.04	0.06	0.11	0.06	0.02	0.07	0.13	0.07	0.04	0.04	0.02	0.03
		Min	0.47	0.50	0.45	0.33	0.24	0.24	0.39	0.47	0.36	0.23	0.47	0.45	0.41	0.47	0.41
		Max	0.77	0.63	0.52	0.51	0.61	0.72	0.65	0.54	0.62	0.80	0.75	0.58	0.57	0.54	0.54
		Max Drawdown	-0.30	-0.12	-0.04	-0.14	-0.37	-0.43	-0.23	-0.06	-0.27	-0.57	-0.25	-0.13	-0.16	-0.04	-0.04
		Max Drawup	0.24	0.10	0.07	0.18	0.27	0.48	0.26	0.07	0.26	0.55	0.28	0.10	0.04	0.07	0.13
		Count	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	21.00	21.00	21.00	21.00	21.00
1yrs	Domestic	Most Recent	0.59	0.57	0.50	0.44	0.37	0.59	0.57	0.49	0.45	0.33	0.61	0.47	0.48	0.49	0.43
		Mean	0.58	0.55	0.49	0.44	0.41	0.49	0.52	0.51	0.49	0.47	0.51	0.49	0.50	0.51	0.48
		Median	0.58	0.55	0.49	0.44	0.40	0.51	0.53	0.51	0.47	0.45	0.50	0.50	0.49	0.52	0.50
		Sigma	0.07	0.03	0.01	0.03	0.06	0.12	0.06	0.02	0.07	0.13	0.07	0.03	0.06	0.03	0.05
		Min	0.41	0.47	0.46	0.35	0.27	0.21	0.35	0.46	0.33	0.22	0.39	0.42	0.41	0.46	0.40
		Max	0.75	0.62	0.53	0.52	0.58	0.79	0.66	0.56	0.68	0.85	0.67	0.56	0.64	0.57	0.56
		Max Drawdown	-0.35	-0.14	-0.06	-0.17	-0.31	-0.55	-0.30	-0.07	-0.34	-0.62	-0.28	-0.14	-0.24	-0.08	-0.14
		Max Drawup	0.30	0.15	0.07	0.17	0.29	0.58	0.32	0.09	0.35	0.59	0.22	0.09	0.15	0.12	0.17
		Count	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	45.00	45.00	45.00	45.00	45.00

Hit Rates

Bonds Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Bonds	Most Recent	0.78	0.68	0.48	0.20	0.12	0.73	0.66	0.47	0.25	0.21					
		Mean	0.73	0.66	0.47	0.26	0.19	0.77	0.65	0.49	0.34	0.27					
		Median	0.73	0.66	0.47	0.25	0.17	0.80	0.66	0.48	0.33	0.24					
		Sigma	0.05	0.03	0.02	0.06	0.08	0.11	0.07	0.02	0.10	0.15					
		Min	0.58	0.59	0.42	0.19	0.07	0.32	0.38	0.43	0.19	0.04					
		Max	0.83	0.70	0.50	0.38	0.43	0.90	0.75	0.53	0.63	0.75					
		Max Drawdown	-0.18	-0.09	-0.05	-0.19	-0.36	-0.58	-0.30	-0.10	-0.44	-0.71					
		Max Drawup	0.24	0.12	0.08	0.13	0.23	0.57	0.37	0.08	0.27	0.57					
		Count	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00					
3yrs	Bonds	Most Recent	0.61	0.61	0.50	0.34	0.31	0.55	0.51	0.50	0.45	0.56	0.55	0.50	0.55	0.52	0.41
		Mean	0.71	0.65	0.48	0.29	0.21	0.74	0.64	0.50	0.35	0.26	0.64	0.56	0.63	0.48	0.39
		Median	0.72	0.65	0.48	0.28	0.20	0.76	0.65	0.50	0.35	0.22	0.63	0.57	0.63	0.47	0.39
		Sigma	0.05	0.03	0.02	0.05	0.07	0.12	0.08	0.02	0.09	0.15	0.05	0.02	0.03	0.03	0.04
		Min	0.54	0.57	0.43	0.20	0.10	0.28	0.34	0.46	0.19	0.08	0.55	0.50	0.54	0.44	0.32
		Max	0.80	0.71	0.51	0.41	0.42	0.91	0.76	0.55	0.65	0.73	0.75	0.60	0.68	0.53	0.44
		Max Drawdown	-0.22	-0.10	-0.04	-0.21	-0.32	-0.57	-0.33	-0.10	-0.46	-0.65	-0.19	-0.10	-0.14	-0.03	-0.08
		Max Drawup	0.27	0.14	0.08	0.16	0.21	0.62	0.41	0.08	0.28	0.55	0.13	0.05	0.07	0.10	0.13
		Count	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	21.00	21.00	21.00	21.00	21.00
1yrs	Bonds	Most Recent	0.74	0.66	0.50	0.29	0.20	0.60	0.61	0.53	0.36	0.21	0.69	0.53	0.63	0.53	0.33
		Mean	0.67	0.61	0.50	0.35	0.29	0.63	0.59	0.51	0.41	0.35	0.55	0.53	0.56	0.50	0.41
		Median	0.67	0.61	0.50	0.35	0.28	0.65	0.61	0.51	0.40	0.32	0.55	0.53	0.56	0.51	0.41
		Sigma	0.09	0.04	0.01	0.06	0.09	0.15	0.08	0.03	0.08	0.15	0.10	0.04	0.08	0.02	0.04
		Min	0.40	0.53	0.45	0.19	0.09	0.24	0.32	0.44	0.26	0.12	0.31	0.45	0.34	0.46	0.33
		Max	0.87	0.75	0.53	0.50	0.49	0.90	0.78	0.57	0.67	0.79	0.70	0.61	0.70	0.54	0.51
		Max Drawdown	-0.47	-0.22	-0.05	-0.26	-0.35	-0.66	-0.46	-0.13	-0.41	-0.66	-0.40	-0.17	-0.31	-0.04	-0.19
		Max Drawup	0.38	0.15	0.08	0.32	0.40	0.67	0.43	0.13	0.37	0.65	0.39	0.12	0.35	0.08	0.16
		Count	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	45.00	45.00	45.00	45.00	45.00

Hit Rates

International Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Internatio..	Most Recent	0.60	0.54	0.52	0.41	0.32	0.56	0.53	0.48	0.48	0.46					
		Mean	0.62	0.58	0.49	0.39	0.30	0.55	0.55	0.49	0.45	0.47					
		Median	0.63	0.58	0.49	0.39	0.30	0.55	0.55	0.49	0.46	0.47					
		Sigma	0.06	0.03	0.02	0.05	0.05	0.07	0.03	0.02	0.04	0.09					
		Min	0.49	0.51	0.44	0.28	0.18	0.36	0.47	0.42	0.35	0.27					
		Max	0.75	0.65	0.53	0.50	0.44	0.71	0.63	0.55	0.58	0.69					
		Max Drawdown	-0.27	-0.14	-0.07	-0.19	-0.26	-0.27	-0.17	-0.12	-0.24	-0.42					
		Max Drawup	0.19	0.11	0.09	0.22	0.25	0.36	0.12	0.13	0.20	0.35					
		Count	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00					
3yrs	Internatio..	Most Recent	0.63	0.57	0.50	0.43	0.32	0.36	0.40	0.54	0.63	0.76	0.50	0.50	0.55	0.51	0.51
		Mean	0.62	0.57	0.49	0.39	0.34	0.57	0.56	0.49	0.45	0.46	0.63	0.51	0.57	0.49	0.50
		Median	0.62	0.57	0.50	0.40	0.34	0.57	0.56	0.49	0.44	0.45	0.57	0.52	0.58	0.50	0.51
		Sigma	0.06	0.03	0.02	0.05	0.05	0.09	0.04	0.03	0.05	0.08	0.17	0.03	0.06	0.03	0.04
		Min	0.49	0.50	0.44	0.25	0.21	0.34	0.38	0.39	0.35	0.31	0.44	0.46	0.46	0.43	0.42
		Max	0.78	0.66	0.54	0.50	0.47	0.75	0.66	0.57	0.63	0.79	0.89	0.57	0.66	0.53	0.57
		Max Drawdown	-0.29	-0.16	-0.08	-0.21	-0.26	-0.40	-0.27	-0.17	-0.24	-0.38	-0.45	-0.07	-0.20	-0.06	-0.09
		Max Drawup	0.22	0.12	0.10	0.26	0.25	0.42	0.19	0.15	0.28	0.49	0.15	0.11	0.17	0.10	0.15
		Count	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	21.00	21.00	21.00	21.00	21.00
1yrs	Internatio..	Most Recent	0.50	0.52	0.50	0.50	0.49	0.48	0.48	0.49	0.52	0.63	0.45	0.50	0.45	0.44	0.39
		Mean	0.59	0.55	0.50	0.44	0.40	0.53	0.52	0.51	0.48	0.47	0.60	0.52	0.51	0.50	0.48
		Median	0.59	0.55	0.50	0.44	0.39	0.54	0.53	0.50	0.47	0.46	0.61	0.51	0.50	0.50	0.50
		Sigma	0.07	0.03	0.02	0.04	0.07	0.15	0.07	0.04	0.07	0.12	0.21	0.04	0.08	0.04	0.07
		Min	0.41	0.46	0.46	0.33	0.20	0.15	0.35	0.41	0.35	0.23	0.28	0.45	0.39	0.41	0.33
		Max	0.76	0.62	0.53	0.55	0.62	0.80	0.67	0.60	0.70	0.84	0.94	0.65	0.69	0.59	0.60
		Max Drawdown	-0.35	-0.16	-0.06	-0.17	-0.43	-0.66	-0.32	-0.19	-0.28	-0.43	-0.67	-0.17	-0.30	-0.15	-0.21
		Max Drawup	0.30	0.14	0.07	0.22	0.36	0.57	0.28	0.18	0.35	0.61	0.42	0.20	0.19	0.17	0.27
		Count	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	45.00	45.00	45.00	45.00	45.00

Hit Rates

Specialty Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Specialty	Most Recent	0.62	0.60	0.52	0.31	0.26	0.65	0.61	0.48	0.33	0.52					
		Mean	0.71	0.60	0.48	0.35	0.27	0.58	0.57	0.53	0.41	0.36					
		Median	0.71	0.60	0.49	0.34	0.25	0.58	0.57	0.53	0.42	0.35					
		Sigma	0.06	0.04	0.03	0.05	0.08	0.11	0.04	0.03	0.06	0.11					
		Min	0.52	0.48	0.39	0.24	0.13	0.29	0.44	0.46	0.28	0.16					
		Max	0.83	0.67	0.54	0.51	0.54	0.84	0.67	0.60	0.55	0.67					
		Max Drawdown	-0.30	-0.16	-0.12	-0.27	-0.41	-0.36	-0.20	-0.14	-0.27	-0.51					
		Max Drawup	0.22	0.19	0.15	0.19	0.37	0.55	0.23	0.12	0.15	0.51					
		Count	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00	147.00					
3yrs	Specialty	Most Recent	0.65	0.51	0.52	0.40	0.37	0.49	0.44	0.52	0.54	0.57	0.50	0.52	0.44	0.56	0.45
		Mean	0.69	0.60	0.48	0.37	0.30	0.57	0.58	0.51	0.43	0.39	0.66	0.57	0.67	0.47	0.40
		Median	0.69	0.60	0.48	0.36	0.29	0.59	0.58	0.51	0.42	0.38	0.68	0.55	0.70	0.47	0.37
		Sigma	0.05	0.04	0.02	0.04	0.09	0.14	0.05	0.03	0.09	0.14	0.14	0.08	0.10	0.04	0.05
		Min	0.57	0.51	0.41	0.26	0.14	0.20	0.44	0.45	0.22	0.12	0.32	0.44	0.44	0.40	0.34
		Max	0.80	0.69	0.54	0.49	0.62	0.81	0.73	0.61	0.64	0.83	0.83	0.71	0.83	0.56	0.48
		Max Drawdown	-0.23	-0.18	-0.11	-0.23	-0.47	-0.46	-0.29	-0.16	-0.41	-0.71	-0.52	-0.27	-0.39	-0.02	-0.14
		Max Drawup	0.22	0.18	0.12	0.22	0.47	0.61	0.28	0.16	0.32	0.66	0.29	0.21	0.21	0.16	0.14
		Count	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	171.00	21.00	21.00	21.00	21.00	21.00
1yrs	Specialty	Most Recent	0.63	0.58	0.50	0.41	0.36	0.52	0.51	0.51	0.47	0.49	0.56	0.61	0.63	0.46	0.45
		Mean	0.62	0.57	0.50	0.40	0.36	0.56	0.55	0.52	0.45	0.44	0.51	0.53	0.56	0.51	0.43
		Median	0.63	0.58	0.50	0.39	0.35	0.58	0.54	0.52	0.43	0.42	0.47	0.55	0.57	0.52	0.45
		Sigma	0.07	0.05	0.02	0.06	0.09	0.15	0.06	0.04	0.08	0.18	0.19	0.08	0.10	0.05	0.08
		Min	0.39	0.44	0.45	0.25	0.19	0.23	0.41	0.42	0.31	0.14	0.11	0.31	0.38	0.41	0.31
		Max	0.79	0.68	0.56	0.58	0.63	0.89	0.70	0.63	0.67	0.98	0.84	0.66	0.72	0.61	0.58
		Max Drawdown	-0.40	-0.24	-0.11	-0.28	-0.44	-0.66	-0.28	-0.21	-0.30	-0.75	-0.73	-0.35	-0.35	-0.15	-0.17
		Max Drawup	0.29	0.24	0.10	0.33	0.40	0.64	0.29	0.19	0.36	0.84	0.45	0.31	0.29	0.20	0.27
		Count	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	195.00	45.00	45.00	45.00	45.00	45.00

Hit Rates

Other Fund Rating System Hit Rates as of 4/30/2023

Period	fundGroup ing	Metric	schwab A	schwab B	schwab C	schwab D	schwab F	m*5star	m*4star	m*3star	m*2star	m*1star	m*Gold	m*Silver	m* Bronze	m* Neutral	m*Negat ive
5yrs	Other	Most Recent	0.85	0.73	0.45	0.16	0.00	0.84	0.67	0.43	0.18	0.24					
		Mean	0.79	0.63	0.46	0.26	0.13	0.77	0.65	0.49	0.32	0.30					
		Median	0.81	0.63	0.46	0.24	0.12	0.82	0.67	0.47	0.32	0.27					
		Sigma	0.11	0.05	0.04	0.09	0.12	0.21	0.09	0.09	0.10	0.14					
		Min	0.45	0.48	0.36	0.10	0.00	0.19	0.29	0.19	0.05	0.06					
		Max	1.00	0.74	0.53	0.51	0.60	1.00	0.89	0.71	0.54	0.66					
		Max Drawdown	-0.55	-0.21	-0.17	-0.41	-0.60	-0.81	-0.60	-0.35	-0.37	-0.60					
		Max Drawup	0.52	0.26	0.17	0.39	0.60	0.81	0.50	0.52	0.49	0.50					
		Count	144.00	144.00	144.00	144.00	144.00	144.00	144.00	144.00	144.00	144.00					
3yrs	Other	Most Recent	0.48	0.63	0.54	0.35	0.12	0.30	0.49	0.56	0.59	0.33	0.61	0.35	0.60	0.49	0.37
		Mean	0.76	0.64	0.46	0.29	0.18	0.75	0.64	0.51	0.34	0.27	0.44	0.50	0.48	0.49	0.25
		Median	0.79	0.65	0.46	0.28	0.13	0.83	0.65	0.49	0.34	0.24	0.55	0.53	0.49	0.49	0.31
		Sigma	0.13	0.06	0.05	0.10	0.16	0.21	0.11	0.08	0.10	0.17	0.32	0.12	0.12	0.10	0.15
		Min	0.37	0.43	0.36	0.12	0.00	0.05	0.24	0.33	0.15	0.00	0.00	0.30	0.11	0.35	0.00
		Max	0.95	0.79	0.57	0.56	0.91	1.00	0.85	0.76	0.64	0.86	0.80	0.63	0.64	0.68	0.44
		Max Drawdown	-0.59	-0.29	-0.18	-0.44	-0.91	-0.95	-0.57	-0.43	-0.49	-0.86	-0.38	-0.33	-0.24	-0.19	-0.23
		Max Drawup	0.56	0.36	0.21	0.44	0.75	0.91	0.61	0.40	0.48	0.62	0.80	0.31	0.53	0.33	0.44
		Count	168.00	168.00	168.00	168.00	168.00	168.00	168.00	168.00	168.00	168.00	16.00	21.00	21.00	21.00	21.00
1yrs	Other	Most Recent	0.85	0.57	0.44	0.42	0.29	0.70	0.61	0.41	0.48	0.38	0.12	0.52	0.19	0.38	0.41
		Mean	0.64	0.58	0.49	0.42	0.32	0.55	0.54	0.52	0.45	0.44	0.65	0.48	0.50	0.50	0.43
		Median	0.66	0.58	0.49	0.41	0.32	0.60	0.55	0.52	0.44	0.44	0.65	0.46	0.48	0.47	0.41
		Sigma	0.17	0.07	0.04	0.10	0.16	0.25	0.16	0.07	0.11	0.22	0.22	0.19	0.25	0.13	0.16
		Min	0.26	0.40	0.37	0.16	0.04	0.00	0.03	0.29	0.17	0.07	0.12	0.10	0.00	0.28	0.11
		Max	0.93	0.76	0.59	0.71	0.89	0.99	0.91	0.70	0.71	0.91	1.00	0.94	0.86	0.73	0.72
		Max Drawdown	-0.66	-0.31	-0.18	-0.52	-0.85	-0.96	-0.78	-0.39	-0.40	-0.84	-0.88	-0.84	-0.86	-0.38	-0.50
		Max Drawup	0.67	0.36	0.22	0.55	0.72	0.99	0.88	0.42	0.54	0.70	0.63	0.50	0.70	0.45	0.61
		Count	192.00	192.00	192.00	192.00	192.00	192.00	192.00	192.00	192.00	192.00	41.00	45.00	45.00	45.00	45.00

2. Information Coefficient

Information Coefficient (IC)

IC is Pearson correlation between forecasted intra-category percentile ranks of fund returns and the actual percentile ranks of fund returns. Pearson correlation of percentile ranks equals Spearman correlation of ordinal/integer ranks.

Forecast IC

Forecast IC is model-dependent. the correlation between intra-category percentile ranks computed by rating engine (on rating date) and eventual intra-category percentile ranks of monthly return (on return date). In each calculation, categories are subject to some death rate between rating and return dates. And so only funds that map to the rating dates are included in the return percentile rank vector. We can roll forecasted IC to model, asset class, and overall levels as a fund-weighted average of category IC. In this fashion IC is only calculated at the category level.

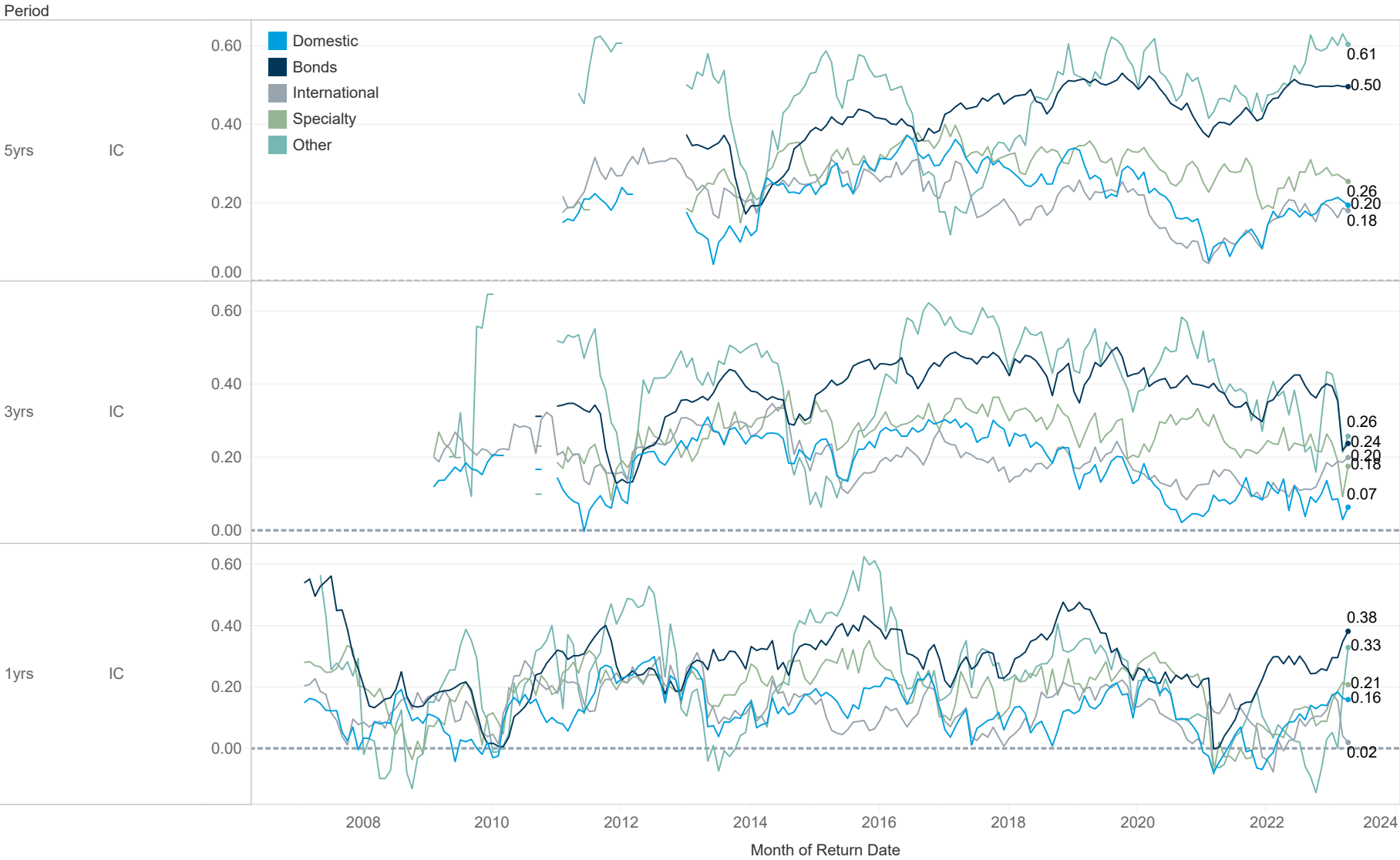
Component IC

Component IC is model independent. It is the correlation between intra-category percentile ranks of a single component (on rating date) and eventual intra-category percentile ranks of monthly return (return date). In each calculation, categories are subject to some death rate between rating and return dates. And so only funds that map to the rating dates are included in the return percentile rank vector. We can roll component IC to model, asset class, and overall levels as a fund-weighted average of category IC. In this fashion IC is only calculated at the category level.

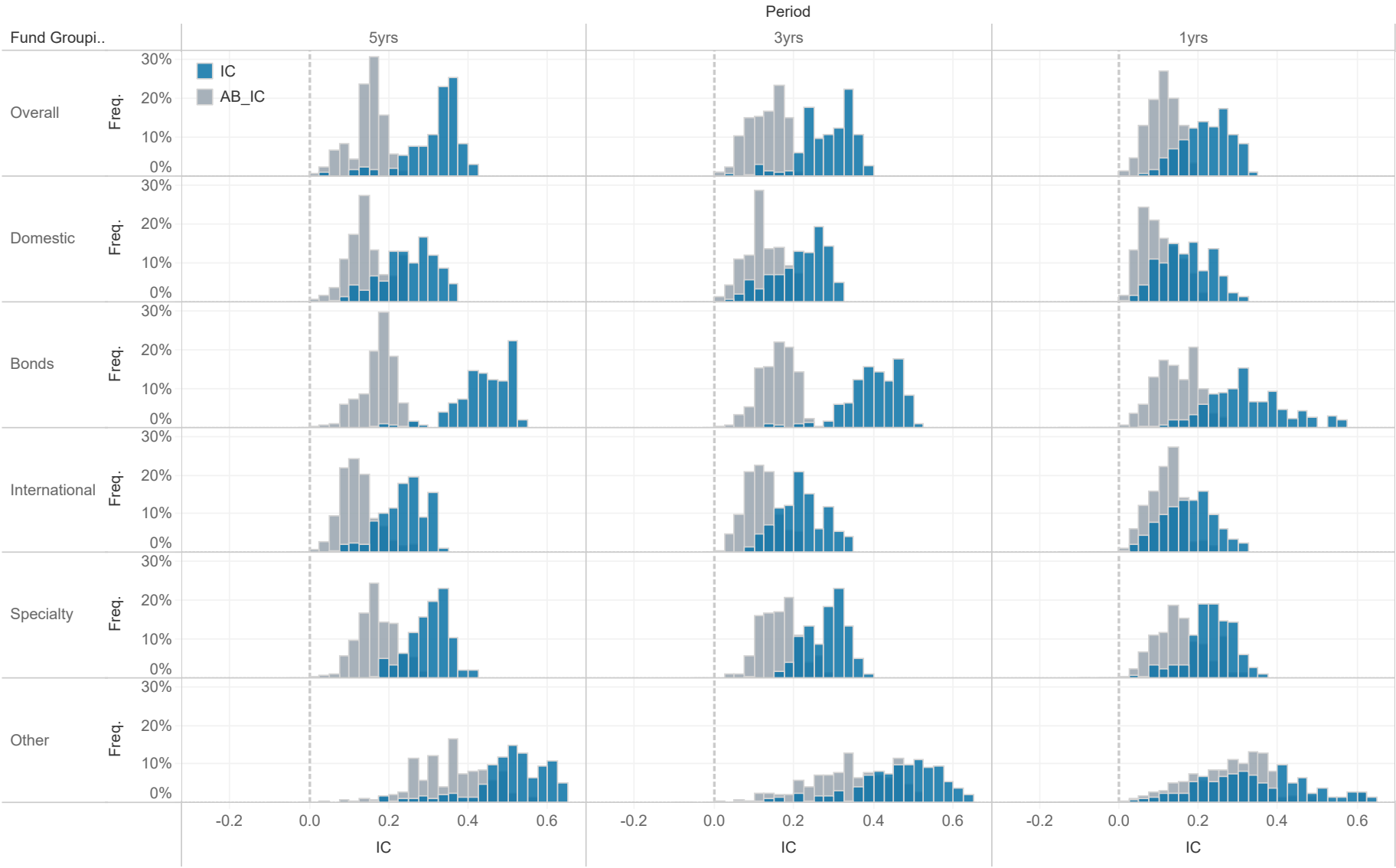
Overall IC and AB_IC as of 4/30/2023



Asset Class IC as of 4/30/2023



Overall and Asset Class IC and AB_IC as of 4/30/2023

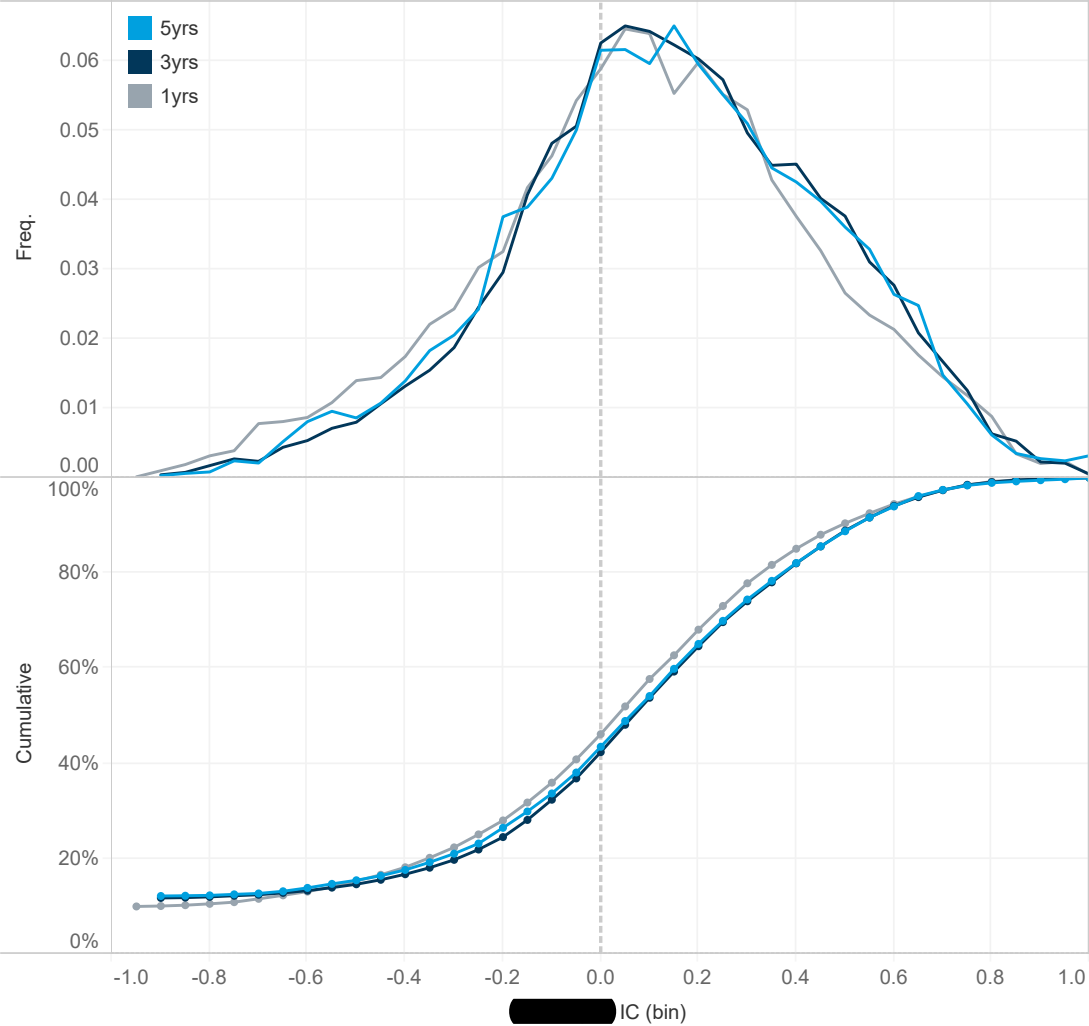


Forecast IC

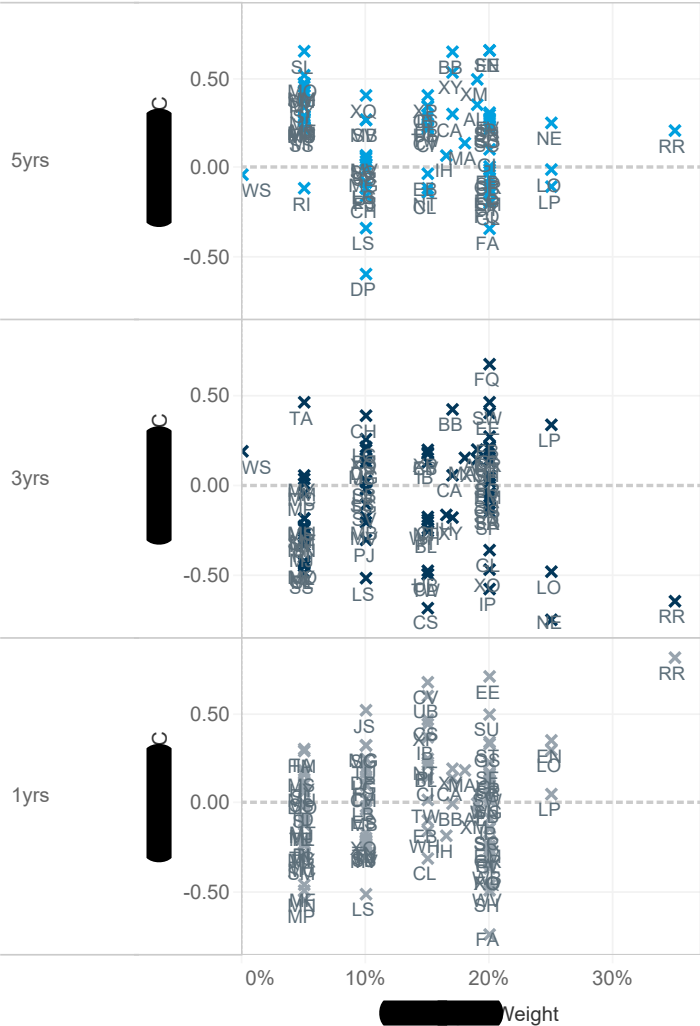
Overall and Asset Class IC and AB_IC as of 4/30/2023

Period	Metric	IC						AB_IC					
		Overall	Domestic	Bonds	International	Specialty	Other	Overall	Domestic	Bonds	International	Specialty	Other
5yrs	Most Recent	0.35	0.20	0.50	0.18	0.26	0.61	0.14	0.04	0.18	0.15	0.07	0.32
	Mean	0.28	0.22	0.42	0.22	0.29	0.47	0.12	0.12	0.15	0.09	0.15	0.31
	Median	0.32	0.23	0.44	0.23	0.30	0.50	0.14	0.12	0.16	0.09	0.15	0.32
	Sigma	0.10	0.08	0.08	0.07	0.05	0.12	0.05	0.06	0.06	0.06	0.06	0.13
	Min	0.04	0.04	0.17	0.05	0.15	0.12	0.01	-0.04	-0.01	-0.04	-0.04	-0.08
	Max	0.40	0.37	0.53	0.34	0.40	0.63	0.23	0.25	0.27	0.25	0.29	0.56
	Max Drawdown	-0.20	-0.32	-0.20	-0.30	-0.22	-0.51	-0.20	-0.29	-0.23	-0.30	-0.33	-0.64
	Max Drawup	0.37	0.33	0.36	0.16	0.25	0.51	0.22	0.23	0.28	0.23	0.23	0.58
	Count	146.00	138.00	124.00	147.00	130.00	133.00	146.00	138.00	124.00	147.00	130.00	133.00
3yrs	Most Recent	0.18	0.07	0.24	0.20	0.18	0.26	0.04	0.00	0.05	0.11	0.14	-0.08
	Mean	0.25	0.18	0.38	0.20	0.27	0.41	0.11	0.09	0.13	0.10	0.15	0.25
	Median	0.27	0.19	0.40	0.20	0.28	0.44	0.10	0.10	0.13	0.09	0.14	0.27
	Sigma	0.09	0.08	0.08	0.06	0.05	0.14	0.05	0.06	0.06	0.05	0.05	0.15
	Min	0.03	0.00	0.13	0.09	0.09	0.07	0.00	-0.06	-0.02	-0.02	-0.03	-0.09
	Max	0.38	0.31	0.50	0.35	0.38	0.65	0.20	0.22	0.25	0.22	0.28	0.51
	Max Drawdown	-0.23	-0.29	-0.28	-0.26	-0.29	-0.58	-0.21	-0.28	-0.23	-0.24	-0.31	-0.60
	Max Drawup	0.36	0.31	0.37	0.22	0.30	0.56	0.20	0.26	0.27	0.22	0.24	0.60
	Count	171.00	164.00	150.00	171.00	156.00	159.00	171.00	164.00	150.00	171.00	156.00	159.00
1yrs	Most Recent	0.24	0.16	0.38	0.02	0.21	0.33	0.11	0.02	0.15	0.05	0.07	0.34
	Mean	0.19	0.12	0.28	0.14	0.19	0.22	0.08	0.05	0.10	0.07	0.11	0.15
	Median	0.20	0.12	0.28	0.13	0.22	0.22	0.08	0.06	0.10	0.08	0.11	0.15
	Sigma	0.07	0.08	0.11	0.07	0.09	0.17	0.05	0.06	0.08	0.06	0.08	0.16
	Min	-0.01	-0.08	0.00	-0.07	-0.08	-0.14	-0.09	-0.10	-0.14	-0.13	-0.09	-0.25
	Max	0.33	0.30	0.56	0.31	0.35	0.63	0.18	0.22	0.25	0.23	0.32	0.62
	Max Drawdown	-0.34	-0.38	-0.56	-0.39	-0.44	-0.77	-0.27	-0.33	-0.39	-0.36	-0.41	-0.88
	Max Drawup	0.32	0.34	0.47	0.30	0.39	0.76	0.23	0.28	0.35	0.28	0.37	0.65
	Count	195.00	195.00	195.00	195.00	195.00	192.00	195.00	195.00	195.00	195.00	195.00	192.00

Historical Component IC as of 4/30/2023

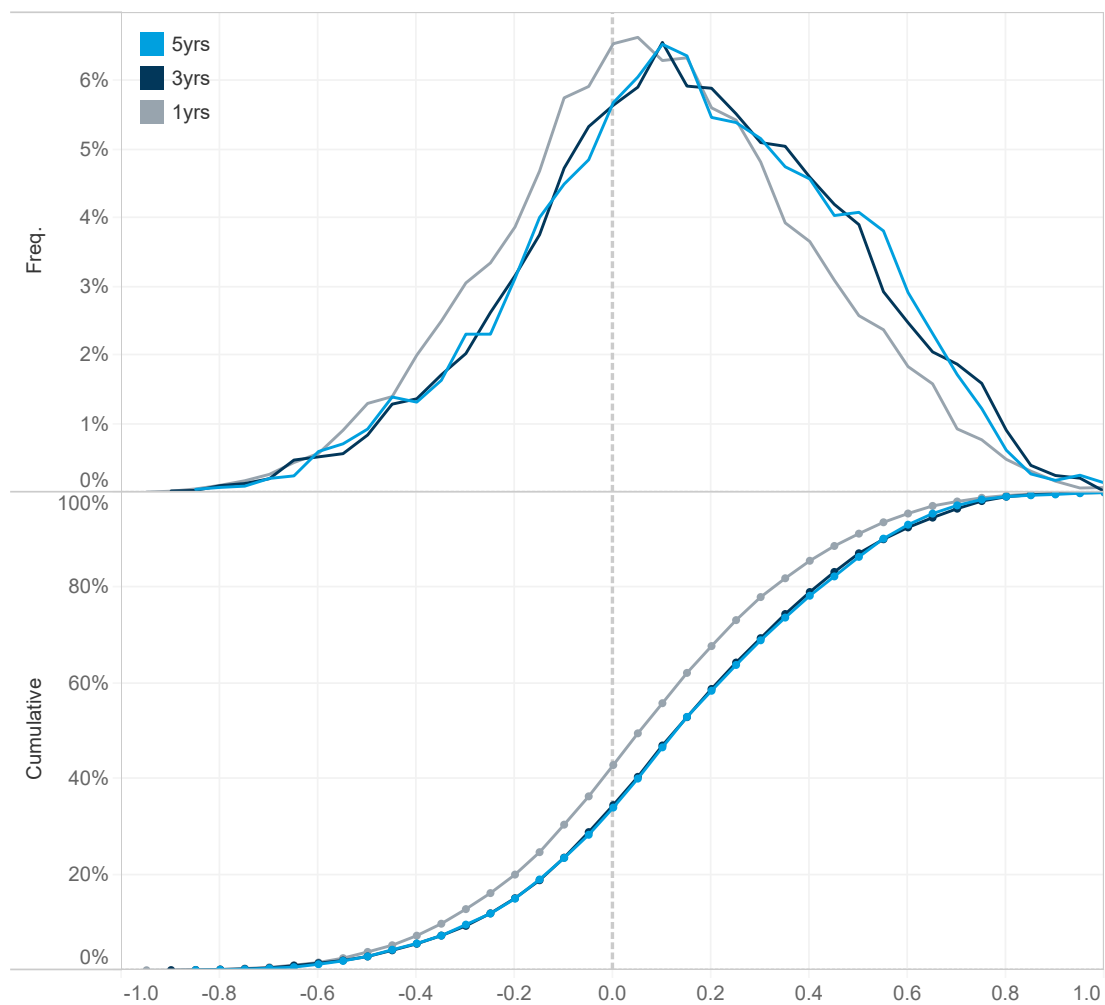


Most Recent Component IC as of 4/30/2023

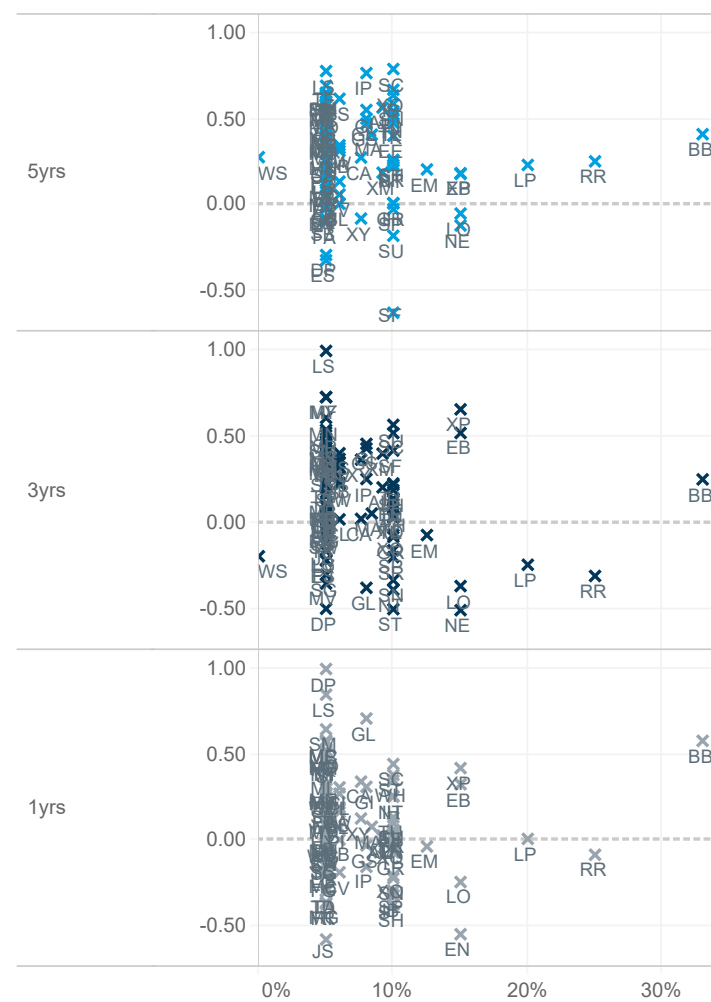


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories and build distributions to show historical IC to future holding period return. For the scatters we show the component weight used by each category versus category-level IC to three holding period returns for the most recent period i.e. these are the observations that populate the historical distribution.

Historical Component IC as of

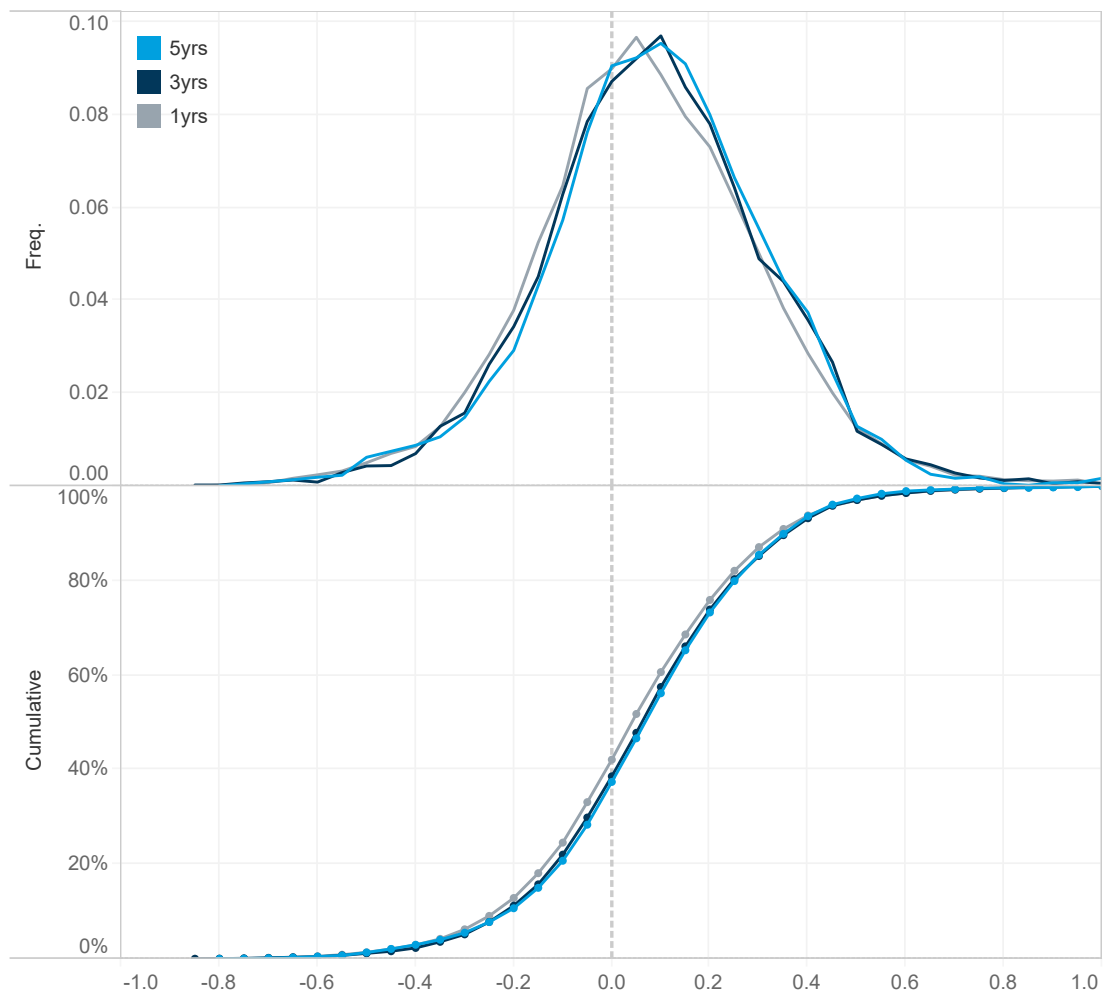


Most Recent Component IC as of 4/30/2023

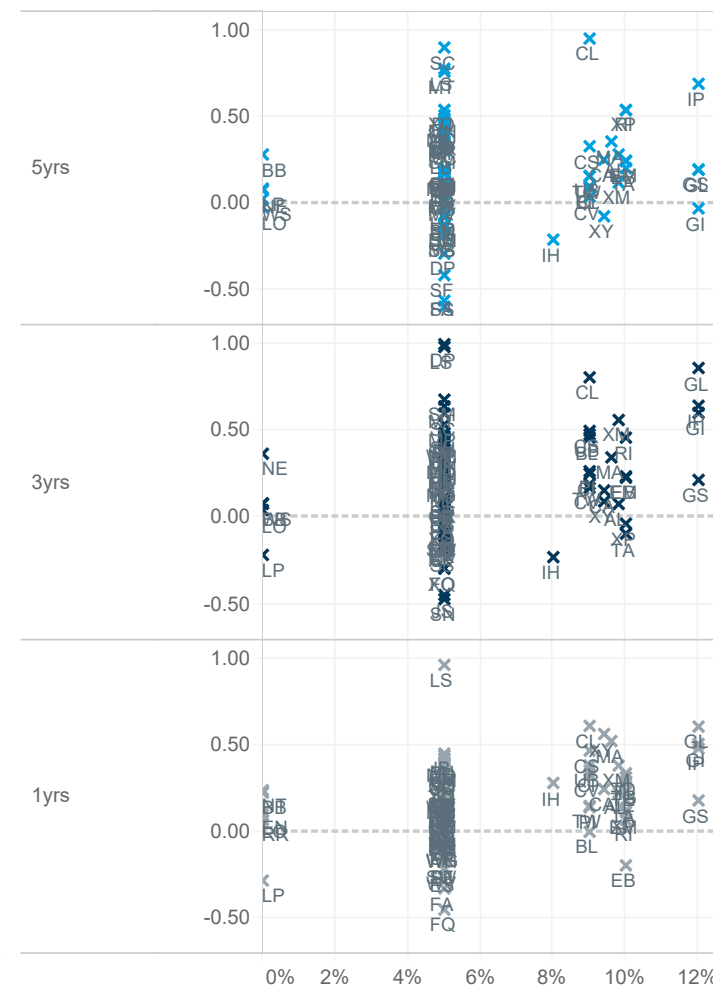


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

Historical Component IC as of 4/30/2023

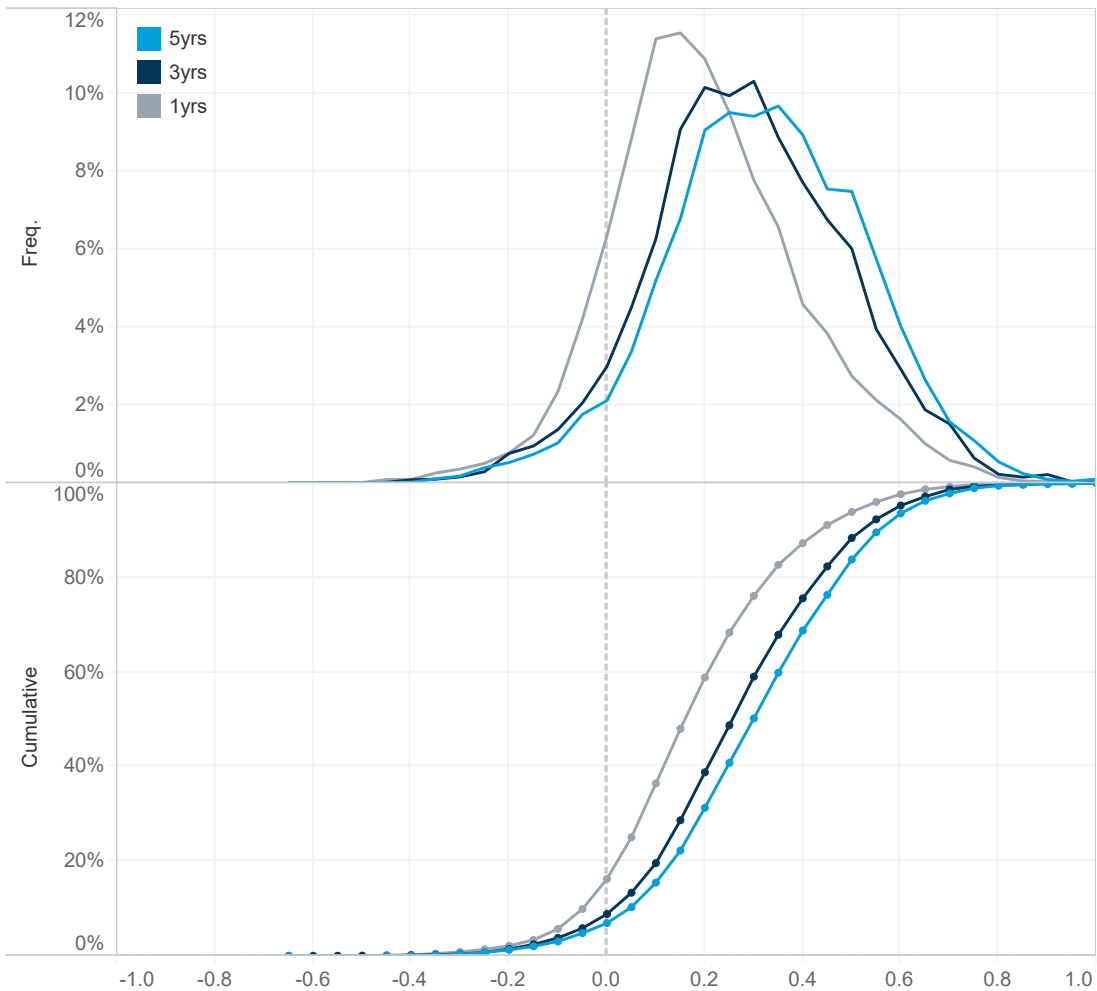


Most Recent Component IC as of 4/30/2023

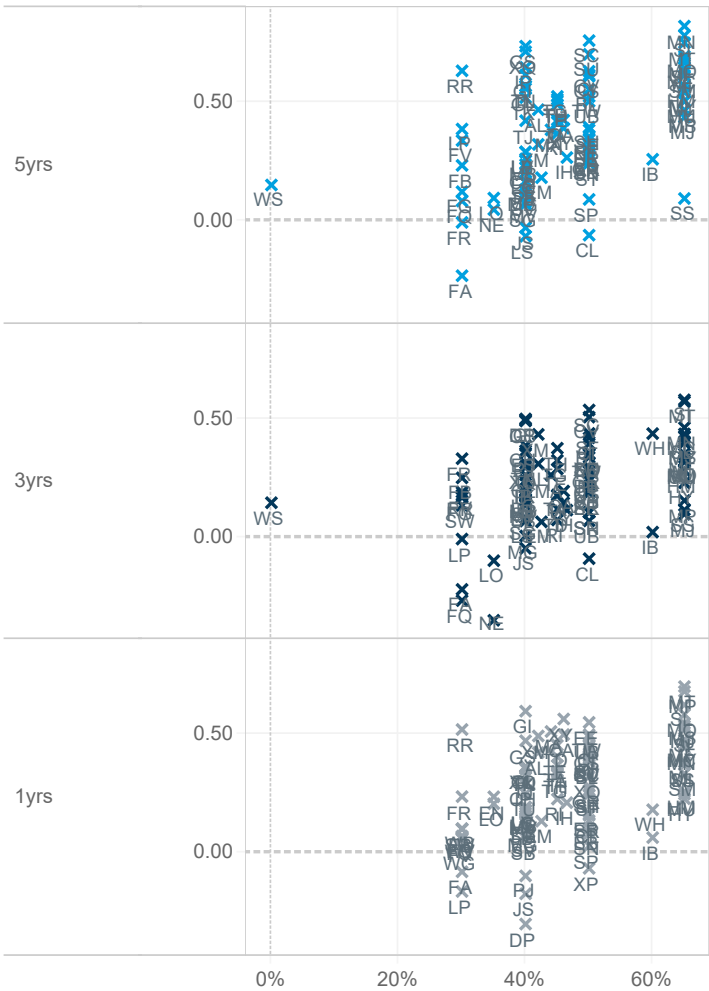


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

Historical Component IC as of 4/30/2023

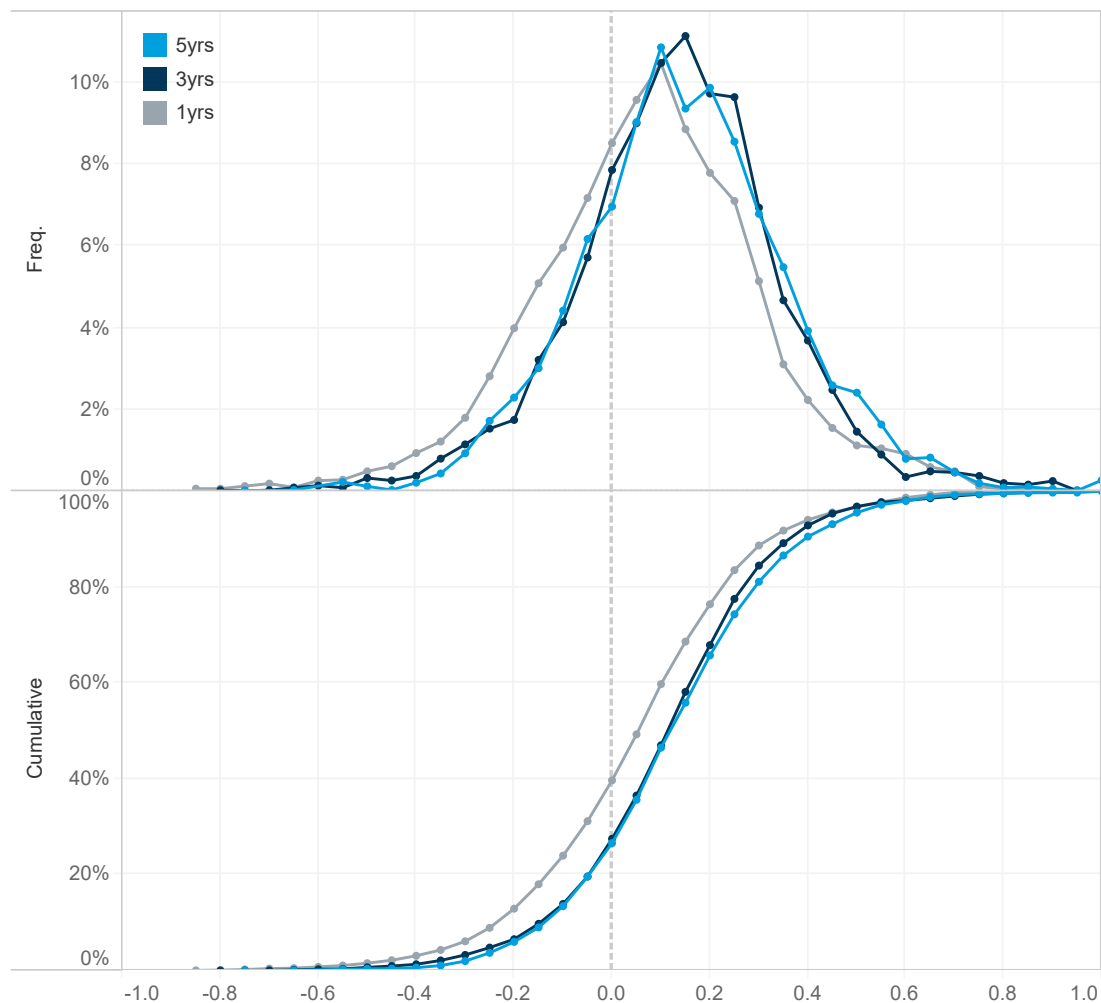


Most Recent Component IC as of 4/30/2023

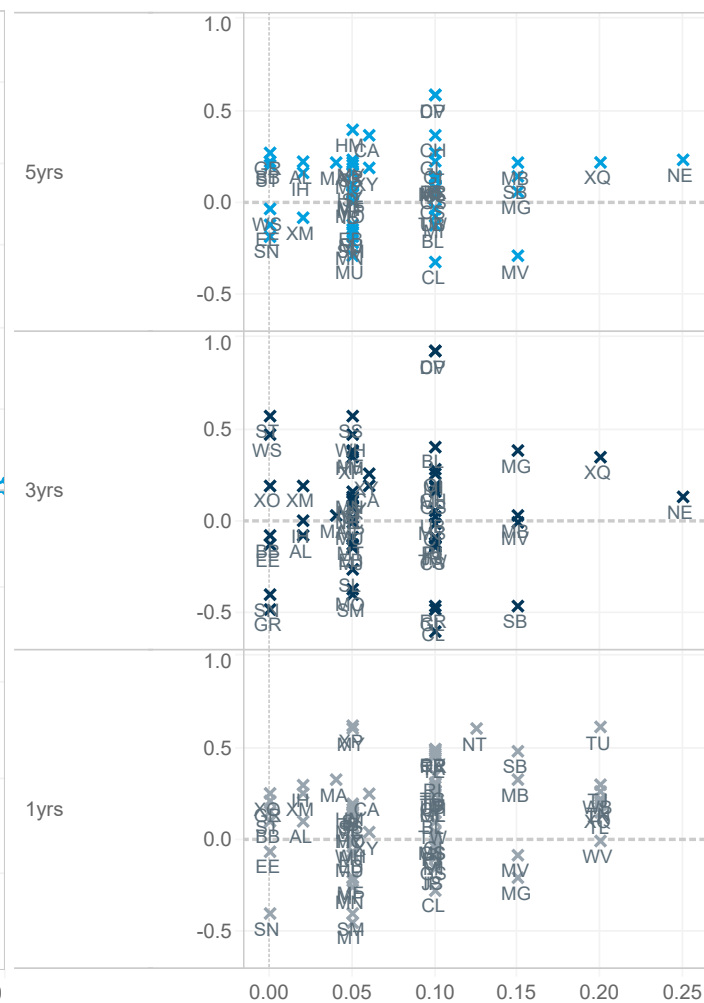


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

Historical Component IC as of 4/30/2023

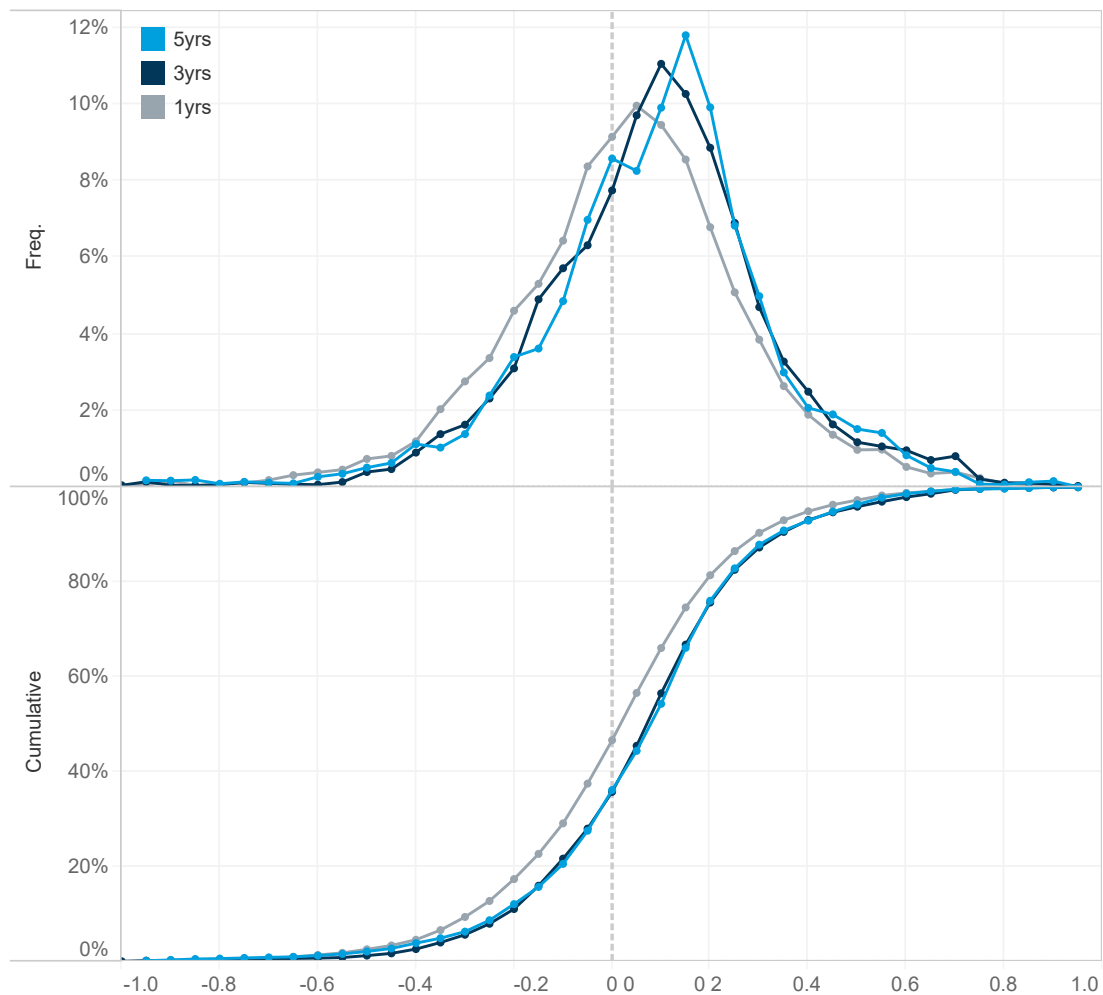


Most Recent Component IC as of 4/30/2023

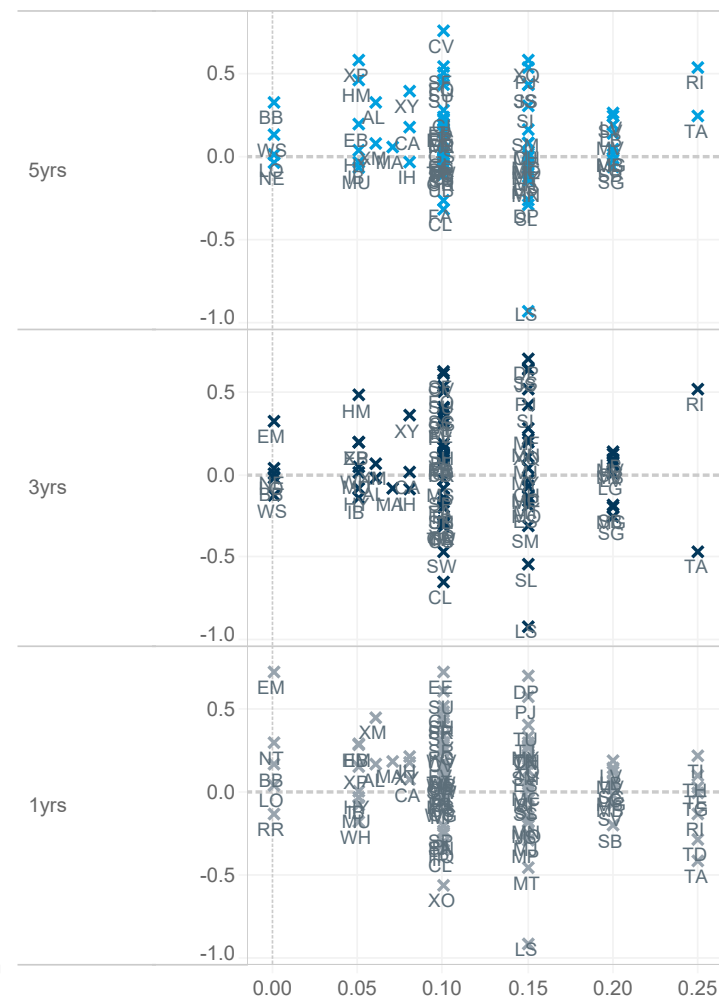


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

Historical Component IC as of 4/30/2023

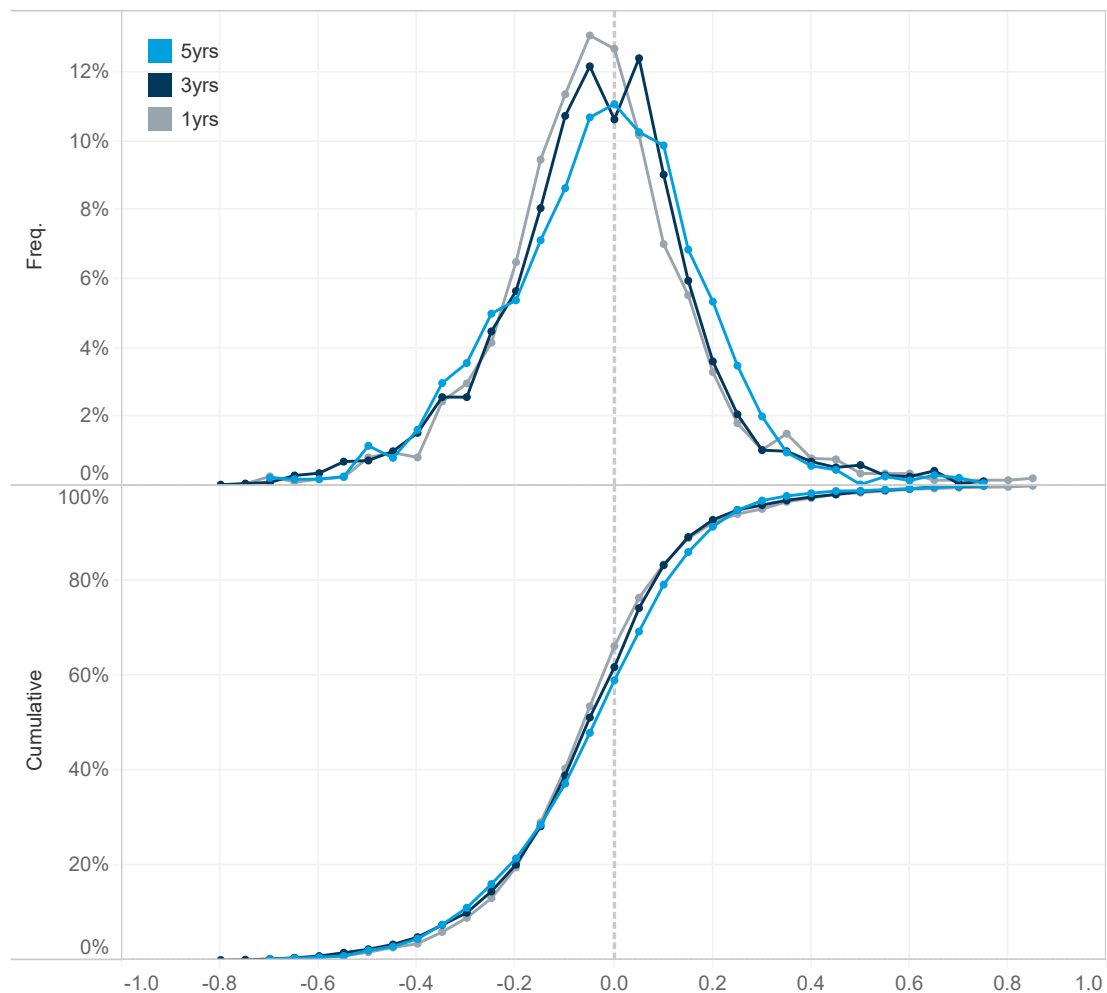


Most Recent Component IC as of 4/30/2023

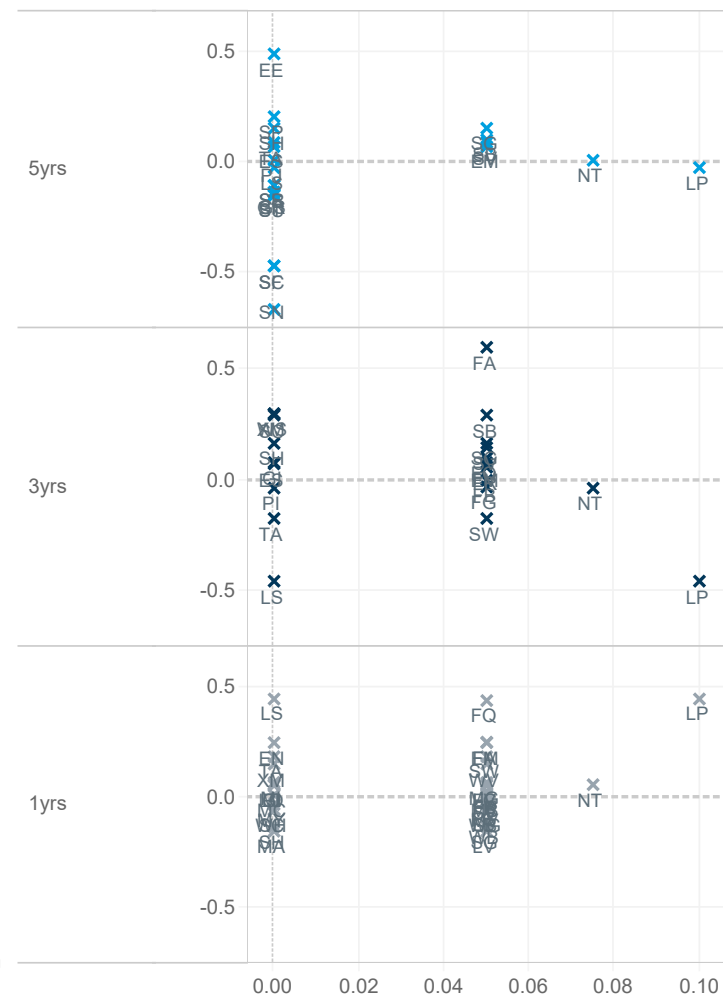


For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

Historical Component IC as of 4/30/2023



Most Recent Component IC as of 4/30/2023



For component IC distributions we collect category-level IC observations i.e. we equal-weight categories to build the distribution to show the historical relationship to future holding period return. For the scatters we show relationship between category-level IC and three holding period returns for the most recent period.

3. Category

Category Schema

FURS goal is to rate funds on a category-by-category basis, as defined by the Morningstar category schema. FURS may block categories based on strategy, length of track record, and fund count. Morningstar annually updates its category constituents and this may include additions and subtractions. Morningstar category schema is driven by likening holdings, strategy, historical performance, category fund count, and investor demand.

Category Activity

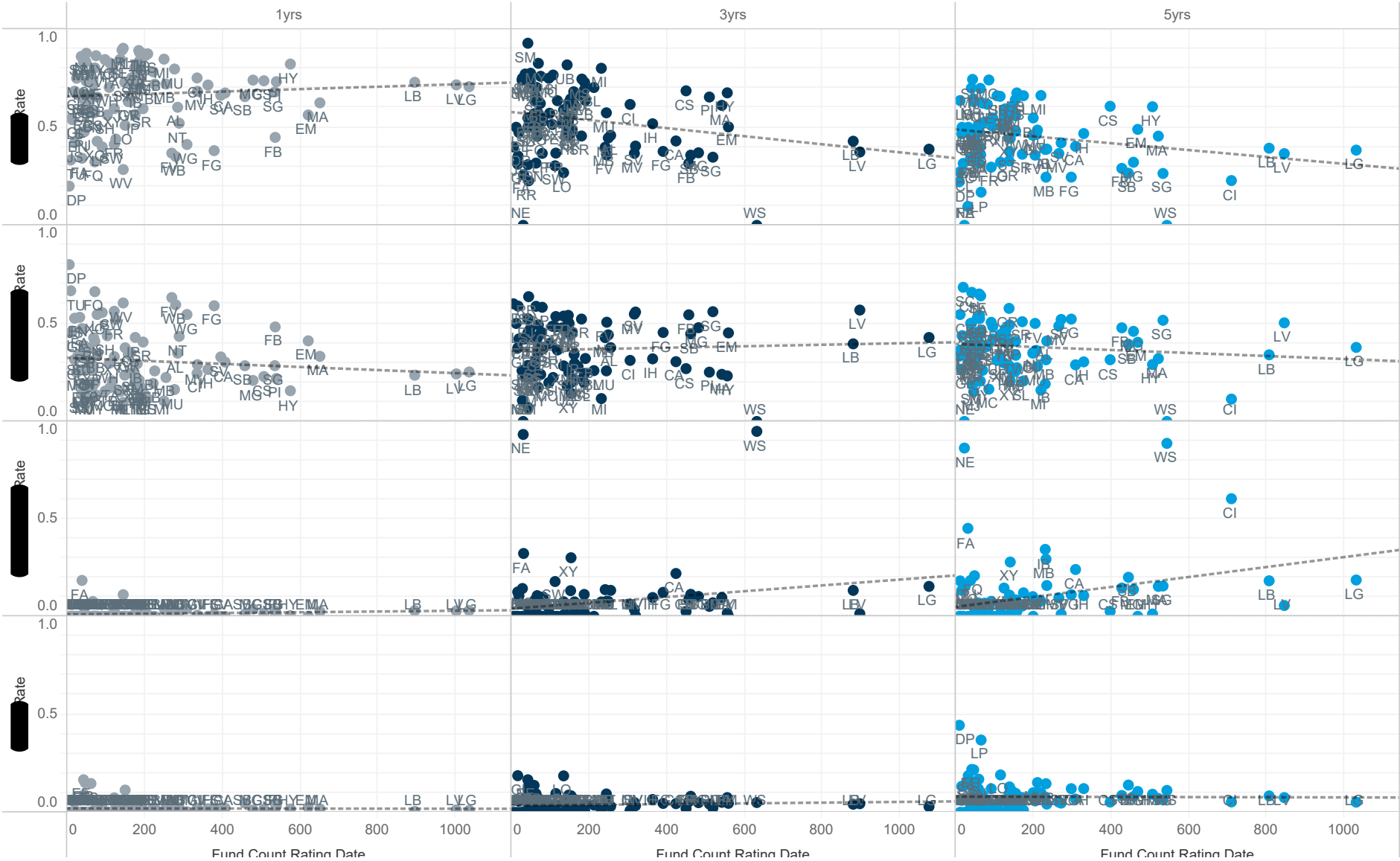
Refers to changes to a category cusip constituency between rating date and return date. Cusip stasis counts cusips that were rated the same on return date as they were on rating date. Cusip intra-migrate counts cusips that remained in the category but received another grade on return date. Cusip inter-migrate counts cusips that left the category but are still printing returns. And cusip death rates counts cusips that are no longer printing returns or missing from the current record.

Changed Rating Status Between Rating Dates

Btw 5yrs and 3yrs Rating Dates	Add	PI	Intermediate Core-Plus Bond
		SW	World Small/Mid Stock
		WH	World Bond-USD Hedged
		XO	Infrastructure
	Drop	None	None
Btw 3yrs and 1yrs Rating Dates	Add	EN	Equity Market Neutral
		TU	Target-Date 2065+
		WB	World Large-Stock Blend
		WG	World Large-Stock Growth
		WV	World Large-Stock Value
	Drop	NE	Market Neutral
		WS	World Stock

Category

Category Activity btw Rating and Return Dates as of 4/30/2023



Rate

Rate

Domestic Category Performance as of 4/30/2023

Metric	Asset C..	Status	Cat C..	Cat Name	HitA			HitB			HitC			HitD			HitF			IC		
					1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs
Average All Periods	Domestic	Returning Perf.	AL	Allocation--70% to 85% E..	0.66	0.71	0.73	0.60	0.65	0.65	0.48	0.46	0.45	0.41	0.35	0.32	0.32	0.22	0.18	0.22	0.34	0.39
			EN	Equity Market Neutral	0.83			0.52			0.47			0.39			0.28			0.32		
			LB	Large Blend	0.58	0.65	0.71	0.57	0.62	0.63	0.50	0.46	0.45	0.42	0.37	0.33	0.39	0.33	0.28	0.15	0.26	0.34
			LG	Large Growth	0.56	0.61	0.63	0.55	0.58	0.58	0.50	0.48	0.47	0.45	0.40	0.38	0.40	0.34	0.33	0.12	0.20	0.24
			LO	Long-Short Equity	0.57	0.45	0.48	0.51	0.48	0.48	0.50	0.53	0.53	0.46	0.51	0.49	0.48	0.60	0.66	0.05	-0.09	-0.09
			LV	Large Value	0.60	0.67	0.69	0.55	0.57	0.58	0.49	0.47	0.45	0.44	0.40	0.38	0.40	0.36	0.33	0.13	0.21	0.26
			MB	Mid-Cap Blend	0.59	0.65	0.70	0.55	0.58	0.59	0.48	0.46	0.45	0.45	0.43	0.41	0.43	0.39	0.35	0.11	0.19	0.23
			MG	Mid-Cap Growth	0.57	0.59	0.62	0.53	0.55	0.56	0.50	0.48	0.48	0.46	0.44	0.41	0.42	0.43	0.38	0.09	0.12	0.17
			MV	Mid-Cap Value	0.55	0.59	0.58	0.54	0.53	0.55	0.50	0.49	0.49	0.47	0.43	0.42	0.43	0.46	0.42	0.09	0.10	0.13
			SB	Small Blend	0.59	0.59	0.61	0.55	0.54	0.54	0.49	0.50	0.49	0.44	0.45	0.45	0.41	0.38	0.40	0.12	0.13	0.14
			SG	Small Growth	0.57	0.56	0.55	0.54	0.51	0.51	0.49	0.51	0.50	0.45	0.46	0.46	0.43	0.43	0.44	0.10	0.07	0.07
			SV	Small Value	0.57	0.57	0.58	0.54	0.56	0.57	0.50	0.50	0.51	0.45	0.44	0.40	0.41	0.38	0.33	0.10	0.13	0.17
			TU	Target-Date 2065+	1.00			0.65			0.42			0.12			0.00			0.75		
			XM	Allocation--85%+ Equity	0.58	0.59	0.58	0.59	0.62	0.70	0.50	0.49	0.46	0.42	0.42	0.35	0.33	0.20	0.17	0.18	0.23	0.29
Most Recent Period	Domestic	No Longer..	NE	Market Neutral	0.59	0.56	0.58	0.53	0.48	0.59	0.48	0.47	0.46	0.45	0.52	0.43	0.52	0.59	0.31	0.10	-0.01	0.12
		Returning Perf.	AL	Allocation--70% to 85% E..	0.46	0.81	0.90	0.65	0.59	0.67	0.57	0.46	0.39	0.40	0.36	0.28	0.07	0.33	0.17	0.33	0.28	0.53
			EN	Equity Market Neutral	0.50			0.63			0.50			0.20			0.67			0.31		
			LB	Large Blend	0.61	0.62	0.57	0.54	0.56	0.63	0.50	0.47	0.48	0.46	0.44	0.36	0.34	0.43	0.35	0.15	0.12	0.22
			LG	Large Growth	0.63	0.49	0.41	0.59	0.53	0.57	0.47	0.51	0.51	0.45	0.46	0.46	0.35	0.46	0.46	0.20	0.10	0.09
			LO	Long-Short Equity	0.55	0.13	0.30	0.64	0.42	0.42	0.57	0.57	0.65	0.30	0.50	0.33	0.24	0.92	0.55	0.35	-0.44	-0.02
			LV	Large Value	0.64	0.46	0.76	0.59	0.53	0.56	0.49	0.50	0.50	0.42	0.48	0.37	0.33	0.48	0.23	0.21	0.03	0.28
			MB	Mid-Cap Blend	0.68	0.50	0.80	0.59	0.61	0.57	0.48	0.48	0.49	0.34	0.38	0.43	0.44	0.48	0.22	0.19	0.06	0.33
			MG	Mid-Cap Growth	0.48	0.65	0.54	0.52	0.55	0.61	0.52	0.45	0.53	0.49	0.46	0.37	0.41	0.47	0.23	0.11	0.06	0.18
			MV	Mid-Cap Value	0.50	0.52	0.59	0.55	0.49	0.51	0.51	0.46	0.49	0.44	0.57	0.43	0.43	0.60	0.50	0.07	-0.11	0.09
			SB	Small Blend	0.38	0.51	0.50	0.52	0.61	0.55	0.49	0.49	0.52	0.52	0.42	0.48	0.58	0.34	0.26	-0.06	0.18	0.13
			SG	Small Growth	0.71	0.39	0.55	0.52	0.58	0.51	0.48	0.45	0.49	0.46	0.51	0.50	0.39	0.60	0.44	0.19	-0.07	0.07
			SV	Small Value	0.46	0.50	0.68	0.52	0.53	0.61	0.51	0.48	0.47	0.51	0.56	0.37	0.46	0.45	0.28	0.00	0.09	0.32
			TU	Target-Date 2065+	1.00			0.00			0.60			0.00						0.32		
			XM	Allocation--85%+ Equity	0.94	0.73	0.57	0.69	0.69	0.73	0.42	0.57	0.51	0.26	0.11	0.19	0.29	0.07	0.10	0.40	0.49	0.41

Bond Category Performance as of 4/30/2023

Metric	Asset ..	Status	Cat C..	Cat Name	HitA			HitB			HitC			HitD			HitF			IC		
					1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs
Average All Periods	Bonds	Returning Perf.	BL	Bank Loan	0.71	0.64	0.65	0.63	0.63	0.67	0.50	0.50	0.48	0.32	0.30	0.26	0.25	0.34	0.33	0.32	0.29	0.32
			CA	Allocation--30% to 50..	0.65	0.68	0.70	0.59	0.61	0.61	0.49	0.48	0.47	0.40	0.36	0.33	0.31	0.26	0.24	0.23	0.29	0.33
			CI	Intermediate-Term B..	0.67	0.71	0.71	0.63	0.67	0.67	0.50	0.47	0.46	0.35	0.31	0.27	0.24	0.15	0.15	0.30	0.39	0.41
			CL	Long-Term Bond	0.62	0.68	0.61	0.54	0.64	0.63	0.52	0.50	0.48	0.47	0.38	0.41	0.35	0.18	0.19	0.17	0.36	0.34
			CS	Short-Term Bond	0.69	0.74	0.76	0.64	0.66	0.66	0.50	0.49	0.49	0.31	0.24	0.20	0.24	0.21	0.19	0.34	0.40	0.44
			CV	Convertibles	0.65	0.64	0.65	0.62	0.69	0.70	0.47	0.47	0.47	0.41	0.35	0.33	0.28	0.15	0.09	0.28	0.42	0.45
			EB	Emerging Markets B..	0.70	0.79	0.83	0.59	0.62	0.66	0.49	0.50	0.47	0.40	0.32	0.30	0.26	0.14	0.09	0.28	0.38	0.45
			GI	Intermediate Govern..	0.77	0.84	0.84	0.68	0.72	0.72	0.49	0.44	0.41	0.27	0.22	0.21	0.14	0.07	0.05	0.45	0.54	0.56
			GL	Long Government	0.73	0.77	0.82	0.60	0.61	0.62	0.48	0.47	0.45	0.41	0.38	0.33	0.25	0.23	0.20	0.24	0.30	0.34
			GS	Short Government	0.80	0.77	0.75	0.63	0.63	0.63	0.50	0.48	0.49	0.32	0.29	0.24	0.16	0.19	0.16	0.38	0.38	0.40
			HM	High Yield Muni	0.66	0.71	0.71	0.62	0.69	0.69	0.51	0.48	0.46	0.33	0.25	0.23	0.28	0.21	0.23	0.26	0.38	0.40
			HY	High Yield Bond	0.63	0.72	0.73	0.59	0.64	0.66	0.50	0.49	0.48	0.37	0.30	0.26	0.33	0.22	0.19	0.22	0.35	0.39
			IB	World Bond	0.63	0.71	0.72	0.56	0.62	0.62	0.50	0.49	0.48	0.39	0.31	0.28	0.36	0.26	0.27	0.18	0.31	0.34
			IH	World Allocation	0.60	0.63	0.69	0.56	0.61	0.61	0.49	0.47	0.46	0.41	0.35	0.30	0.39	0.35	0.33	0.14	0.22	0.27
			IP	Inflation-Protected B..	0.68	0.77	0.83	0.64	0.68	0.70	0.51	0.50	0.47	0.30	0.22	0.15	0.22	0.10	0.08	0.33	0.46	0.55
			MA	Allocation--50% to 70..	0.69	0.75	0.79	0.59	0.62	0.61	0.49	0.46	0.45	0.39	0.34	0.33	0.31	0.24	0.23	0.24	0.36	0.40
			MC	Muni California Long	0.67	0.75	0.80	0.66	0.69	0.66	0.50	0.47	0.48	0.29	0.25	0.21	0.24	0.16	0.10	0.37	0.46	0.50
			MF	Muni California Inter..	0.75	0.88	0.88	0.60	0.64	0.66	0.50	0.48	0.46	0.30	0.17	0.11	0.24	0.14	0.10	0.33	0.48	0.52
			MI	Muni National Interm	0.68	0.74	0.73	0.62	0.62	0.63	0.53	0.53	0.51	0.27	0.15	0.14	0.24	0.19	0.17	0.32	0.40	0.42
			MJ	Muni New Jersey	0.65	0.65	0.71	0.62	0.65	0.62	0.52	0.51	0.52	0.32	0.28	0.23	0.25	0.20	0.11	0.30	0.33	0.38
			ML	Muni National Long	0.74	0.83	0.85	0.66	0.69	0.74	0.48	0.46	0.42	0.30	0.23	0.22	0.24	0.16	0.08	0.38	0.49	0.56
			MN	Muni New York Inter..	0.72	0.80	0.79	0.63	0.65	0.68	0.50	0.50	0.48	0.26	0.16	0.08	0.30	0.28	0.32	0.35	0.44	0.50
			MO	Muni Ohio	0.77	0.87	0.87	0.66	0.73	0.72	0.44	0.38	0.35	0.34	0.23	0.17	0.19	0.09	0.02	0.42	0.59	0.66
			MP	Muni Pennsylvania	0.66	0.73	0.77	0.64	0.66	0.62	0.50	0.52	0.51	0.28	0.19	0.18	0.32	0.23	0.14	0.30	0.39	0.43
			MS	Muni National Short	0.66	0.57	0.56	0.61	0.66	0.66	0.51	0.50	0.49	0.30	0.30	0.28	0.32	0.33	0.43	0.27	0.25	0.26
			MT	Muni Massachusetts	0.65	0.72	0.72	0.68	0.72	0.74	0.51	0.50	0.46	0.26	0.14	0.06	0.19	0.07	0.03	0.38	0.53	0.59
			MU	Multisector Bond	0.64	0.67	0.68	0.58	0.64	0.66	0.50	0.51	0.51	0.39	0.33	0.28	0.32	0.21	0.18	0.23	0.35	0.39
			MY	Muni New York Long	0.63	0.61	0.64	0.65	0.69	0.66	0.49	0.48	0.46	0.34	0.31	0.32	0.27	0.19	0.20	0.31	0.34	0.34
			NT	Nontraditional Bond	0.58	0.58	0.68	0.53	0.57	0.63	0.51	0.52	0.52	0.43	0.38	0.25	0.42	0.36	0.25	0.11	0.20	0.33
			PI	Intermediate Core-PI..	0.61	0.64		0.58	0.65		0.50	0.48		0.39	0.31		0.35	0.33		0.20	0.26	
			RI	Target-Date Retirem..	0.52	0.54	0.53	0.58	0.62	0.64	0.50	0.50	0.49	0.44	0.38	0.30	0.39	0.31	0.32	0.13	0.21	0.23

Most Recent Period	Bonds	Returning Perf.	RR	Preferred Stock	0.76	0.89	0.97	0.66	0.76	0.87	0.44	0.45	0.32	0.35	0.13	0.15	0.39	0.20	0.17	0.35	0.61	0.73
			SI	Muni Single State Int..	0.71	0.83	0.83	0.68	0.72	0.72	0.50	0.45	0.43	0.22	0.18	0.19	0.22	0.14	0.10	0.41	0.54	0.57
			SL	Muni Single State Lo..	0.67	0.74	0.70	0.65	0.73	0.76	0.49	0.46	0.43	0.29	0.17	0.11	0.29	0.14	0.08	0.32	0.49	0.52
			SM	Muni Minnesota	0.68	0.71	0.66	0.71	0.76	0.75	0.49	0.47	0.45	0.26	0.16	0.17	0.23	0.06	0.07	0.42	0.53	0.50
			SS	Muni Single State Sh..	0.56	0.40	0.42	0.61	0.57	0.47	0.54	0.58	0.65	0.39	0.43	0.47	0.24	0.30	0.43	0.23	0.02	-0.07
			TW	Corporate Bond	0.64	0.65	0.73	0.63	0.67	0.73	0.51	0.51	0.45	0.35	0.28	0.24	0.25	0.16	0.18	0.29	0.37	0.44
			UB	Ultrashort Bond	0.66	0.61	0.56	0.59	0.58	0.58	0.50	0.52	0.53	0.39	0.33	0.36	0.31	0.36	0.33	0.24	0.20	0.19
			WH	World Bond-USD He..	0.60	0.72		0.56	0.69		0.52	0.49		0.42	0.25		0.33	0.23		0.19	0.35	
			XP	Emerging-Markets L..	0.68	0.89	0.89	0.57	0.66	0.65	0.51	0.49	0.42	0.38	0.21	0.22	0.28	0.09	0.29	0.29	0.50	0.50
			XY	Allocation--15% to 30..	0.65	0.62	0.69	0.60	0.60	0.57	0.49	0.51	0.51	0.40	0.33	0.24	0.30	0.27	0.16	0.25	0.27	0.36
Most Recent Period	Bonds	No Long..	FL	Muni Florida	0.96	1.00	0.78	0.47	0.66	0.87	0.48	0.33	0.20	0.17	0.07	0.00	0.66	0.00		0.36	0.76	0.78
		Returning Perf.	BL	Bank Loan	0.83	0.81	0.59	0.60	0.65	0.63	0.40	0.52	0.59	0.51	0.28	0.21	0.30	0.05	0.11	0.35	0.41	0.45
			CA	Allocation--30% to 50..	0.88	0.61	0.83	0.64	0.58	0.63	0.51	0.48	0.45	0.21	0.44	0.27	0.13	0.32	0.13	0.44	0.19	0.46
			CI	Intermediate-Term B..	0.78	0.68	0.85	0.64	0.70	0.75	0.52	0.43	0.43	0.34	0.27	0.16	0.12	0.35	0.13	0.42	0.33	0.55
			CL	Long-Term Bond	0.50	0.00	0.50	0.60	1.00	0.67	0.50	0.63	0.33	0.67	0.33	0.50	0.00	0.50	1.00	0.02	-0.20	-0.10
			CS	Short-Term Bond	0.61	0.39	0.85	0.81	0.63	0.72	0.51	0.49	0.51	0.17	0.42	0.07	0.06	0.43	0.00	0.51	0.08	0.63
			CV	Convertibles	1.00	1.00	1.00	0.61	0.72	0.85	0.37	0.41	0.36	0.55	0.00	0.11	0.14	0.33	0.00	0.51	0.67	0.70
			EB	Emerging Markets B..	0.57	0.83	0.63	0.51	0.56	0.56	0.52	0.50	0.54	0.47	0.31	0.43	0.40	0.19	0.00	0.17	0.43	0.30
			GI	Intermediate Govern..	0.76	0.82	0.83	0.71	0.71	0.72	0.55	0.47	0.42	0.10	0.15	0.19	0.11	0.00	0.08	0.54	0.53	0.54
			GL	Long Government	1.00	0.50	1.00	0.33	0.50	0.75	0.50	0.67	0.40	0.00	0.33	0.00	1.00	0.00	1.00	0.37	0.07	0.39
			GS	Short Government	0.71	1.00	0.89	0.69	0.68	0.68	0.50	0.50	0.41	0.18	0.17	0.30	0.43	0.22	0.14	0.38	0.45	0.59
			HM	High Yield Muni	0.90	0.74	1.00	0.60	0.58	0.68	0.44	0.56	0.45	0.31	0.22	0.17	0.39	0.19	0.00	0.37	0.33	0.64
			HY	High Yield Bond	0.65	0.64	0.86	0.62	0.56	0.67	0.48	0.53	0.50	0.39	0.33	0.21	0.33	0.31	0.06	0.24	0.24	0.53
			IB	World Bond	0.56	0.29	0.85	0.67	0.64	0.50	0.45	0.50	0.51	0.39	0.40	0.39	0.35	0.43	0.19	0.13	0.09	0.37
			IH	World Allocation	0.76	0.45	0.59	0.63	0.47	0.60	0.42	0.54	0.52	0.43	0.45	0.35	0.30	0.54	0.22	0.22	0.04	0.24
			IP	Inflation-Protected B..	0.44	0.39	0.95	0.56	0.54	0.74	0.56	0.53	0.50	0.33	0.57	0.09	0.47	0.35	0.00	0.17	0.05	0.73
			MA	Allocation--50% to 70..	0.91	0.70	0.81	0.75	0.60	0.65	0.43	0.45	0.41	0.26	0.40	0.30	0.11	0.36	0.28	0.50	0.24	0.42
			MC	Muni California Long	0.80	0.91	1.00	0.63	0.59	0.64	0.54	0.49	0.50	0.20	0.15	0.09	0.22	0.25	0.00	0.43	0.42	0.63
			MF	Muni California Inter..	0.71	0.71	1.00	0.65	0.50	0.75	0.46	0.61	0.45	0.40	0.38	0.00	0.17	0.00	0.00	0.40	0.41	0.67
			MI	Muni National Intern	0.63	0.76	0.78	0.57	0.62	0.71	0.54	0.54	0.51	0.40	0.28	0.07	0.23	0.05	0.00	0.31	0.39	0.61
			MJ	Muni New Jersey	0.60	0.67	0.83	0.69	0.58	0.54	0.53	0.55	0.50	0.13	0.67	0.17	0.50	0.00	0.33	0.45	0.08	0.41
			ML	Muni National Long	0.87	0.76	0.81	0.65	0.63	0.58	0.49	0.44	0.54	0.23	0.19	0.11	0.38	0.54	0.25	0.39	0.29	0.54
			MN	Muni New York Inter..	0.67	0.80	1.00	0.58	0.85	0.67	0.55	0.42	0.50	0.17	0.14	0.20	0.40	0.20	0.00	0.32	0.52	0.74
			MO	Muni Ohio	1.00	0.33	0.50	0.50	0.88	0.80	0.44	0.50	0.50	0.50	0.20	0.00	0.00	0.00	0.00	0.52	0.22	0.64
			MP	Muni Pennsylvania	0.83	0.67	0.57	0.67	0.50	0.71	0.50	0.65	0.64	0.17	0.13	0.13	0.00	0.33	0.00	0.53	0.16	0.43
			MS	Muni National Short	0.80	0.60	0.72	0.84	0.72	0.79	0.46	0.50	0.48	0.19	0.29	0.14	0.10	0.26	0.13	0.55	0.37	0.50
			MT	Muni Massachusetts	0.60	1.00	0.67	0.73	0.58	0.77	0.47	0.44	0.46	0.33	0.17	0.00	0.00	0.33	0.00	0.50	0.49	0.70
			MU	Multisector Bond	0.67	0.62	0.64	0.55	0.60	0.73	0.55	0.54	0.47	0.30	0.31	0.30	0.33	0.19	0.00	0.25	0.30	0.48
			MY	Muni New York Long	1.00	0.88	0.75	0.61	0.63	0.68	0.57	0.54	0.55	0.00	0.20	0.22	0.14	0.00	0.00	0.48	0.41	0.54
			NT	Nontraditional Bond	0.87	0.62	0.67	0.62	0.53	0.66	0.52	0.55	0.51	0.21	0.44	0.31	0.18	0.22	0.20	0.51	0.06	0.30
			PI	Intermediate Core-PI..	0.71	0.63		0.67	0.63		0.54	0.46		0.23	0.32		0.15	0.47		0.35	0.18	

RI	Target-Date Retirem..	0.31	0.20	0.38	0.54	0.53	0.72	0.61	0.58	0.56	0.45	0.60	0.20	0.31	0.33	0.38	0.12	0.00	0.26
RR	Preferred Stock	0.75	0.40	1.00	0.91	0.50	0.70	0.47	0.41	0.29	0.25	0.50	0.20	0.00	1.00	0.50	0.65	-0.31	0.46
SI	Muni Single State Int..	0.67	0.80	0.92	0.83	0.85	0.85	0.54	0.43	0.45	0.04	0.25	0.00	0.18	0.10	0.00	0.50	0.64	0.82
SL	Muni Single State Lo..	0.82	0.45	0.59	0.76	0.62	0.76	0.53	0.55	0.56	0.12	0.16	0.05	0.00	0.40	0.00	0.60	0.25	0.60
SM	Muni Minnesota	0.80	0.60	0.50	0.55	0.58	0.69	0.47	0.71	0.77	0.50	0.00	0.00	0.25	0.25	0.00	0.33	0.23	0.60
SS	Muni Single State Sh..	0.50	0.25	0.25	0.67	0.75	0.56	0.50	0.64	0.54	0.33	0.33	0.40	0.33	0.00	1.00	0.30	0.22	0.14
TW	Corporate Bond	0.80	0.35	0.69	0.68	0.68	0.71	0.49	0.49	0.52	0.35	0.42	0.09	0.07	0.31	0.17	0.44	0.13	0.50
UB	Ultrashort Bond	0.79	0.36	0.79	0.78	0.46	0.67	0.53	0.58	0.48	0.28	0.55	0.20	0.00	0.38	0.18	0.59	-0.01	0.46
WH	World Bond-USD He..	0.45	0.71		0.71	0.78		0.48	0.52		0.47	0.17		0.10	0.14		0.16	0.40	
XP	Emerging-Markets L..	0.63	0.71	0.83	0.43	0.56	0.64	0.61	0.50	0.44	0.60	0.40	0.50	0.00	0.20	0.17	0.22	0.35	0.45
XY	Allocation--15% to 30..	0.85	0.59	0.89	0.67	0.54	0.53	0.48	0.51	0.55	0.26	0.45	0.18	0.18	0.33	0.09	0.53	0.21	0.47

International Category Performance as of 4/30/2023

					HitA			HitB			HitC			HitD			HitF			IC		
Metric	Asset C..	Status	Cat C..	Cat Name	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs
Average All Periods	Internati..	Returning Perf.	CH	China Region	0.62	0.63	0.68	0.60	0.63	0.62	0.48	0.47	0.44	0.43	0.39	0.43	0.31	0.21	0.17	0.22	0.32	0.33
			DP	Diversified Pacific/Asia	0.63	0.64	0.77	0.57	0.65	0.64	0.52	0.47	0.44	0.38	0.26	0.27	0.39	0.42	0.35	0.25	0.35	0.42
			EM	Diversified Emerging Mkts	0.58	0.63	0.71	0.53	0.56	0.56	0.50	0.50	0.47	0.45	0.39	0.37	0.39	0.32	0.29	0.12	0.19	0.24
			ES	Europe Stock	0.53	0.51	0.61	0.56	0.56	0.59	0.52	0.54	0.53	0.44	0.39	0.36	0.36	0.35	0.22	0.13	0.15	0.24
			FA	Foreign Small/Mid Value	0.66	0.66	0.62	0.55	0.57	0.51	0.49	0.47	0.48	0.41	0.36	0.46	0.36	0.46	0.63	0.19	0.22	0.16
			FB	Foreign Large Blend	0.61	0.66	0.65	0.54	0.56	0.57	0.50	0.49	0.49	0.44	0.39	0.38	0.37	0.32	0.27	0.15	0.22	0.24
			FG	Foreign Large Growth	0.56	0.59	0.52	0.55	0.58	0.60	0.50	0.50	0.50	0.42	0.35	0.36	0.44	0.39	0.33	0.12	0.19	0.18
			FQ	Foreign Small/Mid Blend	0.57	0.44	0.44	0.53	0.56	0.53	0.51	0.52	0.53	0.44	0.47	0.44	0.42	0.46	0.57	0.10	0.07	0.04
			FR	Foreign Small/Mid Growth	0.59	0.63	0.58	0.54	0.54	0.53	0.51	0.52	0.51	0.43	0.41	0.47	0.41	0.30	0.33	0.14	0.17	0.13
			FV	Foreign Large Value	0.56	0.60	0.61	0.57	0.59	0.62	0.49	0.49	0.46	0.44	0.40	0.38	0.40	0.34	0.31	0.13	0.20	0.24
			JS	Japan Stock	0.59	0.52	0.48	0.60	0.58	0.58	0.52	0.65	0.70	0.33	0.30	0.42	0.32	0.12	0.01	0.23	0.18	0.14
			LS	Latin America Stock	0.59	0.59	0.51	0.64	0.67	0.61	0.49	0.53	0.52	0.38	0.29	0.39	0.32	0.29	0.41	0.30	0.33	0.14
			PJ	Pacific/Asia ex-Japan Stk	0.66	0.68	0.65	0.55	0.59	0.57	0.49	0.47	0.48	0.39	0.36	0.41	0.43	0.29	0.40	0.13	0.25	0.24
			SW	World Small/Mid Stock	0.66	0.81		0.56	0.58		0.48	0.46		0.43	0.44		0.43	0.32		0.20	0.28	
			WB	World Large-Stock Blend	0.58			0.52			0.52			0.43			0.40			0.14		
			WG	World Large-Stock Growth	0.60			0.54			0.50			0.44			0.42			0.10		
			WV	World Large-Stock Value	0.40			0.46			0.51			0.57			0.54			-0.01		
	No Longer..	WS	World Stock	0.58	0.61	0.60	0.54	0.57	0.57	0.49	0.48	0.49	0.44	0.41	0.39	0.41	0.35	0.32	0.11	0.18	0.20	
Most Recent Period	Internati..	Returning Perf.	CH	China Region	1.00	1.00	1.00	0.67	0.54	0.27	0.43	0.40	0.56	0.29	0.50	0.40	0.20	0.00	0.00	0.43	0.55	0.27
			DP	Diversified Pacific/Asia	0.00	0.50	0.00	1.00	0.50	0.67	0.50	1.00	1.00	1.00	1.00				0.10	0.20	-0.55	
			EM	Diversified Emerging Mkts	0.75	0.64	0.78	0.48	0.44	0.53	0.48	0.48	0.50	0.47	0.55	0.41	0.41	0.51	0.27	0.09	0.07	0.22
			ES	Europe Stock	0.29	0.57	0.40	0.71	0.64	0.56	0.52	0.52	0.62	0.33	0.33	0.14	0.50	0.20	0.25	0.05	0.44	0.05
			FA	Foreign Small/Mid Value	0.33	1.00	0.20	0.44	0.57	0.55	0.27	0.31	0.50	1.00	0.60	0.67	0.75	0.67	1.00	-0.43	0.01	-0.24
			FB	Foreign Large Blend	0.40	0.85	0.77	0.56	0.58	0.57	0.51	0.48	0.47	0.50	0.35	0.39	0.43	0.23	0.29	0.05	0.34	0.25
			FG	Foreign Large Growth	0.50	0.47	0.29	0.55	0.65	0.49	0.52	0.55	0.60	0.48	0.38	0.53	0.35	0.16	0.38	0.08	0.17	0.04
			FQ	Foreign Small/Mid Blend	0.20	0.43	0.67	0.33	0.77	0.31	0.55	0.47	0.69	0.50	0.57	0.38	1.00	0.22	0.40	-0.17	0.23	0.12
			FR	Foreign Small/Mid Growth	0.38	0.69	0.83	0.61	0.65	0.52	0.50	0.55	0.47	0.35	0.14	0.18	0.64	0.11	0.60	0.09	0.37	0.06
			FV	Foreign Large Value	0.50	0.43	0.65	0.50	0.56	0.70	0.46	0.52	0.49	0.59	0.46	0.26	0.54	0.42	0.22	-0.08	0.10	0.39
			JS	Japan Stock	1.00	0.50	0.33	0.20	0.40	0.60	0.75	0.63	0.67	0.33	0.50	1.00	0.00		0.00	0.06	-0.11	0.01
			LS	Latin America Stock	0.00	0.00	0.00	0.75	0.75	0.50	0.50	0.50	0.80	1.00	0.50	0.50				0.14	0.23	-0.05
			PJ	Pacific/Asia ex-Japan Stk	0.80	0.57	0.86	0.60	0.64	0.33	0.44	0.47	0.54	0.43	0.25	0.20	0.25	0.33	1.00	0.15	0.14	0.28

SW	World Small/Mid Stock	0.23	1.00	0.62	0.60	0.46	0.43	0.58	0.35	0.58	0.30	0.20	0.38
WB	World Large-Stock Blend	0.43		0.40		0.52		0.50		0.75		-0.10	
WG	World Large-Stock Growth	0.43		0.59		0.49		0.46		0.45		-0.02	
WV	World Large-Stock Value	0.27		0.36		0.54		0.63		0.60		-0.22	

Specialty Category Performance as of 4/30/2023

Metric	Asset C..	Status	Cat C..	Cat Name	HitA			HitB			HitC			HitD			HitF			IC		
					1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs
Average All Periods	Specialty	Returning Perf.	EE	Equity Energy	0.65	0.78	0.73	0.56	0.58	0.56	0.50	0.47	0.46	0.43	0.38	0.37	0.31	0.24	0.28	0.23	0.30	0.27
			GR	Global Real Estate	0.60	0.66	0.65	0.55	0.59	0.58	0.50	0.48	0.48	0.38	0.36	0.38	0.43	0.37	0.40	0.15	0.23	0.22
			LP	Energy Limited Partnership	0.49	0.65	0.86	0.54	0.60	0.60	0.51	0.46	0.44	0.49	0.44	0.41	0.43	0.38	0.33	0.07	0.22	0.33
			SC	Communications	0.67	0.81	0.82	0.60	0.69	0.69	0.47	0.43	0.48	0.41	0.32	0.28	0.37	0.28	0.25	0.27	0.48	0.49
			SF	Financial	0.68	0.68	0.67	0.60	0.61	0.61	0.50	0.51	0.53	0.40	0.36	0.33	0.24	0.14	0.09	0.25	0.31	0.31
			SH	Health	0.64	0.74	0.77	0.59	0.65	0.66	0.49	0.46	0.44	0.36	0.29	0.26	0.37	0.33	0.28	0.21	0.34	0.39
			SN	Natural Resources	0.60	0.72	0.74	0.55	0.57	0.58	0.51	0.50	0.50	0.43	0.37	0.36	0.38	0.31	0.29	0.16	0.25	0.30
			SP	Equity Precious Metals	0.64	0.64	0.65	0.55	0.57	0.59	0.50	0.50	0.52	0.41	0.42	0.39	0.38	0.30	0.16	0.20	0.25	0.27
			SR	Real Estate	0.63	0.71	0.71	0.58	0.59	0.62	0.50	0.50	0.49	0.36	0.34	0.31	0.38	0.28	0.26	0.18	0.27	0.30
			ST	Technology	0.63	0.61	0.69	0.57	0.58	0.56	0.49	0.48	0.47	0.43	0.44	0.42	0.35	0.32	0.29	0.20	0.18	0.22
			SU	Utilities	0.59	0.72	0.64	0.61	0.62	0.64	0.49	0.47	0.48	0.41	0.35	0.36	0.31	0.25	0.24	0.26	0.32	0.33
			XO	Infrastructure	0.49	0.64		0.53	0.56		0.54	0.55		0.39	0.34		0.47	0.33		0.09	0.20	
Most Recent Period	Specialty	Returning Perf.	EE	Equity Energy	1.00	0.50	0.50	0.80	0.50	0.75	0.47	0.59	0.57	0.17	0.33	0.20	0.00	0.33	0.00	0.76	0.28	0.58
			GR	Global Real Estate	0.59	0.61	0.71	0.67	0.61	0.51	0.50	0.49	0.53	0.28	0.33	0.47	0.38	0.27	0.21	0.19	0.21	0.18
			LP	Energy Limited Partnership	0.40	1.00	0.71	0.50	0.35	0.60	0.46	0.47	0.50	0.64	0.54	0.33	0.56	0.63	0.25	0.08	0.05	0.15
			SC	Communications	0.50	1.00	1.00	0.43	0.57	1.00	0.55	0.64	0.43	0.60	0.00	0.00	0.50	0.00	0.00	0.32	0.53	0.77
			SF	Financial	1.00	1.00	0.00	0.50	0.50	0.61	0.44	0.48	0.60	0.50	0.33	0.33	0.33	0.25	0.67	0.21	0.49	-0.17
			SH	Health	0.78	0.82	0.91	0.63	0.41	0.54	0.39	0.56	0.45	0.44	0.31	0.33	0.50	0.38	0.38	0.09	0.26	0.38
			SN	Natural Resources	0.29	0.33	0.71	0.67	0.72	0.71	0.46	0.46	0.60	0.45	0.63	0.09	0.50	0.00	0.00	0.07	-0.08	0.45
			SP	Equity Precious Metals	0.00	0.29	0.50	0.50	0.47	0.47	0.59	0.55	0.53	0.67	0.57	0.56	0.40	0.60	0.33	0.02	0.00	0.16
			SR	Real Estate	0.59	0.40	0.74	0.55	0.59	0.66	0.58	0.53	0.49	0.40	0.35	0.18	0.15	0.47	0.24	0.18	0.11	0.33
			ST	Technology	0.87	0.81	0.38	0.57	0.51	0.54	0.50	0.47	0.54	0.30	0.48	0.42	0.27	0.31	0.45	0.39	0.19	0.10
			SU	Utilities	0.80	1.00	0.80	0.80	0.45	0.67	0.41	0.50	0.53	0.33	0.50	0.00	0.00	0.00	0.00	0.56	0.38	0.49
			XO	Infrastructure	0.63	0.71		0.37	0.29		0.55	0.62		0.33	0.33		0.86	0.57		0.03	0.06	

Other Category Performance as of 4/30/2023

Asset C..	Status	Cat C..	Cat Name	HitA			HitB			HitC			HitD			HitF			IC		
				1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs	1yrs	3yrs	5yrs
Other	Returning Perf.	BB	Commodities Broad Basket	1.39	1.33	1.69	1.14	1.17	1.10	1.02	1.01	0.95	0.79	0.69	0.86	0.58	0.53	0.19	0.53	0.59	0.85
		TA	Target-Date 2000-2010	1.38	1.28	1.52	0.93	0.99	1.27	1.04	1.17	0.90	0.92	0.88	0.27	0.68	0.16	0.11	0.49	0.52	0.95
		TD	Target-Date 2015	1.21	1.28	1.81	1.03	1.11	1.39	1.09	1.14	0.83	0.79	0.50	0.30	0.61	0.09	0.02	0.53	0.58	1.16
		TE	Target-Date 2020	1.34	1.32	1.53	1.14	1.24	1.42	0.95	0.98	0.98	0.96	0.43	0.38	0.38	0.17	0.13	0.62	0.72	1.02
		TG	Target-Date 2025	1.34	1.39	1.59	1.11	1.24	1.39	1.04	0.98	0.93	0.88	0.64	0.40	0.34	0.31	0.14	0.49	0.68	0.97
		TH	Target-Date 2030	1.44	1.46	1.67	1.18	1.29	1.30	0.98	0.98	0.98	0.76	0.42	0.41	0.45	0.14	0.12	0.56	0.84	1.02
		TI	Target-Date 2035	1.53	1.26	1.52	1.17	1.29	1.44	0.94	1.03	0.93	0.78	0.58	0.36	0.49	0.23	0.13	0.65	0.76	1.09
		TJ	Target-Date 2040	1.58	1.30	1.67	1.18	1.25	1.34	0.88	0.94	0.91	0.85	0.77	0.50	0.65	0.28	0.11	0.62	0.69	1.06
		TK	Target-Date 2045	1.58	1.14	1.75	1.20	1.27	1.41	0.86	1.01	0.84	0.79	0.70	0.43	0.74	0.50	0.05	0.62	0.68	1.16
		TL	Target-Date 2055	1.68	1.10	1.74	1.14	1.36	1.37	0.83	0.99	0.90	0.82	0.59	0.36	0.75	0.30	0.05	0.58	0.70	1.23
		TN	Target-Date 2050	1.67	1.16	1.75	1.16	1.43	1.43	0.86	0.92	0.83	0.82	0.69	0.34	0.63	0.08	0.02	0.57	0.78	1.26
		XQ	Target-Date 2060+	1.41	0.82	1.66	1.26	1.39	1.77	0.83	1.15	0.87	0.85	0.58	0.13	0.78	0.03	0.00	0.42	0.52	1.38
	No Longer Returning Perf.	TB	Target-Date Unspecified	0.58	0.86	0.83	0.67	0.70	0.69	0.42	0.42	0.42	0.41	0.19	0.22	0.32	0.24	0.19	0.21	0.54	0.60
		TC	Target-Date Unspecified	0.74	0.78	0.69	0.55	0.67	0.65	0.43	0.47	0.49	0.43	0.17	0.20	0.59	0.44	0.33	0.18	0.48	0.48

4. Fund Lists

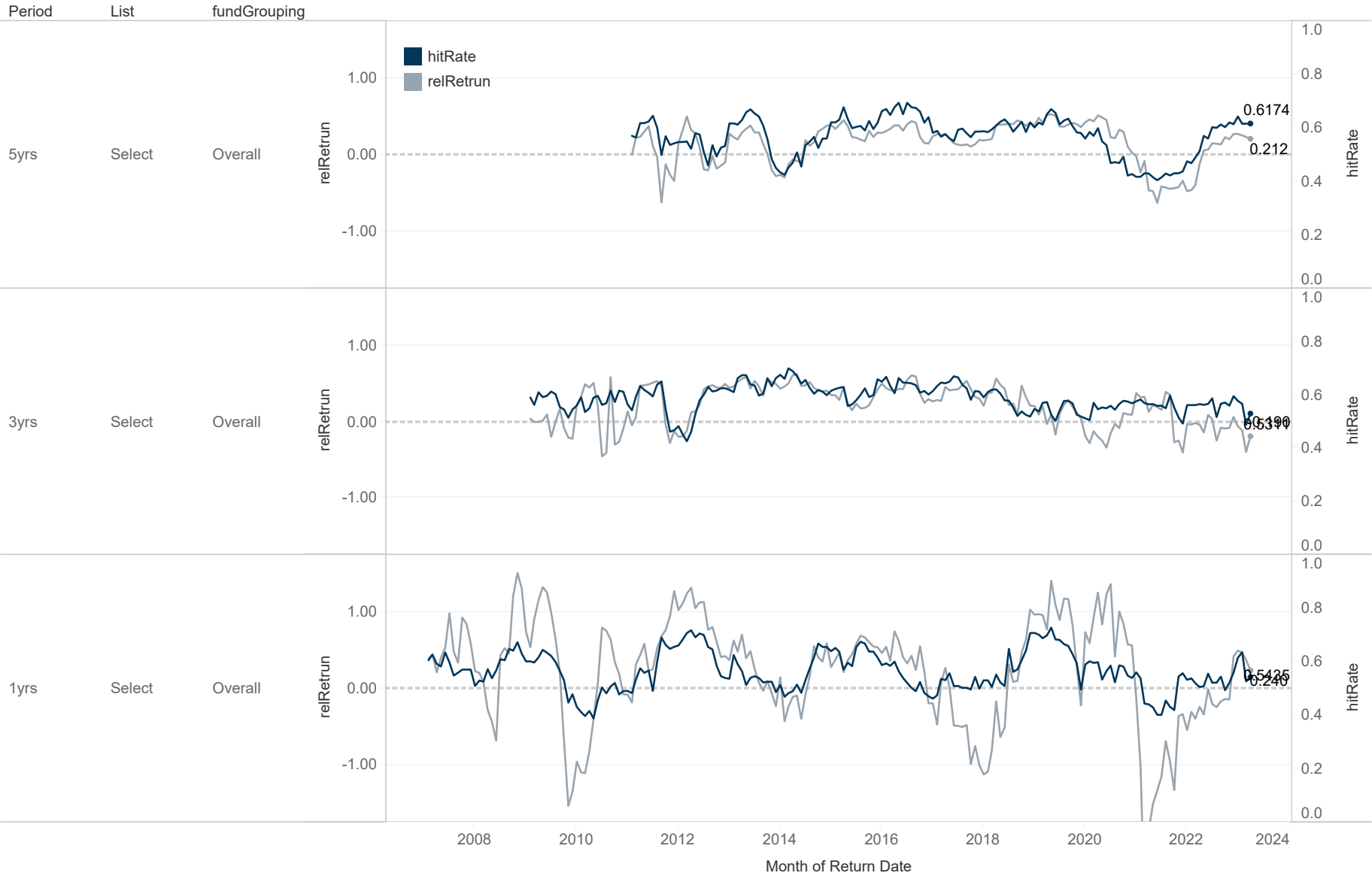
Mutual Fund List Taxonomy

Mutual Fund OneSource Select List consists of approximately 190 mutual funds in nearly 80 categories. Mutual Fund OneSource Select List funds are available through Schwab with no load or transaction fees. This list targets individual investors.

Mutual Fund Recommendable List is similar to the OneSource Select List, however, in addition to Schwab OneSource funds, the universe of eligible funds includes transaction fee funds (funds that have a transaction fee when purchased through Schwab). This results in a larger list of over 300 funds across more than 90 categories.

SWA Mutual Fund Recommendable List is similar to the Mutual Fund Recommendable List. However, in addition to Schwab OneSource funds and transaction fee funds, the universe of eligible funds includes funds that are available only to advisors, which results in a slightly larger list.

Select List as of 4/30/2023

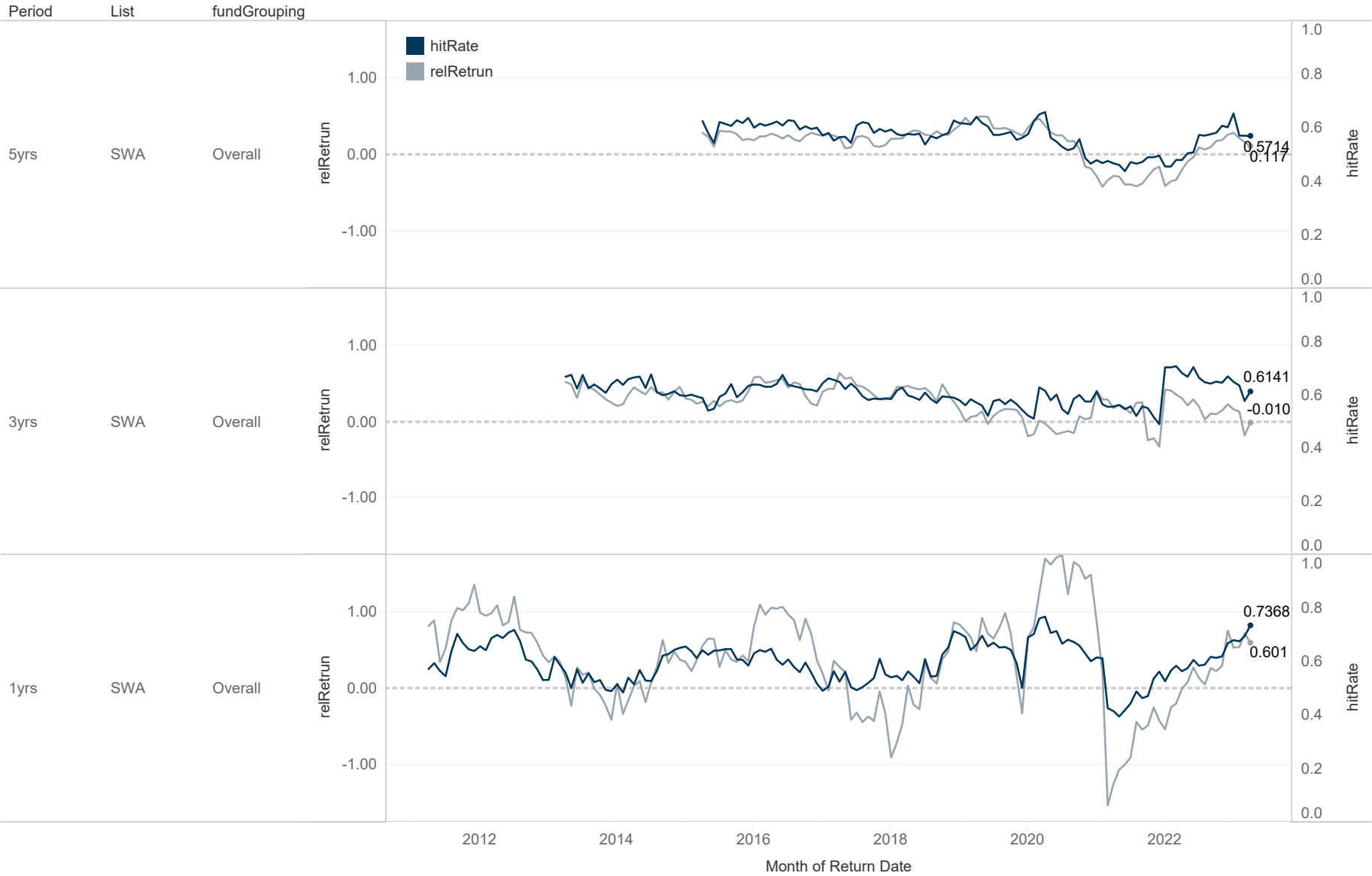


Fund Lists

Select List as of 4/30/2023

Period	List	Metric	Overall Hit Rate	Domestic Hit Rate	BondsHitRate	InternationalHitRate	SpecialtyHitRate	OtherHitRate	OverallRelRet	DomesticRelRet	BondsRelRet	InternationalRelRet	SpecialtyRelRet	OtherRelRet
1yrs	Select	Most Recent	0.54	0.58	0.54	0.58	0.47	0.52	0.24	0.38	0.07	1.13	-0.51	0.27
		Mean	0.56	0.55	0.59	0.53	0.54	0.59	0.23	0.27	0.21	0.26	0.04	0.20
		Median	0.56	0.56	0.60	0.56	0.54	0.58	0.38	0.54	0.23	0.50	0.36	0.24
		Sigma	0.07	0.11	0.09	0.13	0.11	0.31	0.71	1.54	0.47	1.76	2.09	2.21
		Min	0.39	0.23	0.30	0.12	0.25	0.00	-2.82	-8.54	-0.94	-4.60	-9.21	-10.51
		Max	0.73	0.77	0.79	0.80	0.81	1.00	1.51	2.98	1.93	5.08	4.90	6.47
		Max Drawdown	-0.33	-0.52	-0.45	-0.68	-0.55	-1.00	-4.33	-11.52	-2.87	-9.67	-14.12	-16.98
		Max Drawup	0.34	0.54	0.49	0.63	0.56	1.00	3.32	10.67	2.09	7.23	13.38	13.70
		Count	195.00	195.00	195.00	195.00	195.00	187.00	195.00	195.00	195.00	195.00	195.00	187.00
3yrs	Select	Most Recent	0.53	0.40	0.64	0.57	0.47	0.43	-0.19	-1.26	0.43	0.09	-0.48	-0.17
		Mean	0.59	0.57	0.61	0.52	0.61	0.65	0.21	0.11	0.16	0.19	0.52	0.32
		Median	0.59	0.58	0.62	0.53	0.62	0.75	0.24	0.19	0.18	0.30	0.66	0.53
		Sigma	0.05	0.10	0.08	0.13	0.11	0.30	0.27	0.62	0.24	1.05	1.07	0.67
		Min	0.43	0.27	0.37	0.21	0.21	0.00	-0.45	-1.50	-0.42	-2.75	-3.16	-1.57
		Max	0.70	0.81	0.82	0.77	0.94	1.00	0.63	1.47	0.81	3.81	2.53	1.40
		Max Drawdown	-0.22	-0.54	-0.45	-0.56	-0.62	-1.00	-1.03	-2.98	-1.23	-6.56	-5.06	-2.70
		Max Drawup	0.27	0.51	0.44	0.44	0.72	1.00	1.08	2.92	0.89	4.22	5.69	2.97
		Count	171.00	171.00	171.00	171.00	171.00	163.00	171.00	171.00	171.00	171.00	171.00	163.00
5yrs	Select	Most Recent	0.62	0.62	0.57	0.48	0.68	0.93	0.21	0.22	0.05	0.01	0.41	0.84
		Mean	0.57	0.55	0.59	0.53	0.62	0.56	0.16	0.08	0.18	0.03	0.50	0.12
		Median	0.59	0.57	0.60	0.58	0.63	0.56	0.23	0.22	0.19	0.11	0.42	0.03
		Sigma	0.07	0.11	0.08	0.16	0.10	0.31	0.28	0.69	0.17	0.85	0.98	0.67
		Min	0.41	0.25	0.35	0.13	0.38	0.00	-0.63	-2.15	-0.32	-1.95	-1.65	-1.85
		Max	0.70	0.77	0.78	0.87	0.83	1.00	0.53	1.27	0.61	2.90	3.03	1.36
		Max Drawdown	-0.29	-0.52	-0.43	-0.74	-0.45	-1.00	-1.16	-3.43	-0.93	-4.85	-3.45	-2.35
		Max Drawup	0.27	0.46	0.35	0.44	0.45	1.00	1.15	3.28	0.79	2.45	4.67	3.21
		Count	146.00	147.00	147.00	147.00	147.00	139.00	146.00	147.00	147.00	147.00	147.00	139.00

SWA List as of 4/30/2023

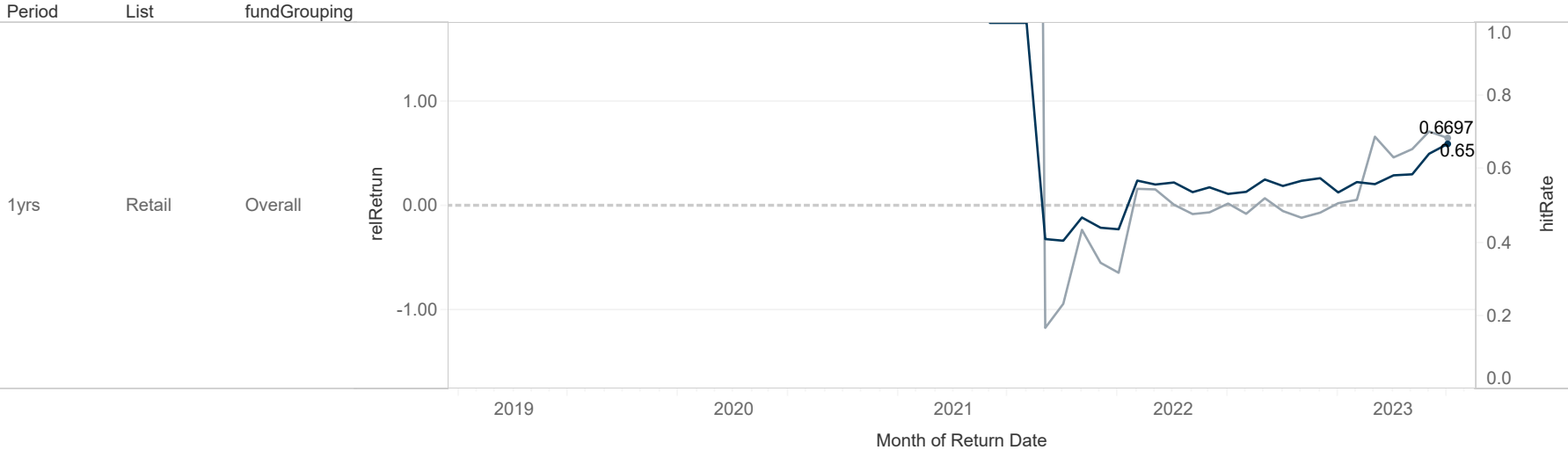


Fund Lists

SWA List as of 4/30/2023

Period	List	Metric	Overall Hit Rate	Domestic Hit Rate	BondsHitRate	InternationalHitRate	SpecialtyHitRate	OtherHitRate	OverallRelRet	DomesticRelRet	BondsRelRet	InternationalRelRet	SpecialtyRelRet	OtherRelRet
1yrs	SWA	Most Recent	0.7	0.7	0.8	0.5	0.6	0.9	0.6	0.6	0.7	-0.3	1.1	0.9
		Mean	0.6	0.5	0.6	0.5	0.6	0.7	0.4	0.3	0.3	0.4	1.0	0.5
		Median	0.6	0.5	0.6	0.6	0.6	0.7	0.4	0.3	0.3	0.5	1.1	0.5
		Sigma	0.1	0.1	0.1	0.1	0.1	0.2	0.6	1.5	0.2	1.8	1.7	1.1
		Min	0.4	0.2	0.4	0.2	0.2	0.0	-1.5	-4.1	-0.3	-4.9	-5.5	-2.2
		Max	0.8	0.8	0.8	0.7	0.9	1.0	1.7	4.1	0.8	3.7	4.3	3.8
		Max Drawdown	-0.4	-0.6	-0.4	-0.5	-0.7	-0.9	-3.3	-8.1	-1.0	-8.0	-9.8	-4.7
		Max Drawup	0.3	0.6	0.4	0.5	0.5	1.0	2.6	7.4	1.1	8.6	6.5	6.0
		Count	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0	145.0
3yrs	SWA	Most Recent	0.6	0.4	0.7	0.6	0.5	0.5	0.0	-1.3	0.4	0.3	-0.2	0.1
		Mean	0.6	0.5	0.6	0.5	0.6	0.7	0.3	0.0	0.2	0.2	1.0	0.4
		Median	0.6	0.5	0.6	0.5	0.6	0.7	0.3	0.1	0.2	0.4	0.9	0.4
		Sigma	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.6	0.2	0.8	1.0	0.5
		Min	0.5	0.3	0.5	0.3	0.4	0.3	-0.3	-1.7	-0.2	-1.8	-0.8	-0.5
		Max	0.7	0.7	0.8	0.7	0.9	1.0	0.6	1.1	0.6	1.7	3.0	1.4
		Max Drawdown	-0.2	-0.4	-0.2	-0.4	-0.4	-0.6	-1.0	-2.8	-0.8	-3.5	-3.8	-1.6
		Max Drawup	0.2	0.3	0.3	0.4	0.5	0.7	0.7	1.8	0.7	3.4	3.3	1.9
		Count	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0
5yrs	SWA	Most Recent	0.6	0.5	0.6	0.5	0.6	0.9	0.1	0.0	0.0	0.1	0.3	0.8
		Mean	0.6	0.5	0.6	0.5	0.6	0.6	0.1	0.1	0.1	0.1	0.6	0.2
		Median	0.6	0.6	0.6	0.5	0.6	0.6	0.2	0.2	0.1	0.2	0.6	0.1
		Sigma	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.7	0.1	0.6	0.7	0.3
		Min	0.4	0.2	0.5	0.2	0.4	0.4	-0.4	-2.0	-0.1	-1.7	-0.7	-0.5
		Max	0.7	0.7	0.7	0.7	0.8	0.9	0.5	1.2	0.4	0.9	1.9	0.9
		Max Drawdown	-0.2	-0.5	-0.2	-0.5	-0.3	-0.5	-0.9	-3.3	-0.5	-2.6	-2.5	-1.3
		Max Drawup	0.2	0.4	0.2	0.3	0.4	0.6	0.7	2.5	0.2	2.1	2.6	1.3
		Count	96.0	97.0	97.0	97.0	97.0	97.0	96.0	97.0	97.0	97.0	97.0	97.0

Retail List as of 4/30/2023



Fund Lists

Retail List as of 4/30/2023

Period	List	Metric	Overall Hit Rate	Domestic Hit Rate	BondsHitRate	InternationalHitRate	SpecialtyHitRate	OtherHitRate	OverallRelRet	DomesticRelRet	BondsRelRet	InternationalRelRet	SpecialtyRelRet	OtherRelRet
1yrs	Retail	Most Recent	0.67	0.64	0.71	0.52	0.52	0.81	0.65	0.48	0.53	0.66	1.32	0.80
		Mean	0.59	0.62	0.60	0.57	0.41	0.35	2.85	2.94	0.34	0.48	-1.68	-0.52
		Median	0.56	0.63	0.60	0.59	0.43	0.27	0.03	0.47	0.39	0.28	-1.94	-0.85
		Sigma	0.16	0.18	0.08	0.05	0.09	0.20	8.20	8.25	0.25	0.57	1.37	0.74
		Min	0.41	0.35	0.45	0.47	0.28	0.17	-1.16	-3.09	-0.16	-0.40	-3.68	-1.32
		Max	1.00	1.00	0.71	0.64	0.54	0.81	29.84	29.84	0.69	1.41	1.32	0.94
		Max Drawdown	-0.59	-0.65	-0.12	-0.15	-0.22	-0.64	-31.00	-32.93	-0.50	-1.47	-4.12	-2.26
		Max Drawup	0.26	0.42	0.26	0.17	0.26	0.64	1.88	5.66	0.85	1.81	5.00	2.18
		Count	26.00	26.00	23.00	23.00	23.00	23.00	26.00	26.00	23.00	23.00	23.00	23.00