



MBA SIMFUND 2023-24



End of Year Report
April 2024

MBA SIMFUND Team



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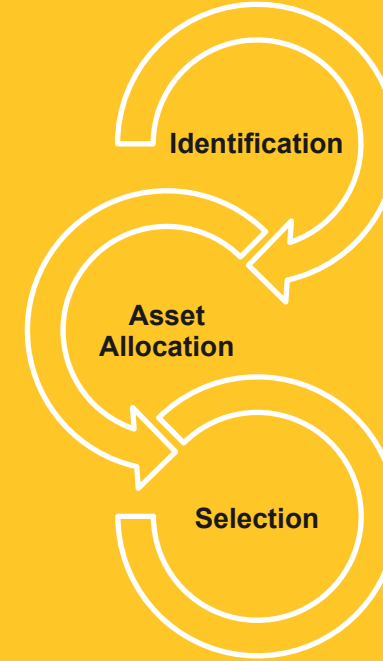
Agenda



1. Strategy & Learning Goals
2. Asset Allocation
3. Security Selection
4. Current Portfolio
5. Rebalancing Plan
6. Performance Summary
7. What We Learned

Strategy

- ✓ Pre-constructed Portfolio
- ✓ Valuation
- ✓ Constraints



Learning Goals



**Personal
Investment**



**Asset
Allocation**



**Asset
Selection**

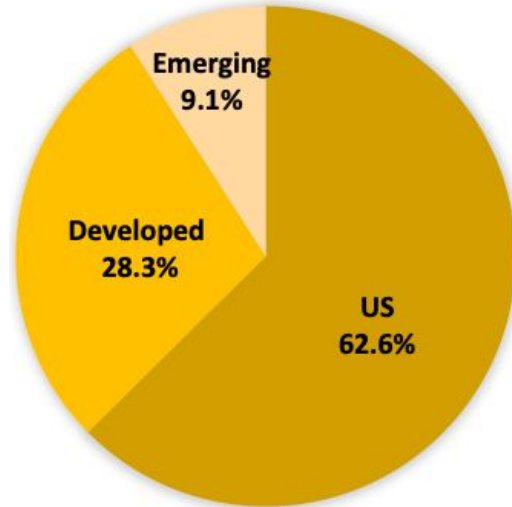


**Performance
Evaluation**

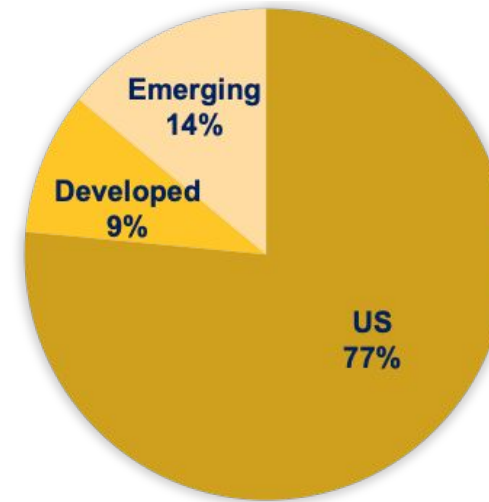


Asset Allocation

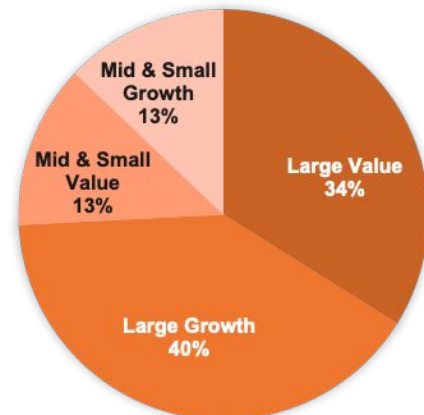
GLOBAL MARKET CAP



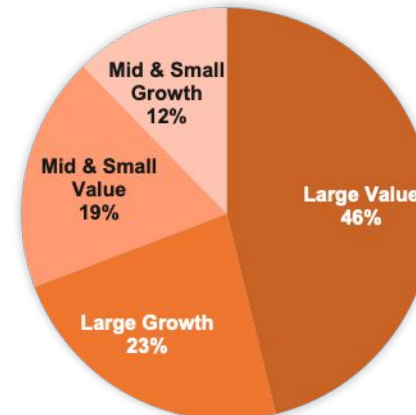
OUR PORTFOLIO



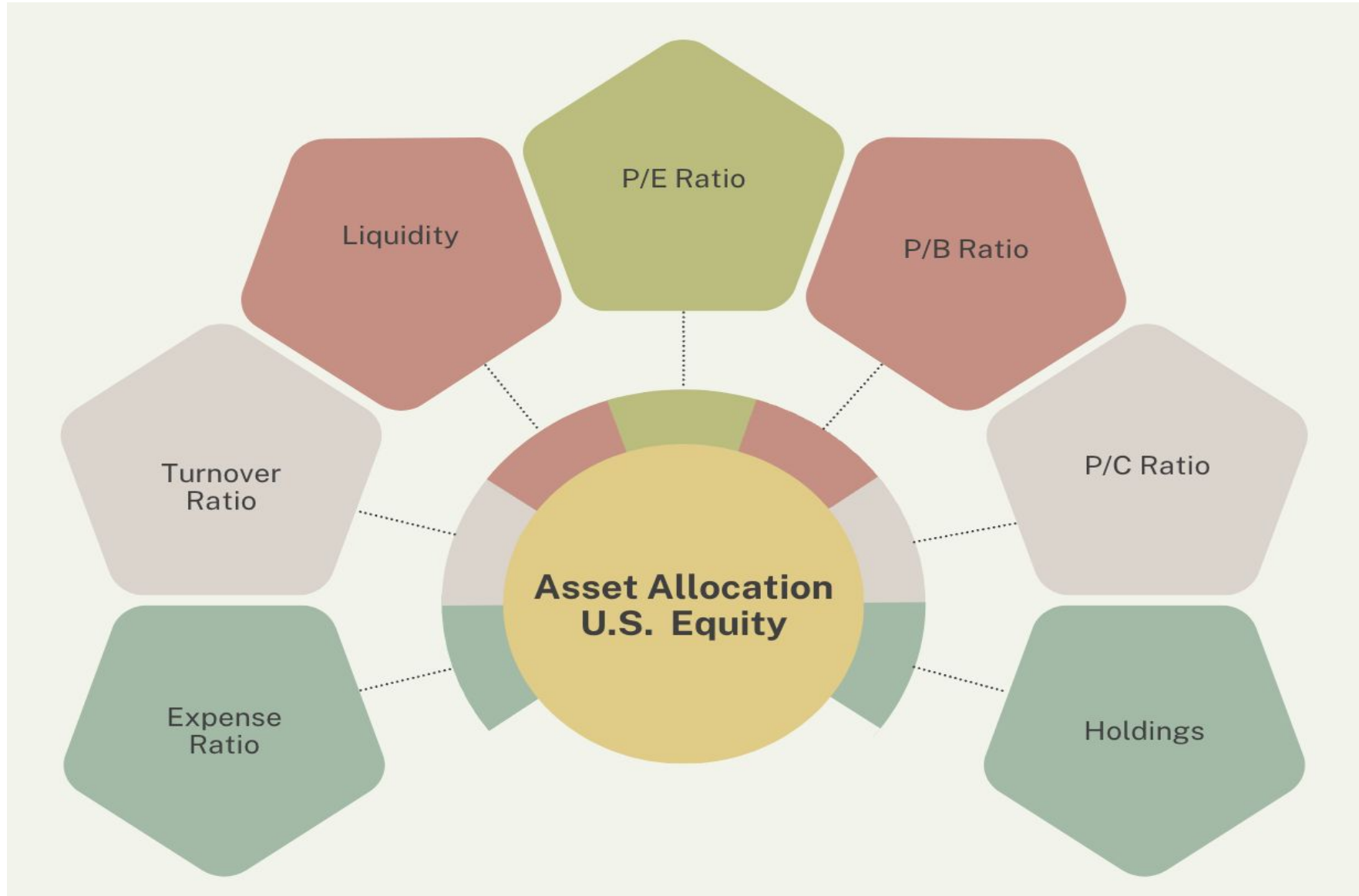
US EQUITY - MARKET CAP



US EQUITY – OUR PORTFOLIO



Security Selection



Seeded Portfolio (as of Nov 17th, 2023)

ETF	Ticker	Initial Wgt %
Schwab US Aggregate Bond ETF	SCHZ	14.9%
Vanguard Value ETF	VTV	29.9%
Schwab U.S. Large-Cap Growth ETF	SCHG	14.9%
Avantis US Small Cap Value ETF	AVUV	11.9%
iShares Morningstar Small-Cap Growth ETF	ISCG	8.0%
iShares Core MSCI Intl Dev Mkts ETF	IDEV	8.0%
iShares Core MSCI Emerging Markets ETF	IEMG	11.9%
Cash	Nrthn Trsry	0.4%



Current Portfolio (as of April 19th, 2024)

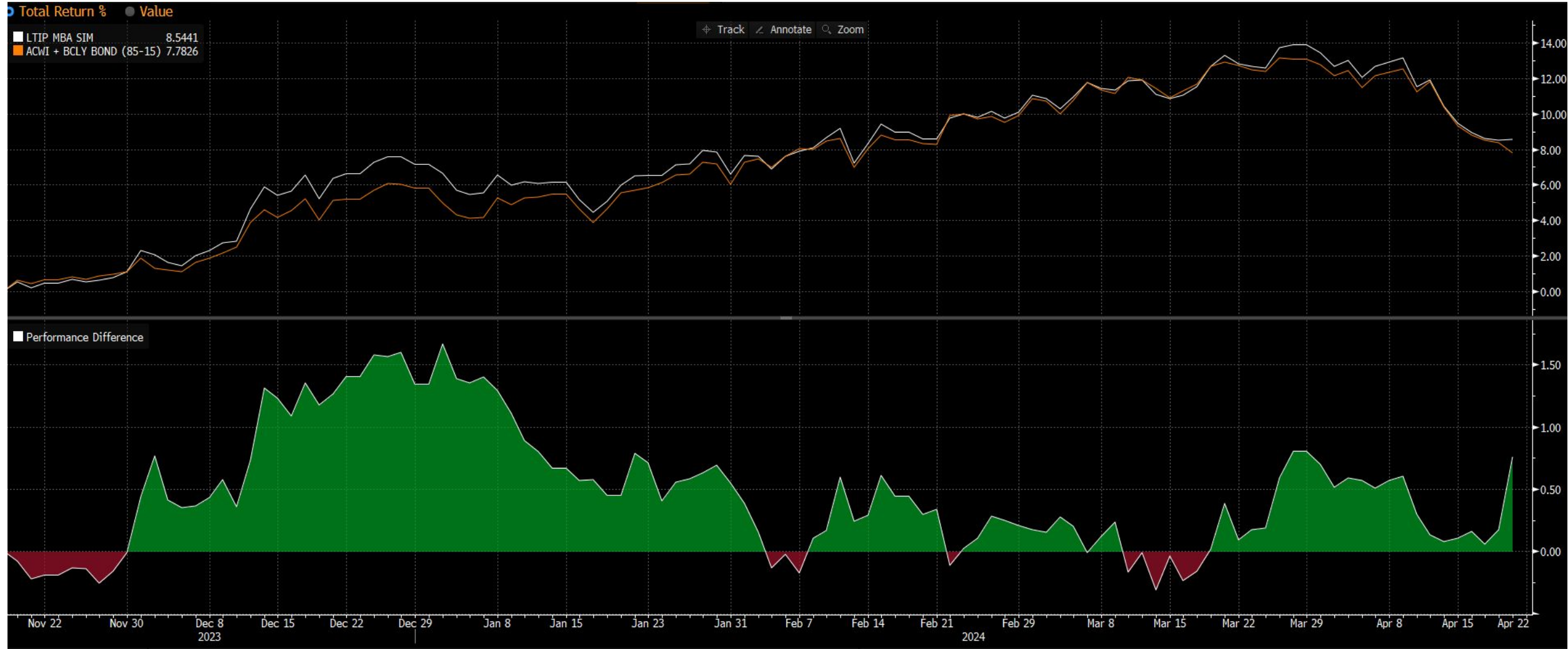
ETF	Ticker	Initial Wgt %	Current Wgt %
Schwab US Aggregate Bond ETF	SCHZ	14.9%	13.71%
Vanguard Value ETF	VTV	29.9%	30.40%
Schwab U.S. Large-Cap Growth ETF	SCHG	14.9%	15.11%
Avantis US Small Cap Value ETF	AVUV	11.9%	13.00%
iShares Morningstar Small-Cap Growth ETF	ISCG	8.0%	8.60%
iShares Core MSCI Intl Dev Mkts ETF	IDEV	8.0%	7.83%
iShares Core MSCI Emerging Markets ETF	IEMG	11.9%	11.12%
Cash	Nrthn Trsry	0.4%	0.25% [\$3228]



Relative to Russell 3000



Relative to ACWI (85%) + Barclay Agg. (15%)



Avantis Small Cap Value (AVUV) ETF Attribution

(Benchmark : iShare Russell 2000 Value ETF- IWN)

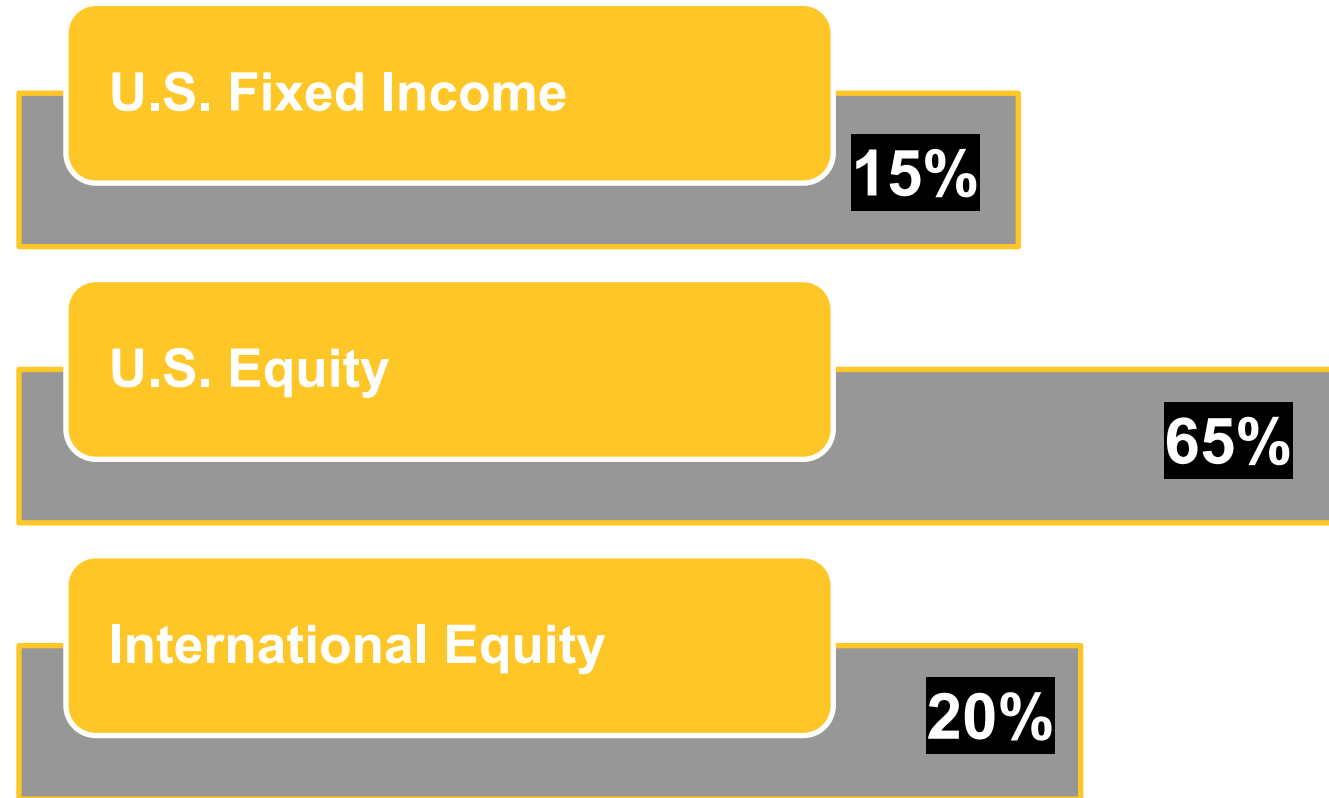
Name	Avg % Wgt			Tot Rtn			CTR			Alloc	Selec	Curr	Tot Attr
	Port	Bmrk	+/-	Port	Bmrk	+/-	Port	Bmrk	+/-				
AVANTIS US SMALL CAP VALUE (...)	100.00	100.00	0.00	10.94	8.02	2.92	10.94	8.02	2.92	1.07	1.84	0.01	2.91
▶ Communication Services	1.79	2.42	-0.62	-7.35	-6.96	-0.39	-0.12	-0.18	0.06	0.10	-0.02	0.00	0.08
▶ Consumer Discretionary	20.78	10.80	9.98	11.84	7.03	4.82	2.59	0.78	1.94	-0.01	0.99	0.00	0.97
▶ Consumer Staples	3.15	2.32	0.83	13.33	3.81	9.51	0.39	0.10	0.30	-0.03	0.30	0.00	0.27
▶ Energy	15.85	9.69	6.16	9.82	10.75	-0.93	1.52	0.99	0.58	0.19	-0.14	0.00	0.05
▶ Financials	26.94	26.37	0.57	8.60	6.40	2.20	2.47	1.79	0.67	0.03	0.59	0.00	0.61
▶ Health Care	1.25	8.98	-7.73	-11.88	11.59	-23.46	-0.20	0.95	-1.24	-0.27	-0.34	0.00	-0.60
▶ Industrials	17.76	14.46	3.31	20.07	14.13	5.94	3.34	1.95	1.43	0.21	0.97	0.00	1.18
▶ Information Technology	4.89	5.87	-0.98	0.90	5.10	-4.20	0.07	0.29	-0.25	0.04	-0.23	0.00	-0.19
▶ Materials	6.64	4.82	1.81	14.76	17.23	-2.47	0.94	0.78	0.17	0.13	-0.14	0.00	-0.01
▶ Real Estate	0.84	10.13	-9.29	-15.36	4.54	-19.90	-0.07	0.51	-0.66	0.35	-0.13	0.00	0.21
▶ Utilities		3.85	-3.85		1.21	-1.21		0.05	-0.07	0.31	0.00	0.00	0.31
▶ Not Classified	0.10	0.28	-0.18	2.22	1.81	0.41	0.00	0.01	0.00	0.02	0.00	0.00	0.02

What we learned



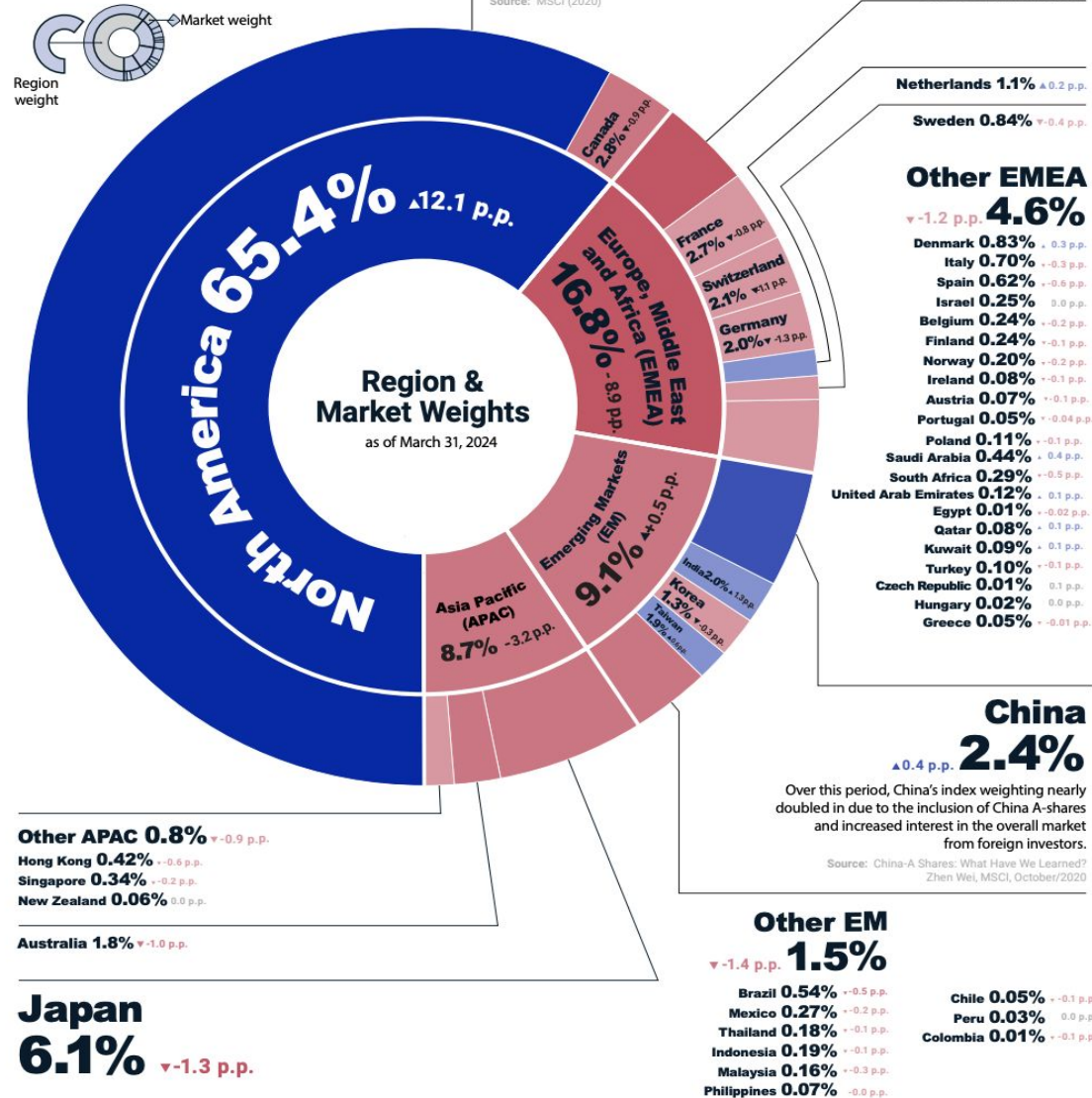
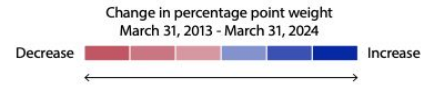
Appendix 1: Asset Allocation

- Investor views
 - Value vs Growth
 - Emerging vs Developed
 - Treasury vs Corporate
- Charter Limitations
- Current International Scenario's
- Future Projections
- Active vs Passive



Appendix :2 Global Market Cap

Below, we show a breakdown of the index by country and region, as well as its changes over time.



United States 62.6% ▲13.1 p.p.

While U.S. companies have become more dominant within the MSCI ACWI IMI, their revenues originate from around the globe.

Source: MSCI (2020)

UK 3.5% ▼4.2 p.p.

The UK weighting declined, impacted by growth in Asia and Americas, plus the growth in the technology sector which was less present in the UK. Brexit uncertainty has also impacted investors' appetite for UK stocks.

Source: The Economist (2021)

Netherlands 1.1% ▲0.2 p.p.

Sweden 0.84% ▼0.4 p.p.

Other EMEA 4.6% ▼1.2 p.p.

Denmark 0.83% ▼0.3 p.p.

Italy 0.70% ▼0.3 p.p.

Spain 0.62% ▼0.6 p.p.

Israel 0.25% ▲0.0 p.p.

Belgium 0.24% ▼0.2 p.p.

Finland 0.24% ▼0.1 p.p.

Norway 0.20% ▼0.2 p.p.

Ireland 0.08% ▼0.1 p.p.

Austria 0.07% ▲0.1 p.p.

Portugal 0.05% ▼0.04 p.p.

Poland 0.11% ▼0.1 p.p.

Saudi Arabia 0.44% ▲0.4 p.p.

South Africa 0.29% ▼0.5 p.p.

United Arab Emirates 0.12% ▲0.1 p.p.

Egypt 0.01% ▼0.02 p.p.

Qatar 0.08% ▼0.1 p.p.

Kuwait 0.09% ▼0.1 p.p.

Turkey 0.10% ▼0.1 p.p.

Czech Republic 0.01% ▲0.1 p.p.

Hungary 0.02% ▲0.0 p.p.

Greece 0.05% ▼0.01 p.p.

China 2.4% ▲0.4 p.p.

Over this period, China's index weighting nearly doubled in due to the inclusion of China A-shares and increased interest in the overall market from foreign investors.

Source: China-A Shares: What Have We Learned? Zhen Wei, MSCI, October/2020

Other EM 1.5% ▼1.4 p.p.

Brazil 0.54% ▼0.5 p.p.

Mexico 0.27% ▼0.2 p.p.

Thailand 0.18% ▼0.1 p.p.

Indonesia 0.19% ▼0.1 p.p.

Malaysia 0.16% ▼0.3 p.p.

Philippines 0.07% ▼0.0 p.p.

Chile 0.05% ▼0.1 p.p.

Peru 0.03% ▲0.0 p.p.

Colombia 0.01% ▼0.1 p.p.



Appendix 3 : Top shortlists of International Markets ETFs

Developed Ex-US Markets

ETF	Ticker	Expense Ratio	Turn Over Ratio (%)	Volume (#)	Equity %	Top 5 Country Weights
iShares Core MSCI Intl Dev Mkts ETF	IDEV	0.04	2	634335	99.3%	21.6% Japan, 12% UK, 10% Canada, 9.6% France, 8% Switzerland
SPDR® Portfolio Developed Wld ex-US ETF	SPDW	0.04	3	3781004	97.8%	21.8% Japan, 11% UK, 9.5% Canada, 8.8% France, 8% Switzerland
Vanguard FTSE Developed Markets ETF	VEA	0.05	4	11122582	97.8%	21.3% Japan, 11.8% UK, 9% Canada, 9% France, 8% Switzerland
Hartford Multifactor Dev Mkts (exUS) ETF	RODM	0.29	33	148553	99.2%	19% Japan, 13% Canada, 11% UK, % Australia, 7.4% Switzerland
Invesco FTSE RAFI Dev Mkts ex-US ETF	PXF	0.45	16	92676	100.0%	21% Japan, 14.6% UK, 9.6% France, 9% Germany, 8.8% Canada

International Emerging Markets

ETF	Ticker	Expense Ratio	Turn Over Ratio (%)	Volume (#)	Equity %	Top 5 Country Weights
iShares Core MSCI Emerging Markets ETF	IEMG	0.1	7	11292935	99.8%	23% China, 17% India, 15% Taiwan, 13% S Korea, 5.5% Brazil
Vanguard FTSE Emerging Markets ETF	VWO	0.08	7	9743953	96.5%	27% China, 19% India, 15% Taiwan, 6% Brazil
Schwab Emerging Markets Equity ETF	SCHE	0.11	13	1562583	99.0%	29% China, 19% India, 16% Taiwan, 6.6% Brazil, 4% Saudi
SPDR® Portfolio Emerging Markets ETF	SPEM	0.11	8	1854223	97.0%	27% China, 20% India, 17% Taiwan, 6% Brazil, 4% Saudi
Avantis Emerging Markets Equity ETF	AVEM	0.33	3	333435	100.2%	22% China, 18% India, 17.7% Taiwan, 14% S Korea, 6% Brazil



Appendix 4 : Top shortlists of US Small Cap ETFs

U.S. Small Capital - Value

ETF	Expense Ratio	Turnover Ratio	Avg. Daily Volume(3 Mo)	P/E Ratio	P/B Ratio	P/C Ratio	Holdings
Avantis US Small Cap Value ETF	0.25	24%	497000	7.31	1.16	3.98	737
SPDR® S&P 600 Small Cap Value ETF	0.15	46%	257300	11.17	1.13	6.10	465
iShares Morningstar Small-Cap Value ETF	0.06	41%	17800	9.55	1.26	5.88	1,145
Vanguard Small-Cap Value ETF	0.07	13%	490000	10.82	1.58	7.23	843
First Trust Small Cap Val AlphaDEX ETF	0.73	110%	12500	8.34	0.95	4.71	263

U.S. Small Capital - Growth

ETF	Expense Ratio	Turnover Ratio	Avg. Daily Volume(3 Mo)	P/E Ratio	P/B Ratio	P/C Ratio	Holdings
iShares Morningstar Small-Cap Growth ETF	0.06	52%	55000	18.81	2.75	12.92	1,077
First Trust Small Cap Gr AlphaDEX ETF	0.71	140%	318000	15.23	2.46	8.40	265
Vanguard Small-Cap Growth ETF	0.07	24%	257500	23.11	3.46	14.93	647
Motley Fool Small-Cap Growth ETF	0.85	62%	14000	19.32	2.93	17.75	39
SPDR® S&P 600 Small Cap Growth ETF	0.15	48%	165600	12.85	1.99	9.39	346



Appendix 5 : Top shortlists of US Large Cap ETFs

U.S. Large Capital - Value

ETF	Expense Ratio	Turnover Ratio %	Avg Daily Volume (3 Mo)	P/E Ratio	P/B Ratio	P/C Ratio	Holdings
Vanguard Value ETF	0.04	5.00	2,456,634.00	15.49	2.40	10.72	342
Avantis US Large Cap Value ETF	0.15	23.00	174,238.50	11.76	2.51	7.61	268
Schwab US Large-Cap Value ETF™	0.04	7.00	396,891.85	15.43	2.37	11.09	508
Vanguard Russell 1000 Value ETF	0.08	14.00	529,897.27	15.21	2.14	10.76	847

U.S. Large Capital - Growth

ETF	Expense Ratio	Turnover Ratio %	Avg Daily Volume (3 Mo)	P/E Ratio	P/B Ratio	P/C Ratio	Holdings
Schwab US Large-Cap Growth ETF™	0.04	9.00	1,114,281.36	29.08	7.02	19.94	253
SPDR® Portfolio S&P 500 Growth ETF	0.05	33.00	1,690,934.21	23.99	6.42	17.17	238
Vanguard Growth ETF	0.04	5.00	837,070.09	32.87	8.28	22.25	221
Vanguard Russell 1000 Growth ETF	0.08	13.00	846,794.88	30.69	10.01	20.70	446



Appendix 6 : Top shortlists of US Fixed Income ETFs & Selection Criteria

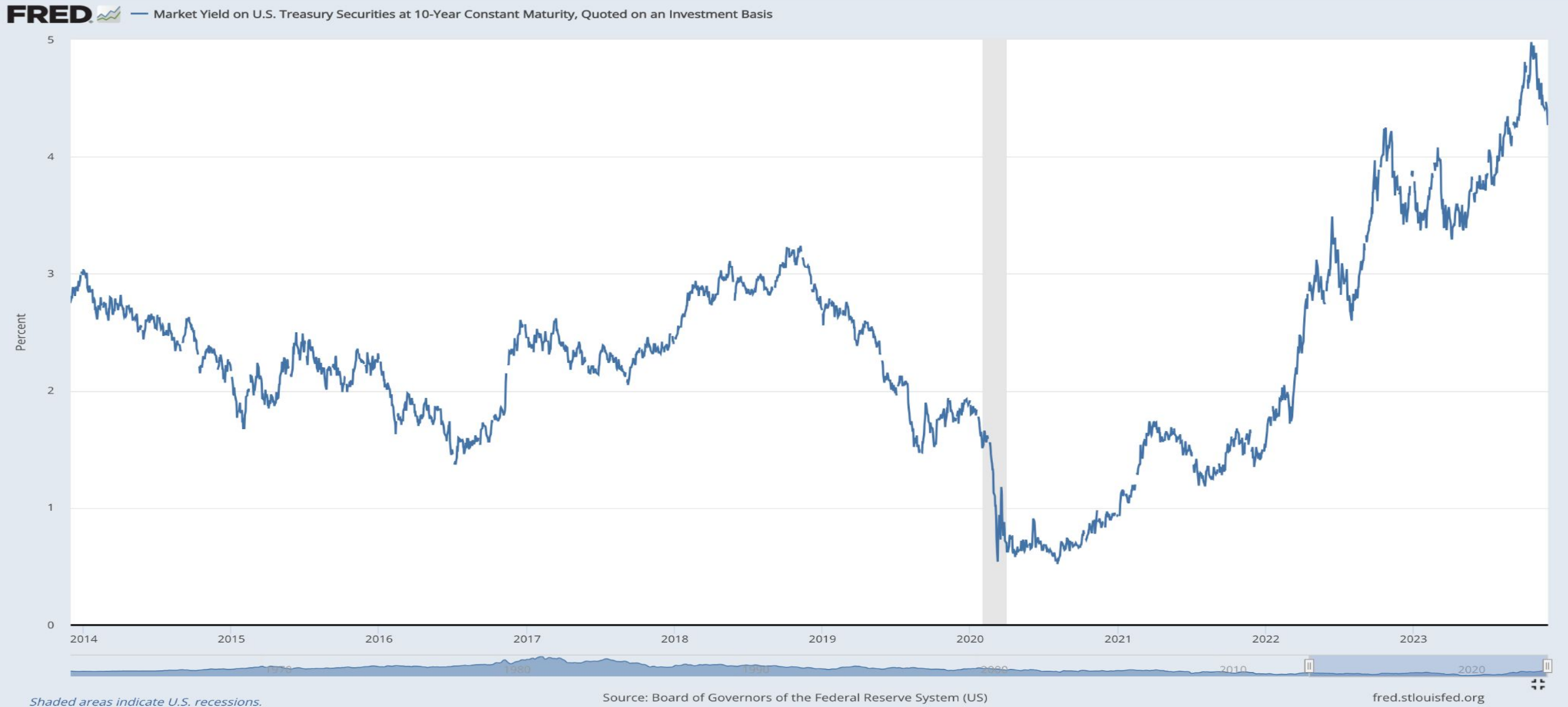
- Selected Funds with underlying Securities rated BBB or higher
- Average Maturity <10 years
- Expense Ratios on the lower side = More passive
- Average Credit quality AA or Higher
- Price & Diversification

Top Choices: (Benchmark Index: LBUFTRUU)

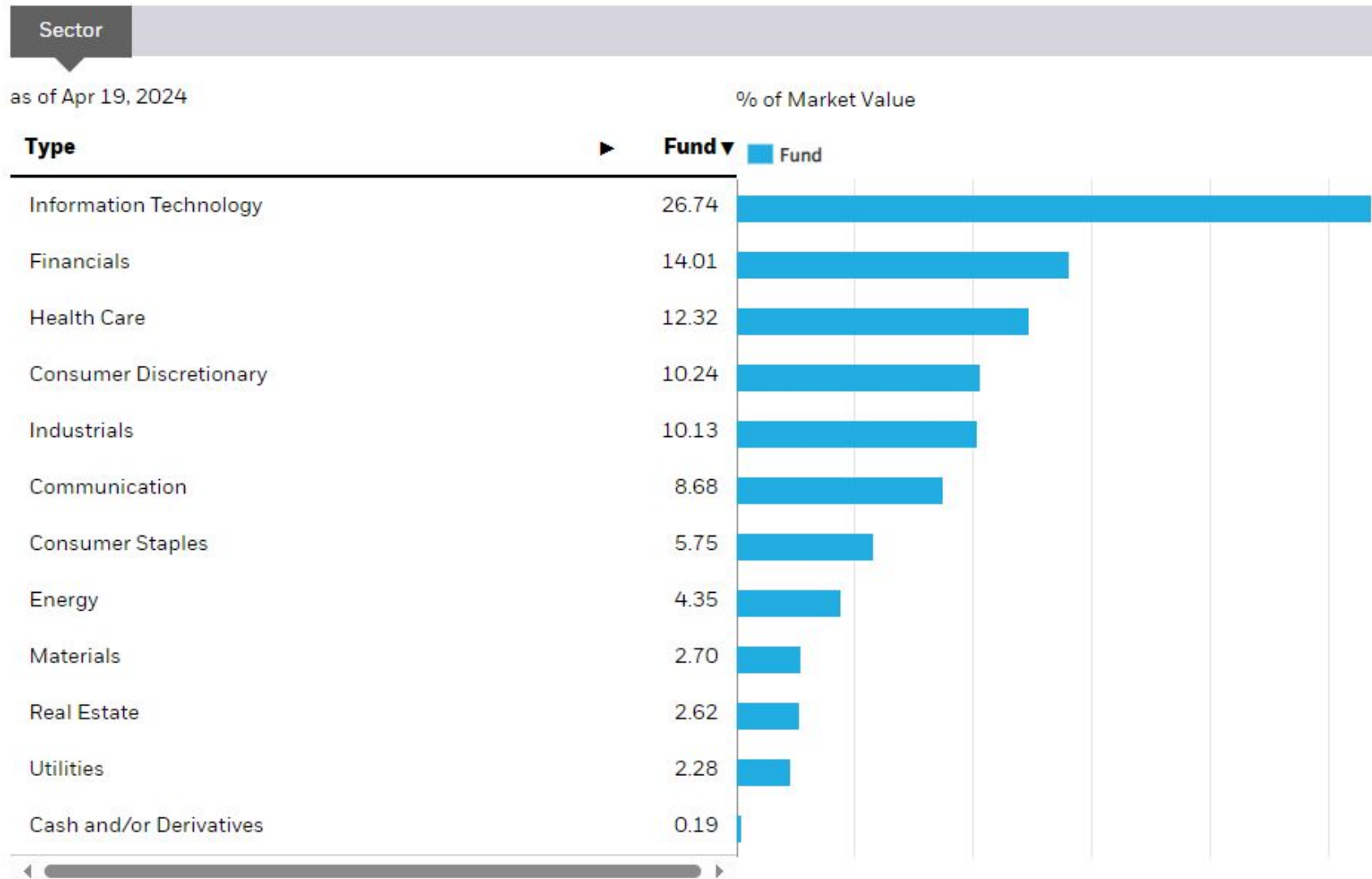
Fund Name	Fund Ticker	Expense Ratio (%)	90 Day Avg Agg Vol	Spread	Market Cap	Rebalancing Frequency	NAV (11/17/2023)	Maturity <10 years	Maturity >10 years	Active/Passive
Schwab US Aggregate Bond ETF	SCHZ	0.03	856.3K	0.010	USD 7.03B	Monthly	USD 44.77	54.86 %	42.78%	Passive
Vanguard Total Bond Market ETF	BND US	0.03	6.6 M	0.010	USD 98.52B	Monthly	USD 70.57	59.68%	39.22%	Passive
iShares 0-5 Year TIPS Bond ETF	STIP US	0.03	877.3K	0.010	USD 8.95B	Monthly	USD 97.26	93.77%	0	Passive



Appendix 7 : Yield Curve (10 Year Maturity)



Appendix 8 : iShare Russell 3000 Sector Breakdown



Appendix 9:

Portfolio Attribution over holding period

Port Wgt		Contribution
29.92	VANGUARD VALUE ETF	3.56
15.16	SCHWAB US LARGE-CAP GROWTH	1.60
14.16	SCHWAB US AGGREGATE BOND ETF	0.29
12.71	AVANTIS US SMALL CAP VALUE	1.31
11.25	ISHARES CORE MSCI EMERGING	0.40
8.35	ISHARES MORNINGSTAR SMALL-CA	0.80
7.87	ISHARES CORE MSCI DEV MKTS	0.59
0.62	NORTHERN INST TRSRY-PRM	0.01

