Astoria's Investment Committee Quarterly Review:

Increasing the Cyclicality of our Portfolios

Astoria's Portfolio Construction Thoughts

Marginally increase the cyclicality of our portfolio by introducing a new factor tilt: Small Caps

Small Cap factor is pervasive, persistent, robust, cheap to implement, and the current entry point is particularly attractive in Astoria's view.

Reduce the portfolio's defensiveness by trimming the quality factor

Quality tends to work relatively better during later stages of economic cycles.

Keep our allocation to alternatives in the case our portfolio construction tilts do not materialize.

Why increase the cyclicality?

1) Macroeconomic indicators are starting to inflect higher. Earnings have troughed

2) Abundance of liquidity across various central banks.

3) Small Cap have a well documented factor bias.

Stay strategically tilted OW equity, UW bonds,

EW alts

OW the US, OW China, and slightly UW DM (cyclically leveraged to global economy), although we are raising our exposure to DM.

2-way turnover is 13% for our Growth & Income Model

Astoria’s Portfolio Construction Thoughts

Add Small Caps which have seen significant earnings deratings and are more economically sensitive.

Credit is attractive to own.

We previously bought QLTA, LQD; we want to continue adding credit.

Preferred sits below bonds but above equity on the capital structure. They are tilted toward financials which are cheap and well capitalized.

When we run a factor risk model, no major changes compared to our old model

Trim expensive valuation stocks (US high quality stocks)

Maintain min vol ETF as we want exposure to that factor, and we are UW fixed income.

High quality stocks are starting to look historically expensive

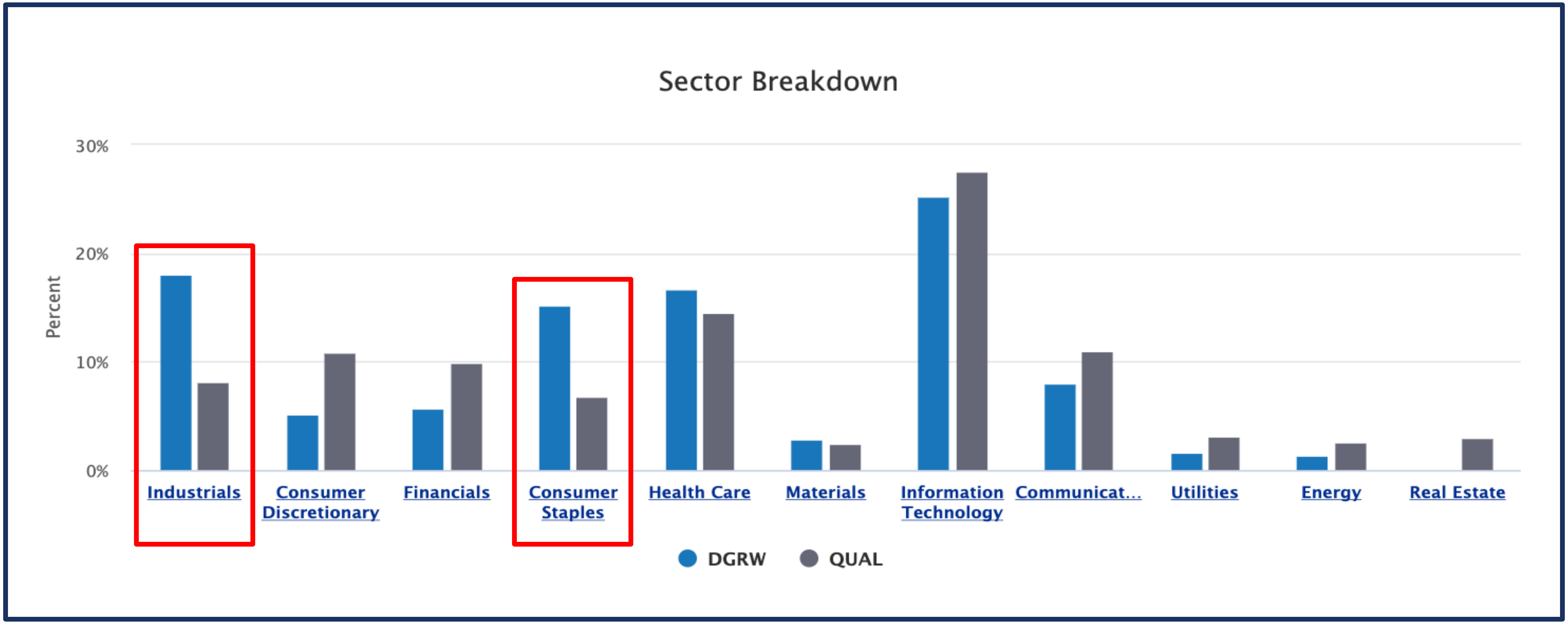
Relative Price-to-Book: Highest Quality vs. Lowest Quality Quartiles

Relative Price-to-Sales: Highest Quality vs. Lowest Quality Quartiles

Source: WisdomTree, Factset, 1/31/02-6/30/20. Quality measure incorporated both static observations and trends of ROE, ROA, gross profits over assets and cash flow over assets for the 800 largest companies in the U.S. by market capitalization. Grey bars indicate recessions.

We are marginally trimming quality which worked well during the late cycle period as well as in the depths of the recession.

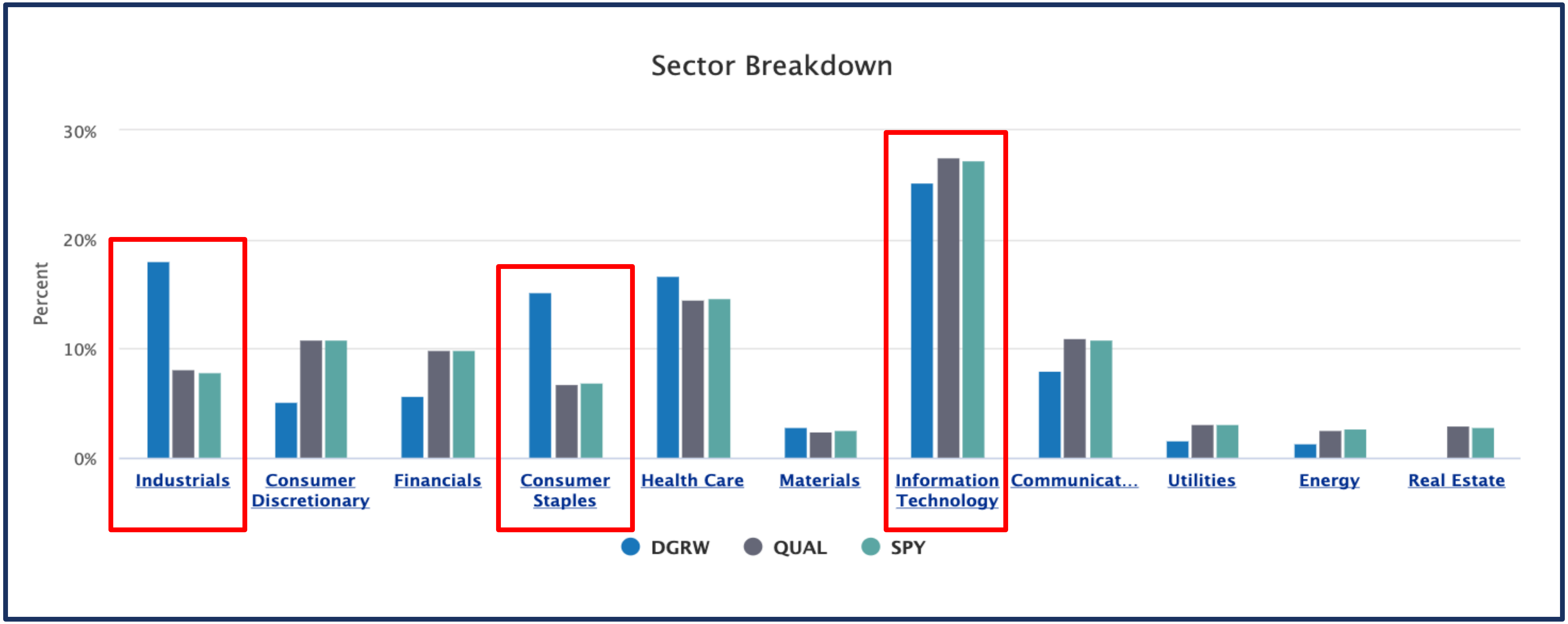
DGRW and QUAL Sector Breakdown



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

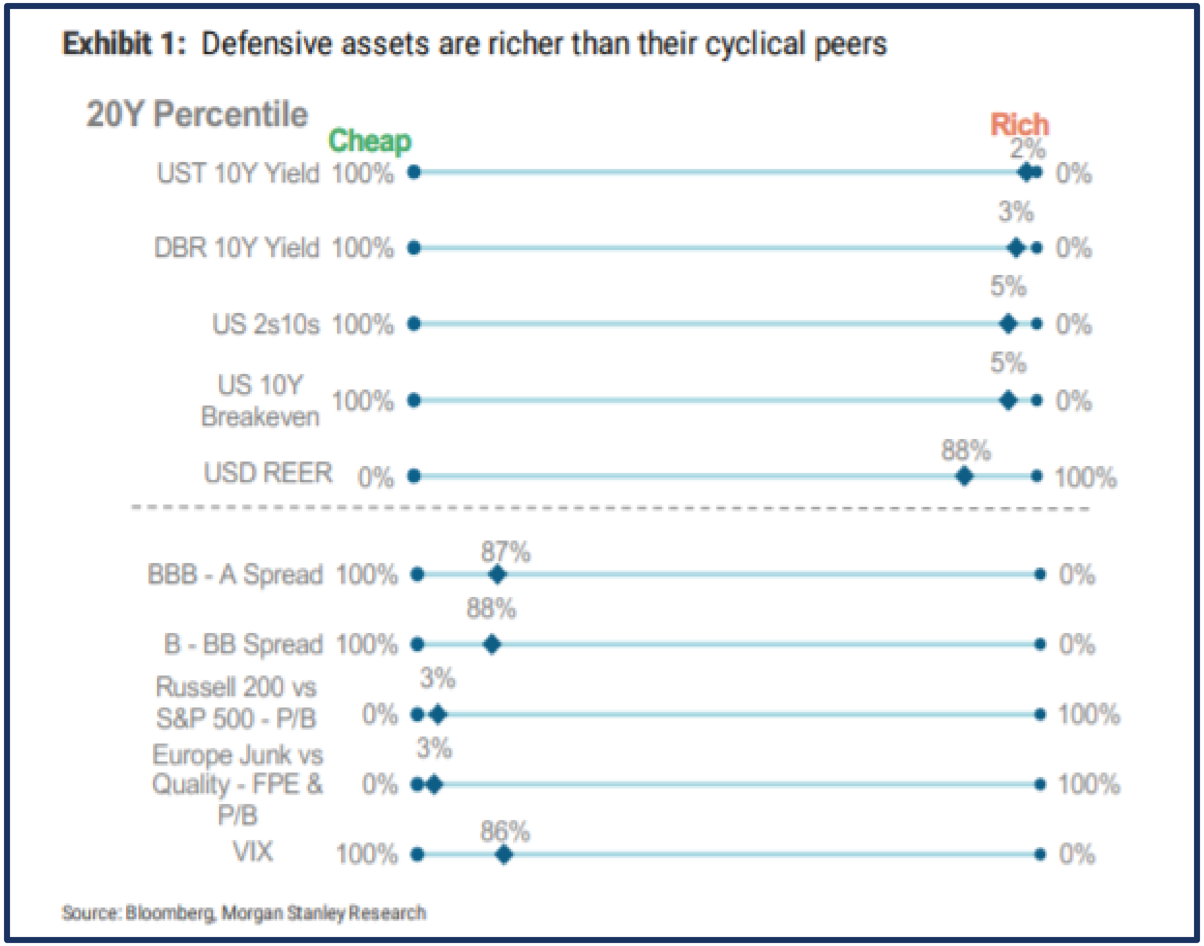
DGRW had a large tilt towards Industrials and Staples. It is UW Financials, Consumer Discretionary, Technology, and Communications.

DGRW, QUAL, and SPY Sector Breakdown



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

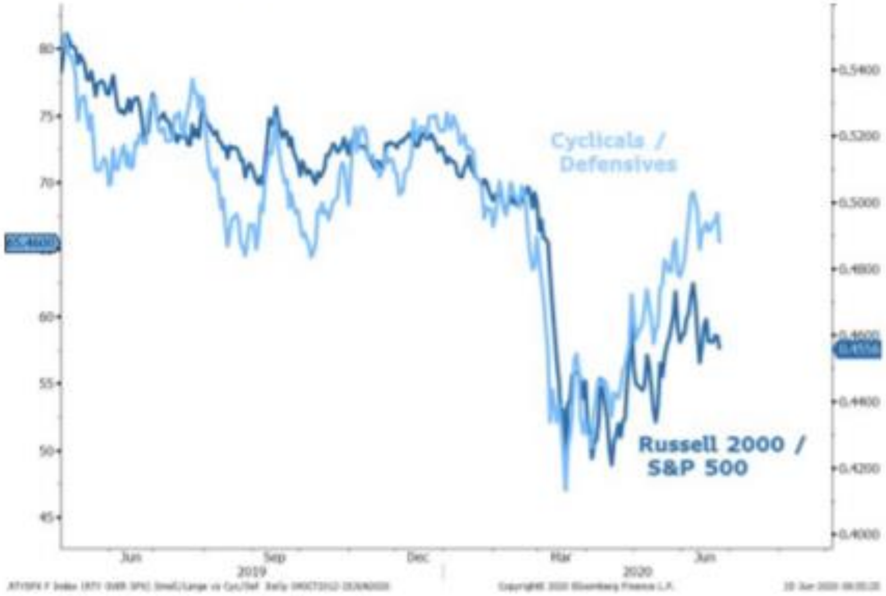
Defensives are expensive while Cyclicals are cheap. As the economy rebounds off the lows, Cyclicals are more attractive in Astoria's views.



Source: Morgan Stanley Research, Bloomberg.

Cyclicals and Small Caps have led since the March lows. Is this a coincidence? Astoria does not think so.

Exhibit 5: Leadership has Reversed with Recession....



Source: Bloomberg, Morgan Stanley Research

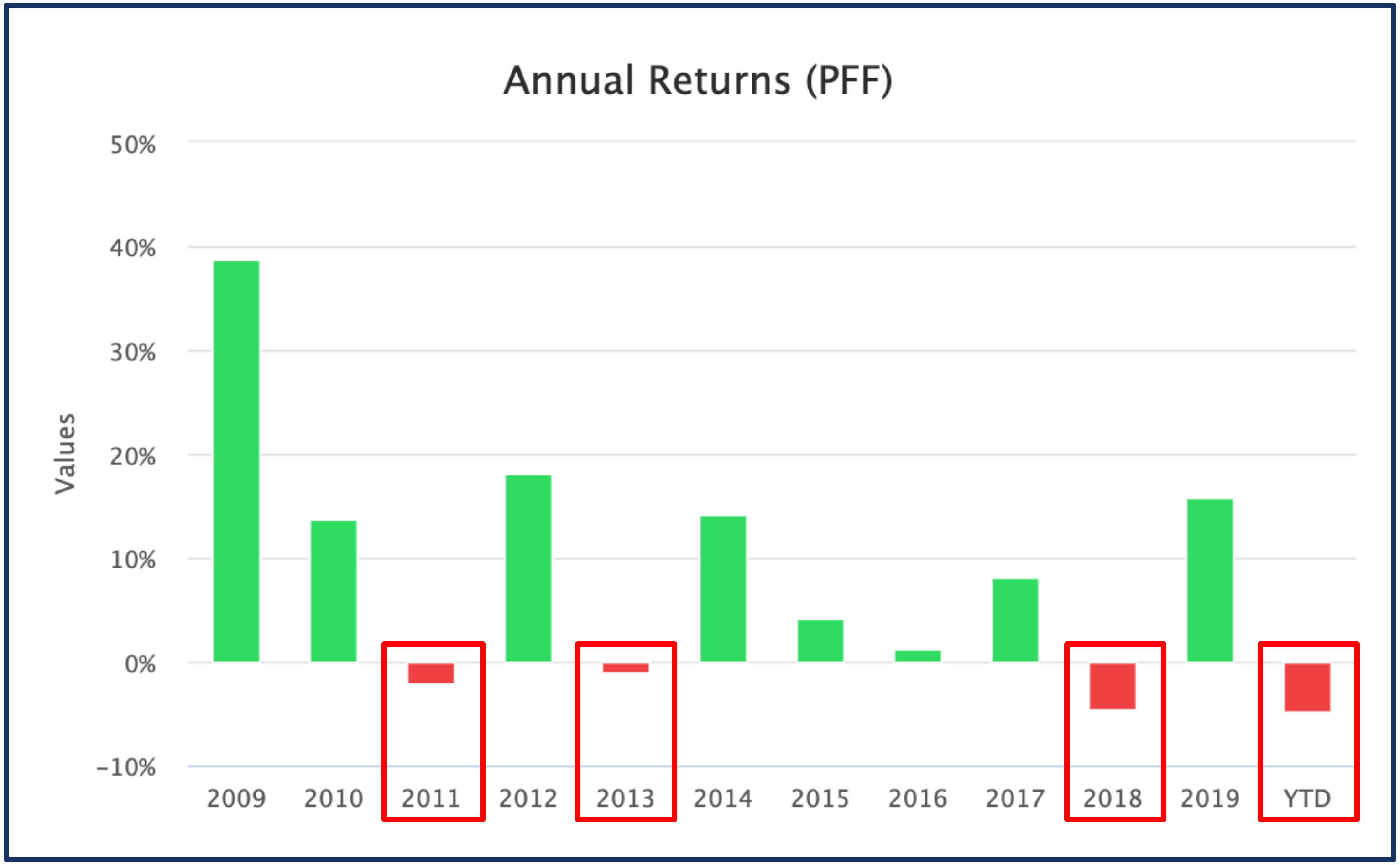
Exhibit 6: Becoming Decidedly Cyclical Since Lows

S&P 500 Total Return Since March 23, 2020 Low			
Cap Weight		**Equal Weight**	
Energy	58%	Energy	65%
Consumer Discretionary	46%	Consumer Discretionary	50%
Information Technology	46%	Materials	43%
Materials	43%	Industrials	41%
Industrials	37%	Financials	41%
S&P 500	*37%*	*S&P 500*	*40%*
Real Estate	34%	Information Technology	39%
Comm	32%	Health Care	38%
Health Care	31%	Communication Services	34%
Financials	31%	Real Estate	31%
Utilities	27%	Utilities	26%
Consumer Staples	20%	Consumer Staples	23%

Source: Morgan Stanley Research

Source: Morgan Stanley Research, Bloomberg.

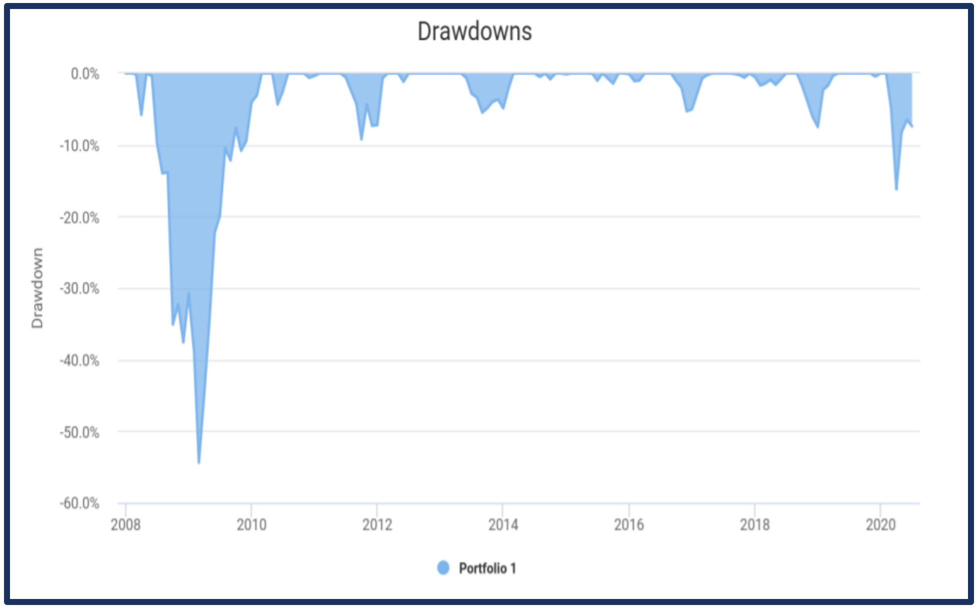
Astoria likes Preferred Shares. Historically, they have produced equity-like returns but with bond like volatility. Current Yield = 4.8%.



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

Preferred Shares fell 50% in 2008 given they traditionally have heavy exposure to the banking sector.

PFF Drawdowns



Source: Portfolio Visualizer. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

PFF Sector Breakdown

Sector

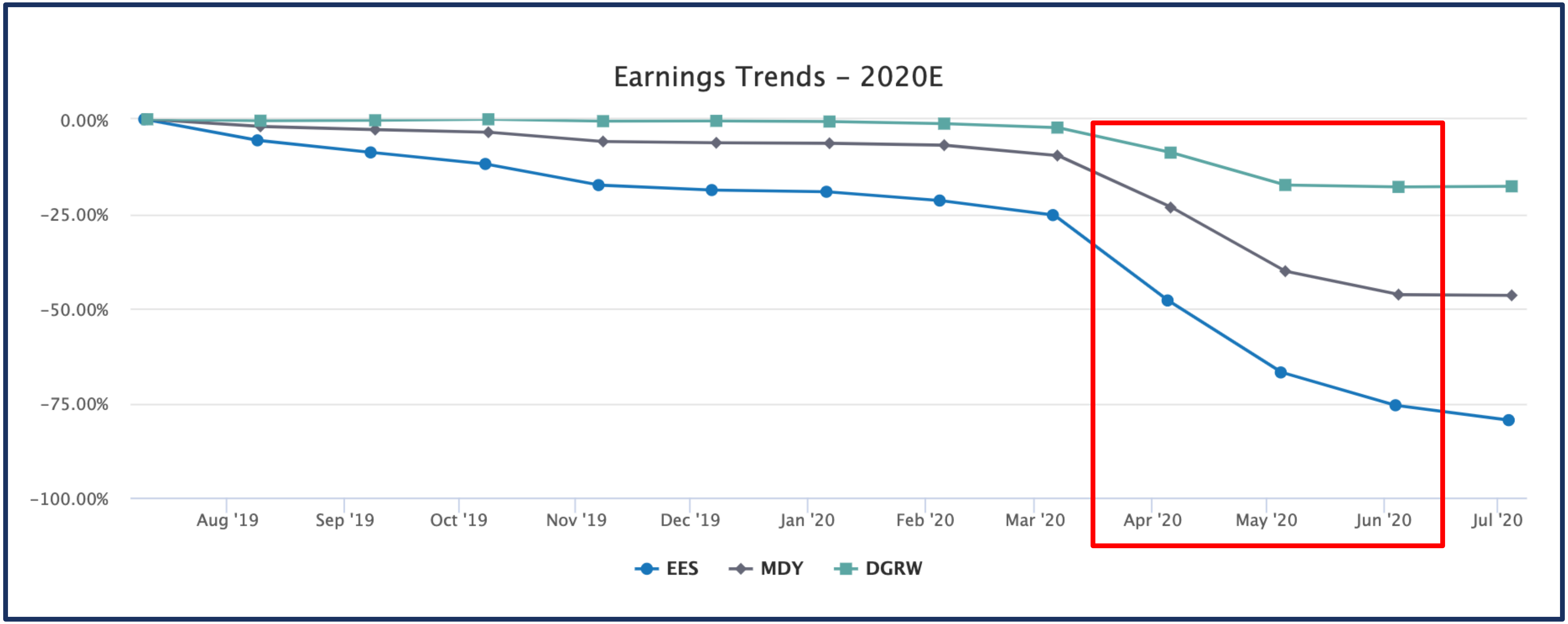
as of Jul 08, 2020 — % of Market Value

Type	Fund
Banks	26.24
Diversified Financials	17.71
Utilities	14.46
Insurance	10.67
Real Estate	10.26
Telecommunications	4.80
Health Care Equipment & Services	3.36
Semiconductors & Semiconductor Equipme...	2.15
Energy	1.89
Capital Goods	1.88
Autos & Components	1.21
Materials	1.14

Source: Blackrock iShares. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

Small Cap (EES) earnings have de-rated to a much larger degree than Mid Caps (MDY) or Large Caps (DGRW).

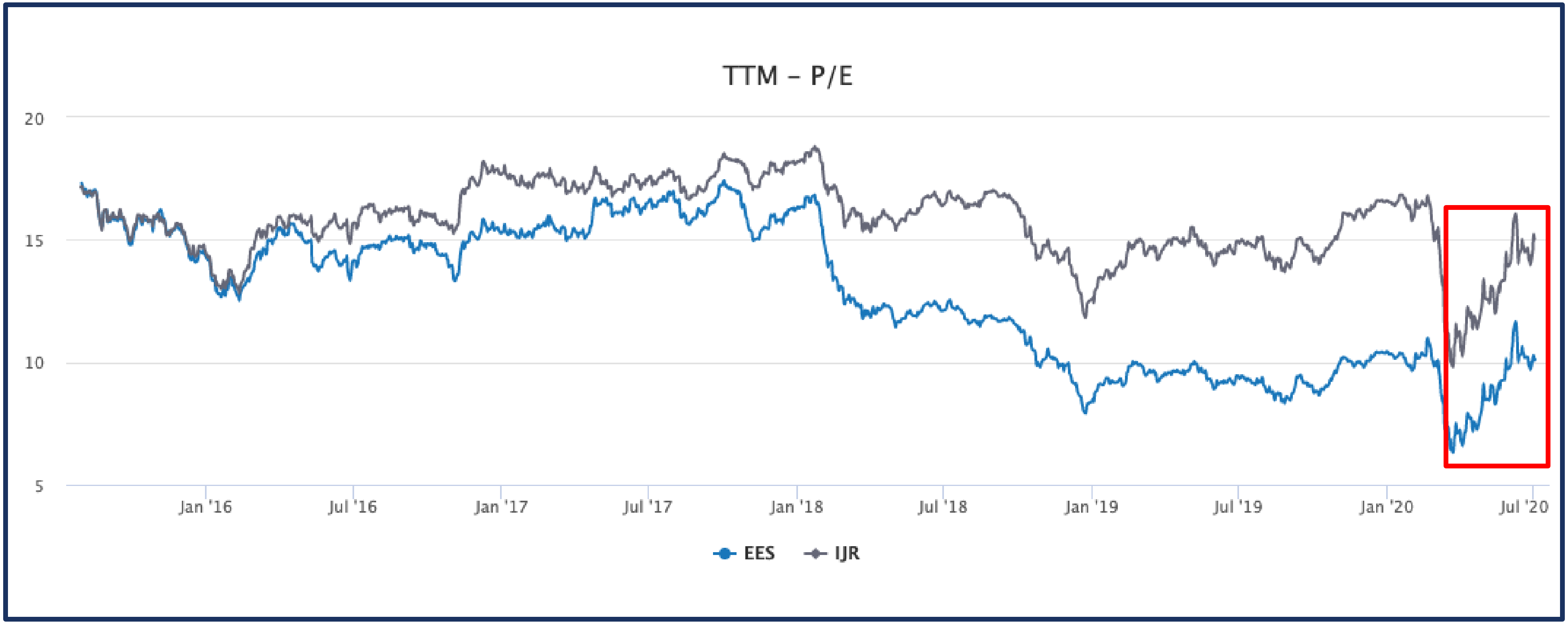
EES, MDY, and DGRW Earnings Trends - 2020E



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

Small Caps have more operating leverage to the local economy. Given their earnings were de-rated more than Large Caps, we see potential for a greater rebound. EES has a significantly lower valuation compared to IJR & higher EPS growth.

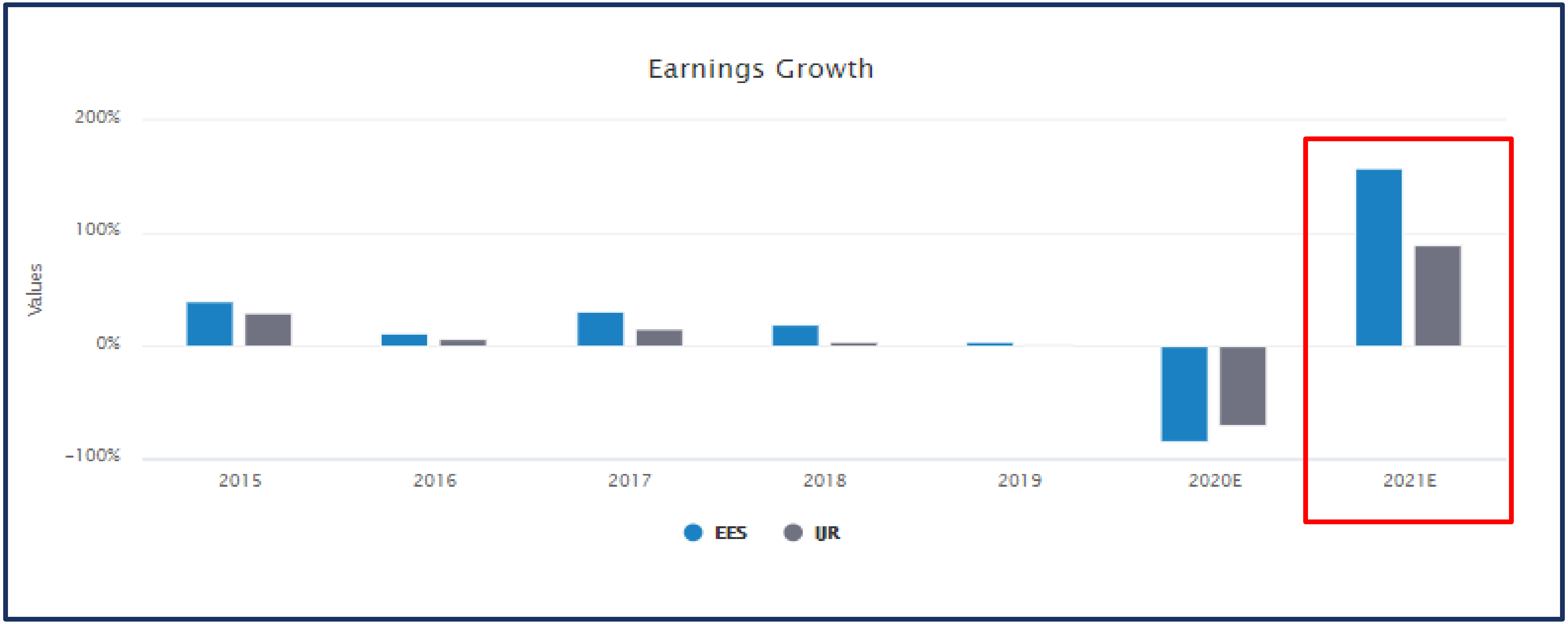
EES and IJR Valuations



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

As mentioned, EES has higher EPS growth than IJR.

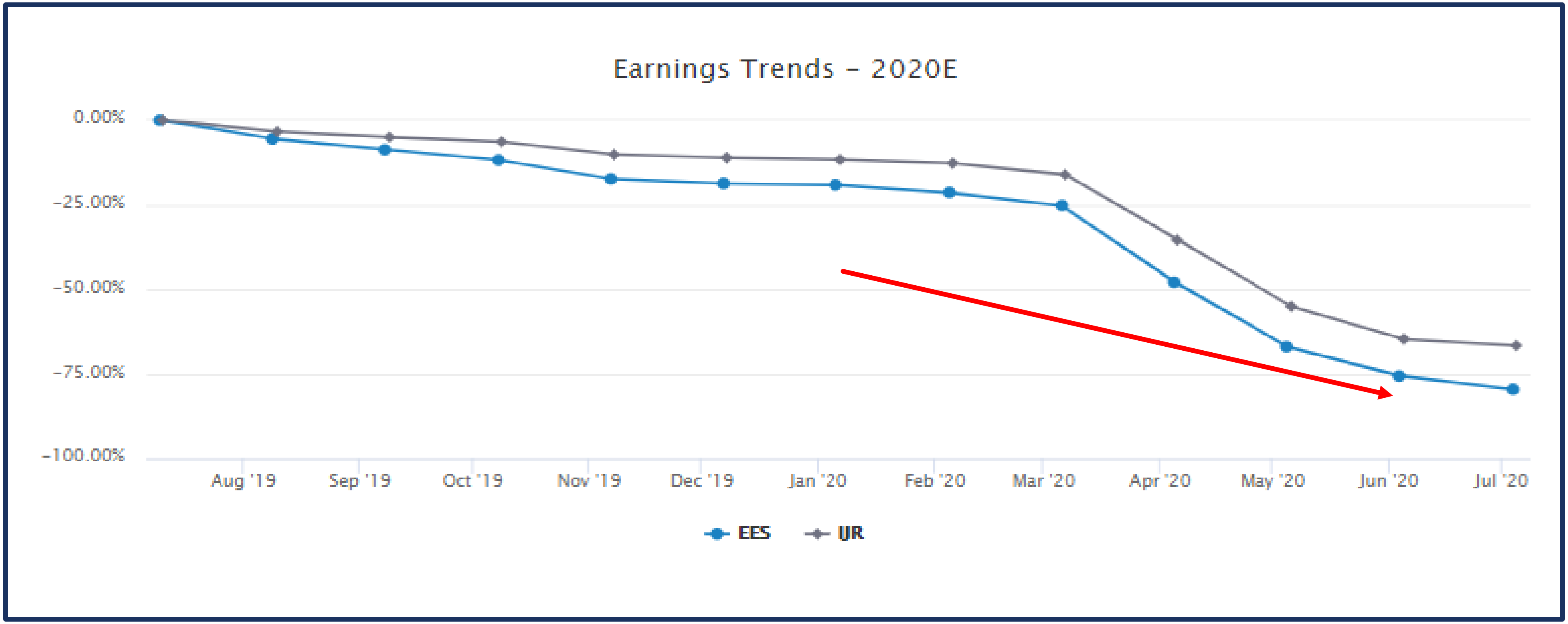
EES and IJR EPS



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

EES earnings were de-rated more so than IJR. Greater rebound ahead?

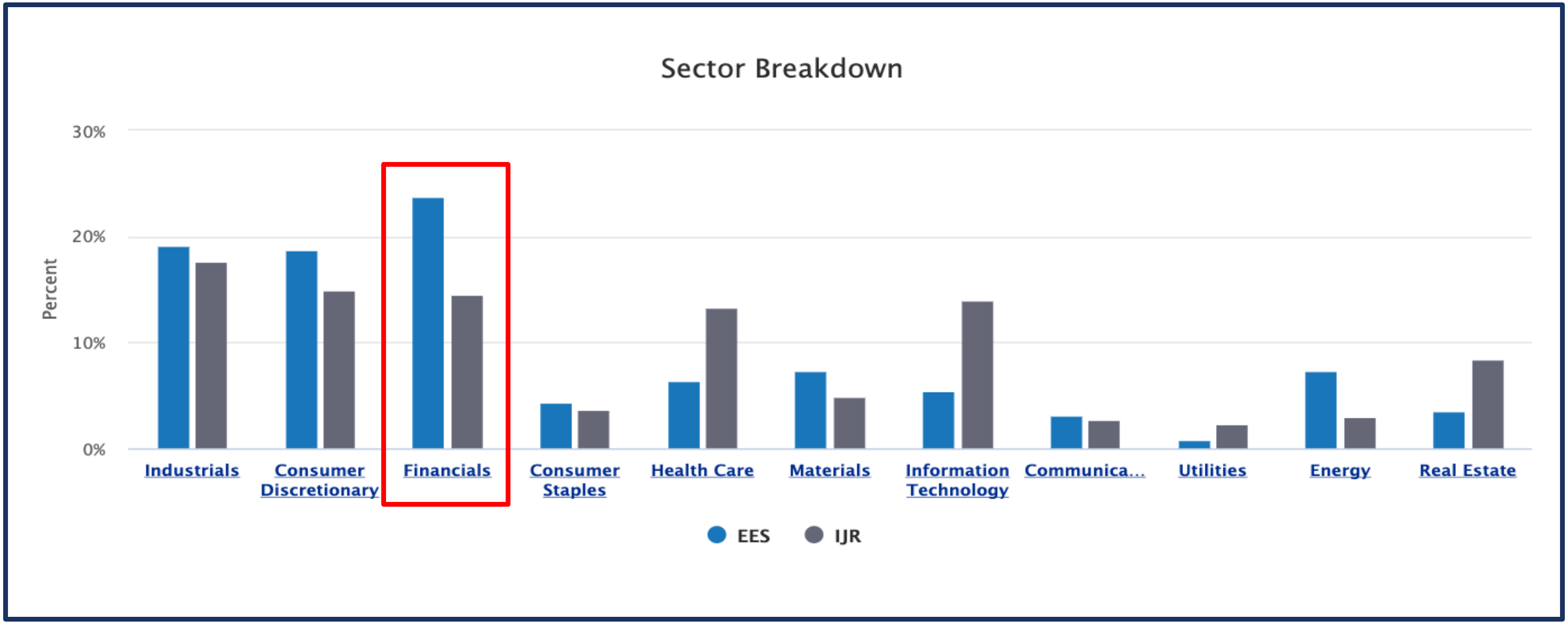
EES and IJR Earnings Trends - 2020E



Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

EES has more exposure to Small Cap Financials (more operating leverage to the US economy).

EES and IJR Sector Breakdown

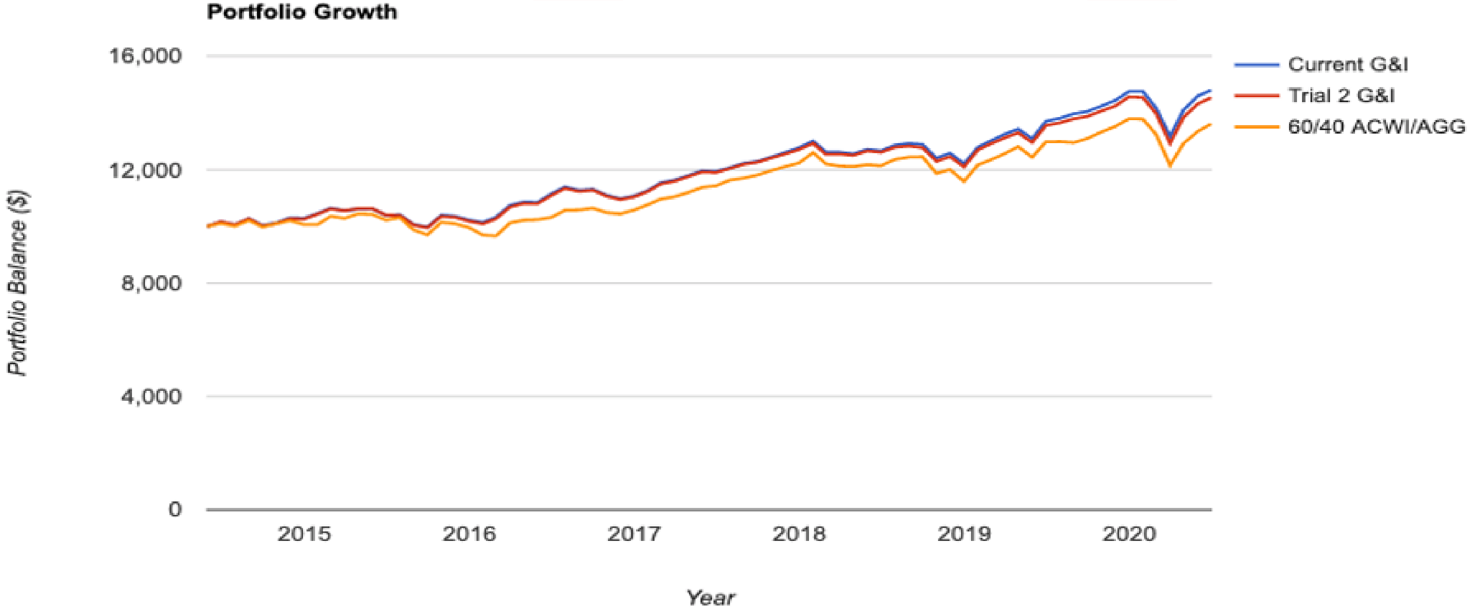


Source: ETFAction. Data accessed by Astoria Portfolio Advisors on July 9, 2020.

Most of our aggregate portfolio risk is largely intact compared to our model. Past performance is not indicative of future results.

Portfolio Returns

Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio	US Mkt Correlation
Current G&I	$10,000	$14,801	6.66%	7.54%	20.81%	-4.44%	-10.73%	0.77	1.20	0.89
Trial 2 G&I	$10,000	$14,536	6.34%	7.58%	20.34%	-4.81%	-11.22%	0.73	1.11	0.89
60/40 ACWI/AGG	$10,000	$13,614	5.20%	8.07%	18.99%	-5.29%	-11.87%	0.55	0.80	0.95



Source: Portfolio Visualizer. Data accessed by Astoria Portfolio Advisors on July 7, 2020. Past performance is not indicative of future results. We are using the current constituents of our old and new Growth & Income model and performing a historical backtest. Past performance is not indicative of future results. In the above tables, Current = pre-rebalance model, New = pro forma model, and 60/40 ACWI/AGG = 60% ACWI / 40% AGG Benchmark.

PE multiples are on the high side. However, with Fed Funds Rate anchored at 0%, we believe there is a new upper bound for PE ratios.

Astoria's Dynamic Growth & Income Portfolio vs. 60% ACWI / 40% AGG Benchmark

Valuation multiples

Price/Earnings	18.62	Price/Earnings	19.57
Price/Book	2.89	Price/Book	2.22
Price/Sales	1.77	Price/Sales	1.66
Price/Cash flow	10.93	Price/Cash flow	11.38

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

We maintain our higher quality (higher ROE / ROA) and remain below Duration vs. benchmark.

Astoria's Dynamic Growth & Income Portfolio vs. 60% ACWI / 40% AGG Benchmark

Profitability

Net margin	16.62%	Net margin	15.75%
ROE	24.92%	ROE	21.09%
ROA	9.39%	ROA	7.53%
Debt/Capital	37.40	Debt/Capital	39.70

Interest rate risk

Average effective maturity	8.22	Average effective maturity	8.89
Average effective duration	6.10	Average effective duration	6.94
Average weighted coupon	3.09%	Average weighted coupon	2.62%

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

Post rebalance, we are still OW the US but we narrowed our large UW to Europe. We maintain a strategic OW to Asia.

Astoria's Dynamic Growth & Income Model vs. 60% ACWI / 40% AGG Benchmark

Americas	**59.22%**	**Americas**	**60.60%**
North America	57.96%	North America	59.53%
Latin America	1.26%	Latin America	1.07%
Greater Europe	**18.39%**	**Greater Europe**	**19.34%**
United Kingdom	4.11%	United Kingdom	4.34%
Europe-Developed	12.62%	Europe-Developed	13.30%
Europe-Emerging	0.86%	Europe-Emerging	0.58%
Africa/Middle East	0.80%	Africa/Middle East	1.12%
Greater Asia	**22.39%**	**Greater Asia**	**20.06%**
Japan	5.61%	Japan	6.91%
Australasia	1.70%	Australasia	1.94%
Asia-Developed	3.42%	Asia-Developed	4.28%
Asia-Emerging	11.66%	Asia-Emerging	6.93%

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

Sector Comparison

Astoria's Dynamic Growth & Income Model vs. 60% ACWI / 40% AGG Benchmark

Sensitive	**39.57%**	**Sensitive**	**41.84%**
Commun Svs	8.13%	Commun Svs	10.05%
Energy	2.27%	Energy	3.61%
Industrials	11.72%	Industrials	9.34%
Technology	17.45%	Technology	18.84%
Cyclical	**32.12%**	**Cyclical**	**33.51%**
Basic Matls	9.59%	Basic Matls	4.44%
Consumer Cyc	9.98%	Consumer Cyc	11.01%
Financial Svs	9.32%	Financial Svs	15.01%
Real Estate	3.23%	Real Estate	3.05%
Defensive	**28.31%**	**Defensive**	**24.65%**
Consumer Def	11.75%	Consumer Def	8.38%
Healthcare	13.62%	Healthcare	13.07%
Utilities	2.94%	Utilities	3.20%

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

We remain UW Treasuries. Yields are low with little room to decline further and our view is that we do not go into negative rate territory. We remain OW Corp & Securitized debt.

Astoria's Dynamic Growth & Income Model vs. 60% ACWI / 40% AGG Benchmark

Fixed income sectors

Type		Type	
Government	29.60%	Government	60.09%
Municipal	0.25%	Municipal	0.30%
Corporate	43.18%	Corporate	20.09%
Securitized	22.95%	Securitized	13.87%
Cash & Equivalents	4.03%	Cash & Equivalents	5.65%
Derivative	0.00%	Derivative	0.00%

Maturity breakdown

Effective maturity	Portfolio	Effective maturity	Portfolio
1-3	16.04%	1-3	18.90%
3-5	17.84%	3-5	17.24%
5-7	9.34%	5-7	11.37%
7-10	10.03%	7-10	13.56%
10-15	4.54%	10-15	7.39%
15-20	6.00%	15-20	6.04%
20-30	32.44%	20-30	22.74%
>30	3.77%	>30	2.75%

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

We still maintain a higher quality bond allocation.

Astoria's Dynamic Growth & Income Model vs. 60% ACWI / 40% AGG Benchmark

Credit quality breakdown

Credit quality		Credit quality	
AAA	56.69%	AAA	45.58%
AA	5.11%	AA	15.03%
A	23.96%	A	18.68%
BBB	14.10%	BBB	20.69%
BB	0.13%	BB	0.02%
B	0.00%	B	0.00%
Below B	0.00%	Below B	0.00%
NR/NA	0.01%	NR/NA	0.00%

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020.

Astoria's Dynamic Growth & Income Model factor loadings did not significantly change with our recent rebalance.

Astoria's Dynamic Growth & Income Model vs. 60% ACWI / 40% AGG Benchmark

Current Model Equity + Alt Factor Loadings	
Market (Rm-Rf)	0.75
Size (SMB)	-0.13
Value (HML)	-0.13
Prof (RMW)	0.29
Invest (CMA)	0.02

New Model Equity + Alt Factor Loadings	
Market (Rm-Rf)	0.74
Size (SMB)	-0.12
Value (HML)	-0.12
Prof (RMW)	0.31
Invest (CMA)	-0.01

Current Model Fixed Income Factor Loadings	
Intermed Term Rate Risk (ITRM)	0.64
Long Term Rate Risk (LTRM)	0.07
Credit Risk (CDT)	0.21
High Yield Credit Risk (HY)	0.07

New Model Fixed Income Factor Loadings	
Intermed Term Rate Risk (ITRM)	0.58
Long Term Rate Risk (LTRM)	0.07
Credit Risk (CDT)	0.24
High Yield Credit Risk (HY)	0.11

Source: Portfolio Visualizer. Data accessed by Astoria Portfolio Advisors on July 7, 2020. In the above tables, Current = pre-rebalance model and New = pro forma model.

Old Portfolio Construction Tilts: OW US, UW Europe, OW EM Asia, UW Government & Munis, OW Corporates & Securitized, and UW Duration

Astoria's Pre-Rebalance Core Risk Based Model Portfolio Characteristics

Model	Country/Region Tilts (bps)				US Factor Exposure (bps)		Fixed Income Tilts (bps)				
	North America	Europe	Greater Asia	Asia EM	Value	Growth	Government	Municipal	Corporate	Securitized	Duration
Dynamic Aggressive Model	351	-342	-9	399	94	-717	-2950	-5	2160	949	-0.92
Dynamic Growth Model	374	-331	-43	361	113	-560	-3133	-5	2522	791	-0.74
Multi-Asset Risk Strategy	917	-908	-35	555	529	-372	-3695	-1	2211	1626	-0.71
Dynamic Growth & Income Model	399	-278	-121	258	112	-485	-3000	-4	2273	894	-0.85
Dynamic Conservative Model	429	-302	-127	188	-11	-444	-3023	-4	2328	867	-0.81
Risk Managed Dynamic Income Model	335	-299	-36	250	131	-197	-3002	-4	2284	888	-0.83

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 5, 2020. All data shown is expressed in basis points (bps) aside from Duration.

New Portfolio Construction Tilts: Marginally UW US & Europe and we remain strategically OW Asia. In fixed income, no major changes from our old portfolios.

Astoria's Pro Forma Core Risk Based Model Portfolio Characteristics

Model	Country/Region Tilts (bps)				US Factor Exposure (bps)		Fixed Income Tilts (bps)				
	North America	Europe	Greater Asia	Asia EM	Value	Growth	Government	Municipal	Corporate	Securitized	Duration
Dynamic Aggressive Model	-164	-95	240	488	-85	-949	-2827	-9	3289	-199	-0.5
Dynamic Growth Model	-167	-59	211	451	-64	-826	-3279	-8	2733	749	-0.71
Multi-Asset Risk Strategy	-218	-295	480	787	33	-694	-2895	-5	2013	1042	-1.01
Dynamic Growth & Income Model	-124	-103	209	457	-79	-711	-3043	-5	2318	905	-0.84
Dynamic Conservative Model	119	-143	-21	183	-5	-492	-3101	-5	2428	861	-0.8
Risk Managed Dynamic Income Model	-26	-117	87	253	124	-220	-3041	-5	2319	901	-0.83

Source: Vanguard. Data accessed by Astoria Portfolio Advisors on July 7, 2020. All data shown is expressed in basis points (bps) aside from Duration.

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