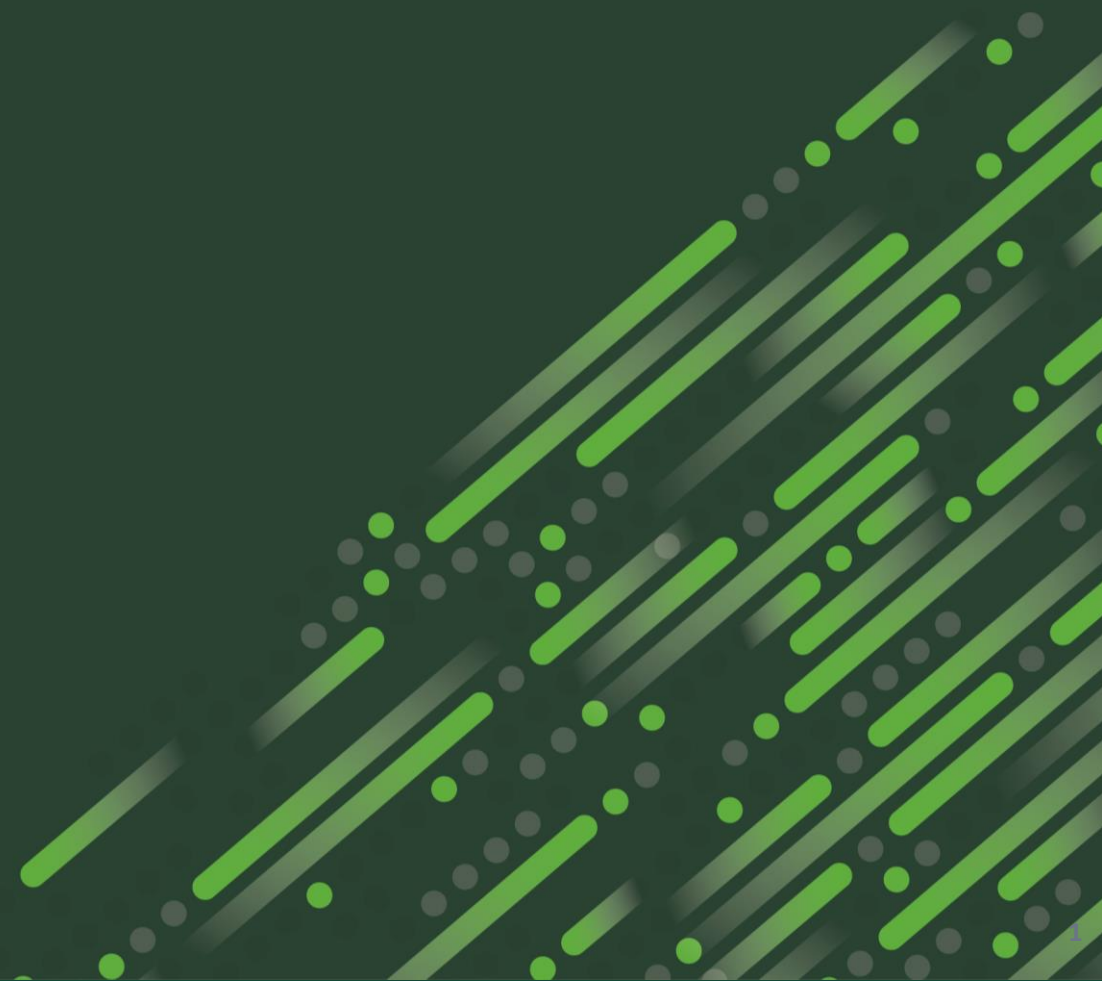




# EPFR Active/Passive Sector Strategy



# Overview



- The EPFR active/passive sector strategy picks sectors within geographic regions.
- The strategy uses monthly sector allocations together with EPFR's fund classifications.
- The strategy is based on the ratio of average allocation of active over passive funds.
- This ratio is summed over a trailing twelve-month period.
- The strategy works well everywhere, but is slightly weaker for Japan sector.
- The top two sectors, in terms of twelve-month active-over-passive allocation, tend to outperform the bottom two sectors by over 5% per year.



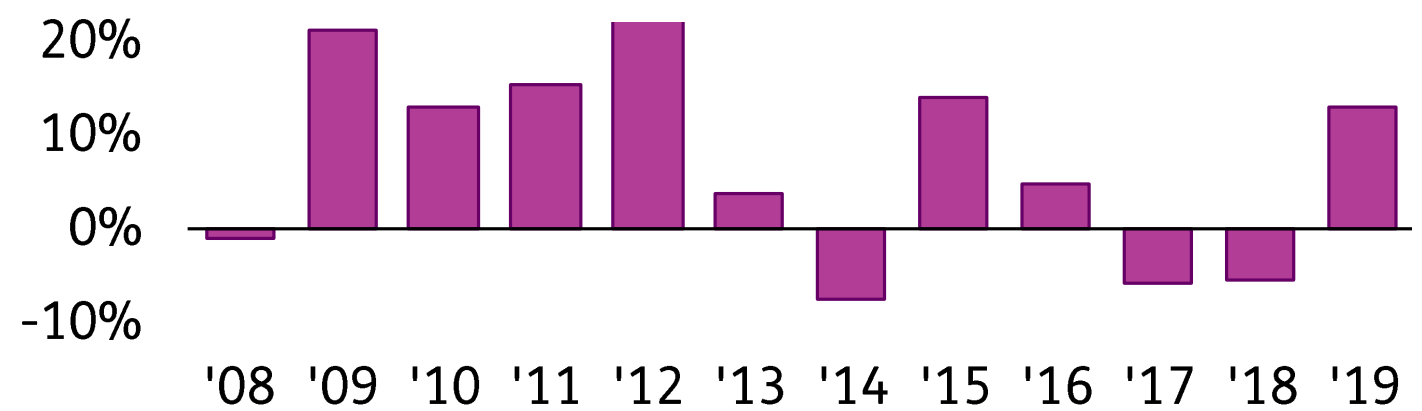
# Performance (monthly holding period)

## Average monthly return (annualized)

Region	Q <sub>1</sub> ex Q <sub>5</sub>		Return over equal-weight regional sector basket				
	Sharpe	Return	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>	Q <sub>5</sub>
EM	0.40	<b>3.7%</b>	2.1%	0.8%	-1.7%	-0.2%	-1.6%
Japan	0.16	<b>2.7%</b>	0.3%	-1.9%	1.8%	2.2%	-2.4%
UK	0.43	<b>7.8%</b>	4.2%	3.3%	-0.5%	-3.5%	-3.6%
Eurozone*	0.50	<b>6.5%</b>	3.2%	2.3%	-0.5%	-1.5%	-3.4%
US	0.37	<b>5.3%</b>	3.7%	1.0%	-2.1%	-1.3%	-1.6%

\* MSCI EMU countries

## Total return by calendar year (top over bottom fifth of Eurozone sectors)



# Performance (longer holding periods)



		Q <sub>1</sub> ex Q <sub>5</sub>		Return over equal-weight regional sector basket				
Hold Period		Sharpe	Return	Q <sub>1</sub>	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>	Q <sub>5</sub>
EM	Quarterly	0.45	<b>4.1%</b>	2.6%	1.3%	-2.1%	-0.7%	-1.5%
	Semi-annual	0.49	<b>4.5%</b>	2.9%	1.2%	-1.7%	-1.3%	-1.6%
	Annual	0.47	<b>4.3%</b>	2.1%	2.1%	-0.2%	-2.4%	-2.2%
JP	Quarterly	0.14	<b>2.2%</b>	-0.1%	-1.2%	1.4%	2.2%	-2.4%
	Semi-annual	0.17	<b>2.8%</b>	0.2%	-1.8%	1.6%	2.5%	-2.6%
	Annual	0.21	<b>3.1%</b>	0.1%	-0.5%	0.8%	2.8%	-3.1%
UK	Quarterly	0.49	<b>8.7%</b>	4.8%	2.6%	-0.3%	-3.2%	-3.9%
	Semi-annual	0.52	<b>8.5%</b>	5.3%	1.2%	0.0%	-3.5%	-3.2%
	Annual	0.70	<b>9.1%</b>	5.6%	0.5%	0.1%	-2.9%	-3.5%
EuroZ	Quarterly	0.48	<b>6.1%</b>	3.4%	1.9%	0.1%	-2.5%	-2.7%
	Semi-annual	0.40	<b>5.3%</b>	3.4%	1.9%	0.2%	-3.3%	-1.9%
	Annual	0.36	<b>5.4%</b>	3.6%	2.1%	0.5%	-4.3%	-1.8%

# Calculation of the Indicator



- First subset to funds with a geographic mandate confined to the region of interest (e.g. for U.S. sector, we look only at funds that have a mandate to invest in the United States).
- For each sector, compute equally-weighted average allocations to that sector using funds we have subset to.
- These equal-weight averages are computed for both active and passive funds.
- Then express the average allocation of active funds as a percentage of that over passive funds.
- Sum this ratio over the trailing twelve months to get the final Active/Passive indicator.

# Strategy Implementation



- Rank sectors into five equal baskets based on the Active/Passive indicator.
- Go long the top two and short the bottom two sectors.
- Rebalance monthly, quarterly, semi-annually or annually as desired.

## Coverage

### AUM (\$BB) of Equity funds reporting sector allocations, by region

	Emerging Markets	Japan	United Kingdom	Eurozone	United States
2006	113	-	1	24	-
2007	141	-	5	42	-
2008	128	-	4	25	-
2009	175	11	32	23	26
2010	256	11	34	23	28
2011	307	15	53	54	111
2012	249	12	50	52	129
2013	316	59	81	103	1,158
2014	438	113	103	177	1,546
2015	408	185	105	220	1,788
2016	416	186	91	182	2,332
2017	584	260	105	257	3,134
2018	687	317	156	276	3,878
2019	746	364	127	241	4,624
2020	738	406	103	219	5,165

\* At the end of July of each year