

ETF Insight Series

Sector Investing? Don't Go With The Flow!

Executive Summary

- ❑ Sector ETFs have become the preferred vehicle to implement sector allocation decisions given their transparency, minimum tracking error, low fees, and the ability to trade like an individual stock.
- ❑ Investors may employ sector ETFs to gain exposure to specific sector/industry themes or to position their portfolio according to their view of the business cycle.
- ❑ Intuitively, the magnitude and direction of ETF fund flows measures investors' sentiment and their views of future relative performance of sectors.
- ❑ If fund flows accurately predict sector returns, we should expect a positive relationship between current flows and future excess returns.
- ❑ On the contrary, Alpha Quant Models (AQM) found that ETFs that experience strong recent inflows (outflows) exhibit negative (positive) future excess returns.
- ❑ Disciplined investors can exploit this naïve fund flows-chasing behavior with a contrarian strategy that systematically buys the sector ETFs with the stronger outflows and sells the ones with the stronger inflows.



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Introduction

Sector ETFs have become the preferred vehicle to implement sector allocation decisions given their transparency, minimum tracking error, low fees, and the ability to trade like an individual stock.

For example, the Sector SPDRs ETFs aim to replicate the constituents and performance of the eleven economic sectors comprising the S&P. These ETFs were launched in 1999, are well-established in the investment community, are quite liquid, charge a reasonable fee of 9 basis points (0.09%), and have significant assets under management.

Figure 1. SPDRS Sector ETFs (in \$Millions)

Ticker	Name	Volume	AUM
XLF	Financial Select Sector SPDR Fund	2,051	38,499
XLK	Technology Select Sector SPDR Fund	1,209	37,549
XLV	Health Care Select Sector SPDR Fund	1,071	24,556
XLE	Energy Select Sector SPDR Fund	1,688	22,599
XLI	Industrial Select Sector SPDR Fund	1,232	20,172
XLY	Consumer Discretionary Select Sector SPDR Fund	710	19,122
XLC	Communication Services Select Sector SPDR Fund	306	12,529
XLU	Utilities Select Sector SPDR Fund	797	11,885
XLP	Consumer Staples Select Sector SPDR Fund	842	10,983
XLB	Materials Select Sector SPDR Fund	563	6,963
XLRE	Real Estate Select Sector SPDR Fund	181	2,518

Source: FactSet, As of March 31, 2021

Investors may employ sector ETFs to express active views in relation to the economic backdrop or to invest in specific sector trends.

Figure 2 reports the cross-sector correlation of quarterly ETF excess flows. The wide range of positive and negative coefficients indicates that investors employ these ETFs in an active fashion.

Figure 2. Correlation of Excess Flows¹

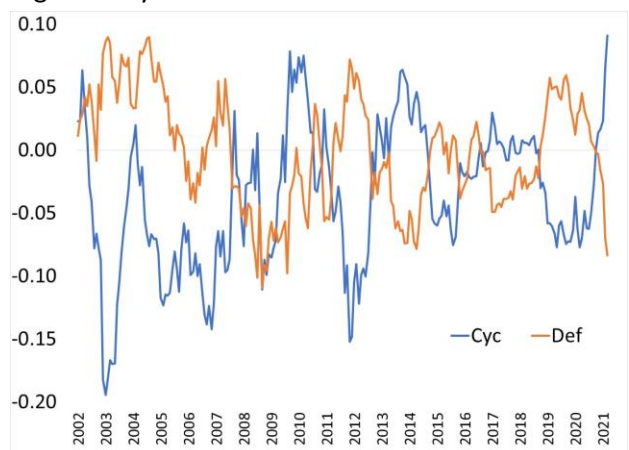
	XLU	XLK	XLI	XLF	XLE	XLY	XLP	XLV	XLB
XLU	1								
XLK	-0.06	1							
XLI	0.06	0.03	1						
XLF	-0.18	-0.34	-0.25	1					
XLE	-0.14	-0.26	-0.06	-0.27	1				
XLY	0.01	0.00	0.23	-0.11	-0.08	1			
XLP	0.05	0.07	-0.02	-0.28	-0.05	0.00	1		
XLV	0.12	0.09	0.16	-0.19	-0.16	0.09	0.30	1	
XLB	-0.08	-0.05	0.20	-0.26	0.00	-0.04	-0.01	0.06	1

Source: FactSet, December 1999 - March 2021

Perhaps the most valuable use of a line-up of sector ETFs covering each economic sector and representing the market capitalization of the S&P 500 is for Tactical Sector Allocation (TSA) or for a Sector Rotation Strategy (SRS).

At the core of TSA is the belief that investors can out-perform the overall market (i.e., S&P 500 Index) by tilting the portfolio's sector weights in relation to their expectations of sectors' future performance. While TSA implies deviations from a "strategic" or core allocation, a Sector Rotation Strategy would not necessarily anchor the portfolio's sector weights to a benchmark, but rather "rotate" in and out of certain sectors. Thus, SRS takes strong bets on individual sectors and is much less concerned with tracking error. Figure 3 plots the aggregate twelve month trailing flows for cyclical and defensive sector ETFs.² A significantly negative correlation of -0.40 may be indicative that investors employ these ETFs to position their portfolios in relation to the business cycle.

Figure 3. Cyclical and Defensive Sector ETF Flows



Source: FactSet, December 1999 - March 2021

Regardless of which strategy investors adopt, if the direction and magnitude of fund flows accurately predict sector returns, we should expect a positive relationship between current flows and future excess returns.

In the next section we present the empirical results of the relationship between current flows and future returns for the Sector SPDRs ETFs.

¹ Excess Flows = SPDR ETF Flows / SPDR ETF AUM – (SUM of All SPDRs ETF Flows / SUM of Total SPDR ETF AUM)

² Cyclical: XLK, XLF, XLB, XLY, XLI and XLE. Defensive: XLV, XLP, and XLU.

Data, Analysis and Results

Our universe is composed of the nine Sector SPDR ETFs which have been in existence over the entire period from December 1999 through March 2021.³ Our measure of ETF flow intensity is the excess quarterly flow:

$$Excess\ Flow = \left(\frac{F_{i,t}}{AUM_{i,t}} - \frac{\sum_i F_{i,t}}{\sum_i AUM_{i,t}} \right)$$

Where $F_{i,t}$ is the dollar flow into ETF i at time t and AUM is the assets under management of ETF i at time t .

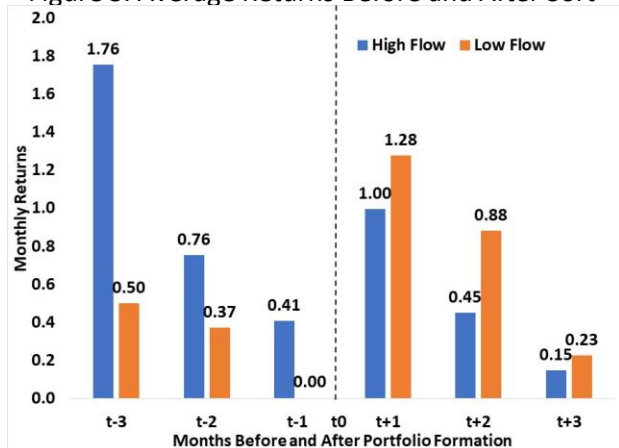
Excess flow in ETF i is defined as

$F_{i,t} / AUM_{i,t} - \sum F_{i,t} / \sum AUM_{i,t}$: the flow into ETF i as a percentage of ETF i AUM, less the current mean flow based on total ETF flow relative to total AUM.

Event Study

Over the 2000-2020 period, on a quarterly basis, at time t_0 , we calculate the excess ETF flows and form two portfolios: “High Flow” which contains the top three ETFs by excess flow and “Low Flow” made of the bottom three ETFs by excess flow. We track the average monthly returns before and after portfolio formation time t_0 .

Figure 3. Average Returns Before and After Sort



Source: FactSet, Alpha Quant Models

Figure 3 shows that the “High Flow” ETFs outperform the “Low Flow” ETFs in the three months preceding portfolio formation. This seems to indicate that past performance is a driver of current flows. However, in the three months following portfolio formation, the “High

Flow” ETFs underperform the “Low Flow” ETFs.

This reversal effect appears to be quite pervasive according to the monthly serial correlation analysis of excess flows reported in Figure 4.

Figure 4. Autocorrelation of Monthly ETF Flows

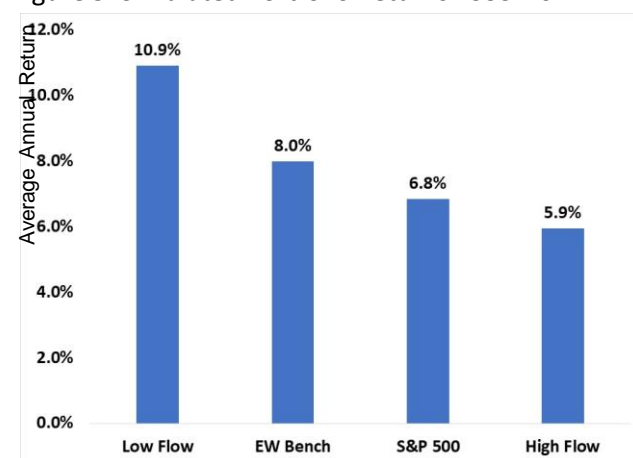
ETF	1 month lag	2 month lag	3 month lag
XLE	-0.269	0.161	0.013
XLF	-0.263	-0.068	0.098
XLK	-0.199	0.019	0.065
XLU	-0.174	-0.025	0.064
XLY	-0.142	-0.245	0.013
XLI	-0.136	-0.062	-0.003
XLV	-0.103	0.020	-0.190
XLP	-0.083	-0.025	0.001
XLB	-0.038	-0.106	0.011
Average	-0.156	-0.037	0.008

Source: FactSet, Alpha Quant Models. Time Period: 2000-2020.

Portfolio Strategy Simulation

Figure 5 reports the compound annual growth rate of a simulated strategy that invests in the “High Flow” ETFs and the “Low Flow” ETF portfolios over the 1999-2021 period. The portfolios are rebalanced at the end of each quarter. Transaction costs are not considered.

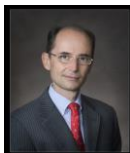
Figure 5. Simulated Portfolio Returns 1999-2021



Source: FactSet, Alpha Quant Models

The “Low Flow” ETF portfolio outperforms the “High Flow” ETF portfolio by about 500 basis points per year. It also significantly outperforms both the S&P 500 and an equal-weighted benchmark comprised of the nine sector ETFs.

³ The Communication (XLC) and Real Estate (XLRE) ETFs are excluded as they were introduced more recently. The study focuses solely on the nine sector ETFs which have been consistently in existence over the entire period of 1999-2021.



Massimo Santicchia is a Co-Founder and Managing Member of Alpha Quant Models LLC. Massimo has over 20 years of investment experience including: CIO at Alpha Quant Advisors, CIO at Cypress Trust Company, and VP of Investment Strategy at S&P Investment Advisory Services LLC. His expertise encompasses fundamental, quantitative analysis, portfolio management and investment strategy development.

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