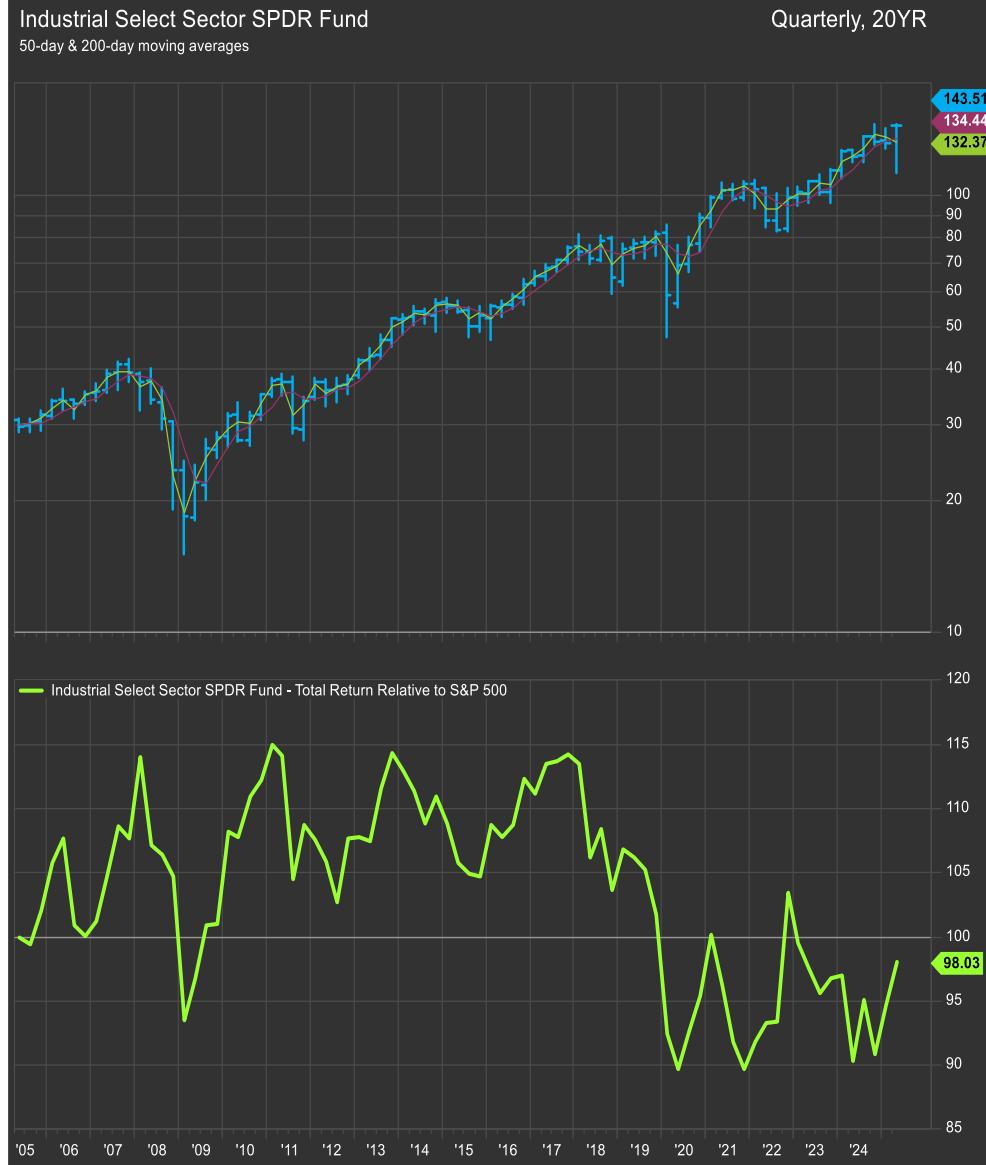


**ETFSector.com**

# Research Study: Intermediate-term Momentum Industrial Sector

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# Momentum Indicator Study Details



## ETFSector.com Intermediate-term Momentum Indicator

### **Construction:**

- Indicator Value =  $(1M \text{ (Trailing) Excess Total Returns} * 0.2) + (3M \text{ Excess Total Returns} * 0.5) + 6M \text{ Excess Total Returns} * 0.3$
- Binning Values by groups of 5
- Averaging coincident 1, 3, 6 and 12-month coincident excess total return vs. reference security by bin

### **Study Securities:**

- Sector Proxy: XLI
- Reference Security: SPY

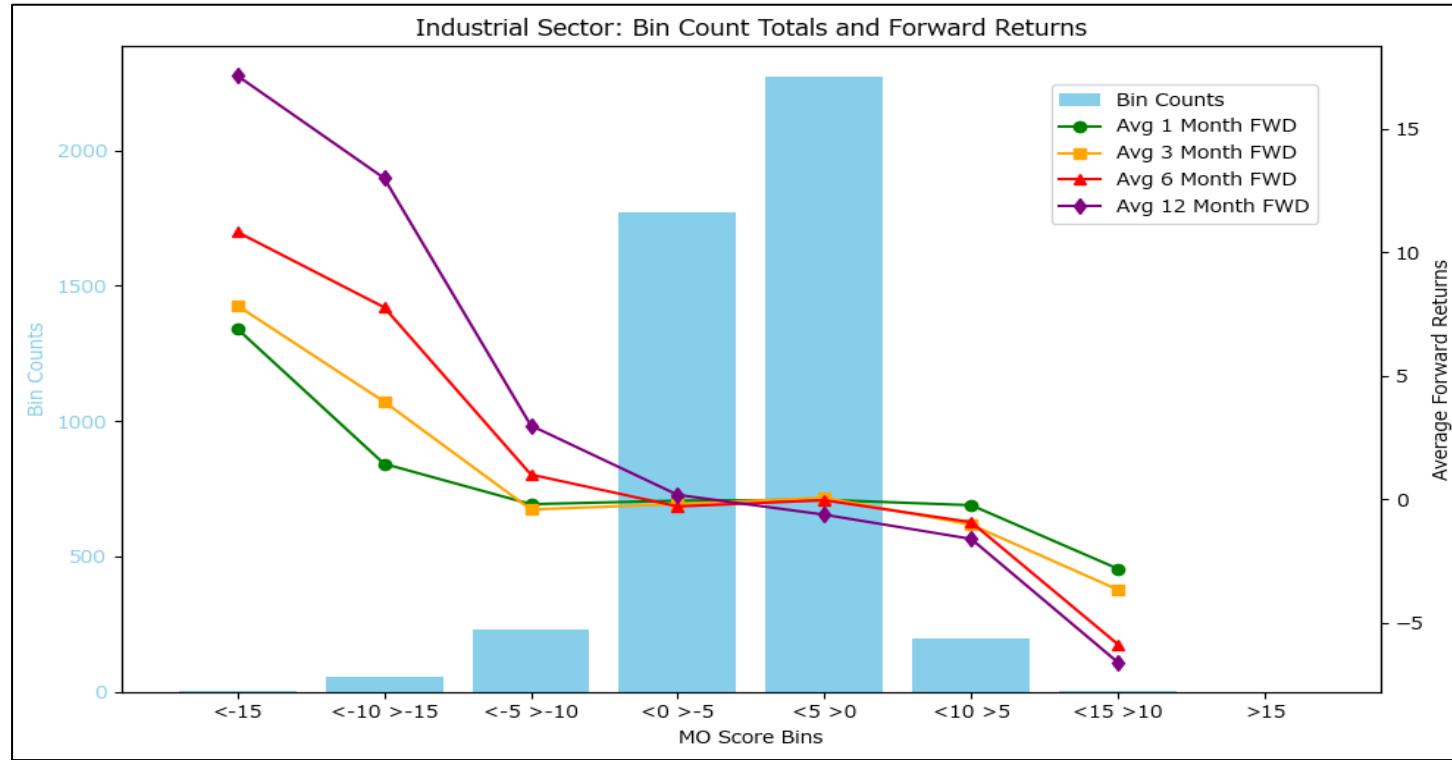
### **Look Back Period:**

- 20 years (Chart)

### **Objective:**

- Insight into the behavior of sector level momentum using a momentum calculation that emphasizes 3-month excess returns
- Identifying historical levels that coincided with positive excess returns

# Momentum Indicator Study: Notable Results

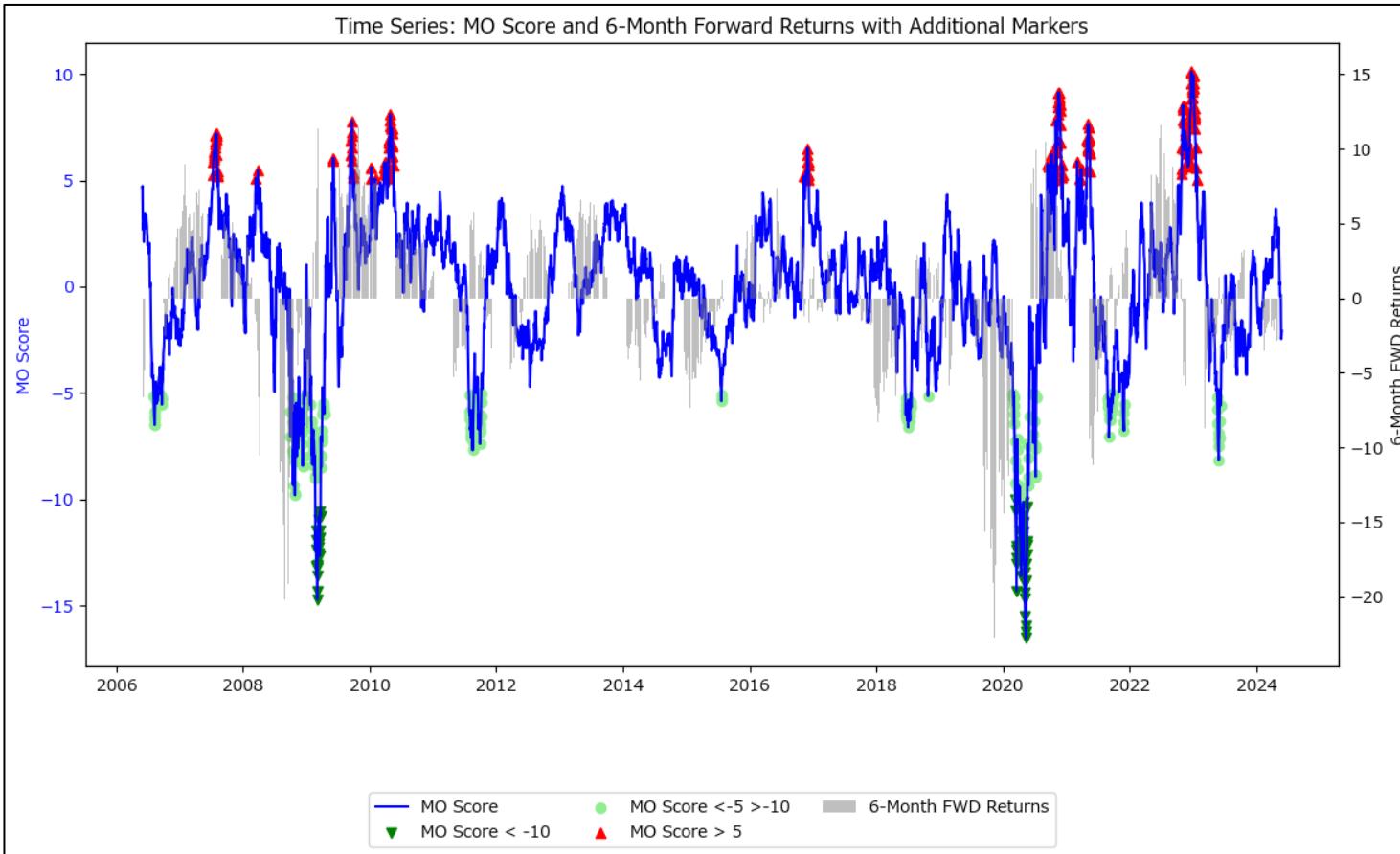


| Bin       | Observations | Avg_1_Month_FWD | Avg_3_Month_FWD | Avg_6_Month_FWD | Avg_12_Month_FWD |
|-----------|--------------|-----------------|-----------------|-----------------|------------------|
| <-15      | 4            | 6.904441386     | 7.843934053     | 10.82678446     | 17.15746067      |
| <-10 >-15 | 57           | 1.435205025     | 3.952353301     | 7.775700711     | 13.0083937       |
| <-5 >-10  | 231          | -0.200251873    | -0.41658546     | 0.999930028     | 2.985820018      |
| <0 >-5    | 1763         | -0.039972969    | -0.183088698    | -0.293811868    | 0.16587805       |
| <5 >0     | 2271         | -0.014486524    | 0.05379166      | -0.050555474    | -0.636824811     |
| <10 >5    | 202          | -0.291372594    | -1.283188892    | -1.149274166    | -1.782480636     |
| <15 >10   | 2            | -2.818381773    | -3.667554677    | -5.881202818    | -6.613541519     |

## Key Takeaways:

- Potential alpha opportunities are highest at extreme low levels
- While extreme low scores have produced high average FWD returns over 1, 3, 6 and 12-month timeframes, the sector is notable for a lack of positive momentum readings with less than 5% of the study readings above the 5 level and only 2 readings above the 10 level
- Scores with Values >-5 coincide with flat to negative forward excess returns on average
- Based on this research the Industrial Sector is on a neutral signal with a Mo Score of 4.68 is approaching a “Sell” Threshold**

# Momentum Indicator Study: Insights & Strategy Tips



## Insights on the Research:

- **Values <-10** coincided with high average excess returns over 1, 3, 6 and 12-month periods
- **Values <-5** were a weaker buy signal generating positive average returns 0-3% above benchmark over 12-months
- **Values >5** coincided with negative excess returns
- Mapping theoretical Mo Score buy and sell signals shows the -10 level (dark green) generates strong signals in infrequent clusters
- An optimized strategy might find a slightly higher level that captures more alpha. If we were to implement a trading strategy around this indicator it would include
  - Identifying the -9 and 4 levels as alerts
  - On the alert we'd use a moving average cross over strategy like a 10-day > 50-day crossover or a trend channel alert to identify potential trend change after the signal
  - Holding period between 1-12 months on buy signals below -10
  - These characteristics would alert you just above (below) the study threshold and enter long on a subsequent rally or positive divergence from the short-term m.a. crossover mechanics

# Momentum Indicator Study: Tactical



## XLI Mo Score approaching Sell Signal level at 5

- **Values <-10** coincided with high average excess returns over 1, 3, 6 and 12-month periods
- **Values <-5** were a weaker buy signal generating positive average returns 0-3% above benchmark over 12-months
- **Values > 5** coincided with negative excess returns
- We use technical analysis to help manage risk
  - Short-term moving average crossover strategies can function as stop losses
  - We like identifying support and resistance levels based on price structure
  - Horizontal support is at \$136
  - Trend Channel Support (for the more risk averse) offers a tighter stop at \$141
  - Our preference is to have looser stops to allow for longer holding periods