



# Technical Analysis and SPDR Sector Returns 2010-2016

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- Study Purpose
  - A large number of Hedge Funds use technical analysis (TA) to produce portfolio alpha. In this study I test two intermediate/long horizon TA metrics to determine if they generate portfolio alpha

- Period of Analysis: 2010-2016

- Test Universe
  - Consumer Discretionary (XLY)
  - Information Technology (XLK)
  - Health Care (XLV)
  - Top 10 stocks by market value

- TA Factor: 200 Day Moving Average

- Factor Decision Rule
  - 1.) Higher weights to stocks,  $P > MA 200$
  - 2.) Higher weights to stocks,  $P < MA 200$

- Factor Model:  $P > MA 200$ 
  - $W_i(t) = P_i(t) / P_i(t) MA 200$
  - $D_i(t) = W_i(t) * 1,000,000$
  - $SHR_i(t) = D_i(t) / P_i(t)$
  - $MV_i(t+1) = SHR_i(t) * P_i(t+1)$
  - $PV(t+1) = \sum mv_i(t+1)$

- Terms
  - $W_{it}$  = stock weight
  - $D_{it}$  = Dollars Invested
  - $SHR_{it}$  = Shares Held
  - $MV$  = Market Value
  - $PV$  = Portfolio Value
  - $l$  = ith Stock
  - $t$  = time 2010-2016

## Conclusion

- Both MA 200 and MA 200 I models outperformed SPY for all sectors
- The XLY sector has the highest alpha
- The MA 200 I outperforms the MA 200 model

Table 1			
Cumulative Returns MA 200			
2010-2016			
Sectors	Model	SPY	Alpha
XLY	462.46	100.58	361.88
XLK	107.93	100.58	7.35
XLV	105.76	100.58	5.18
MA 200 ( $P > MA 200$ )			

Table 2			
Cumulative Returns MA 200 I			
2010-2016			
Sectors	Model	SPY	Alpha
XLY	612.1	100.58	511.52
XLK	125.87	100.58	25.29
XLV	109.98	100.58	9.4
MA 200 I ( $P < MA 200$ )			

Table 3		
TA Model Comparisons		
Cumulative Returns		
2010-2016		
Sectors	MA 200	MA 200 I
XLY	462.1	612.1
XLK	107.93	125.87
XLV	105.76	109.98