

Dynamic Sector Rotation Strategy

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Dynamic Sector Rotation

Strategy Overview: A sector rotation strategy focused on investing in the top sectors and subsectors based on momentum and relative strength. Risk is managed by using stop-losses based on volatility. The portfolio uses ETFs to represent the various sectors and subsectors and can move to 100% cash when appropriate.

Objective: The strategy's objective is to outperform the S&P 500 Momentum Index, while managing risk to lower drawdowns.

Overview

The dynamic sector momentum strategy uses a combination of Momentum, Relative Strength and Risk Management. Below is a brief description of each component and how we utilize them within the strategy.

Momentum

Research on momentum investing has proven time and time again that strategies involving the purchasing of stocks or other securities demonstrating high returns over the past three to twelve months have added alpha over traditional buy-and-hold investment strategies. (Jegadeesh & Titman, 1993)

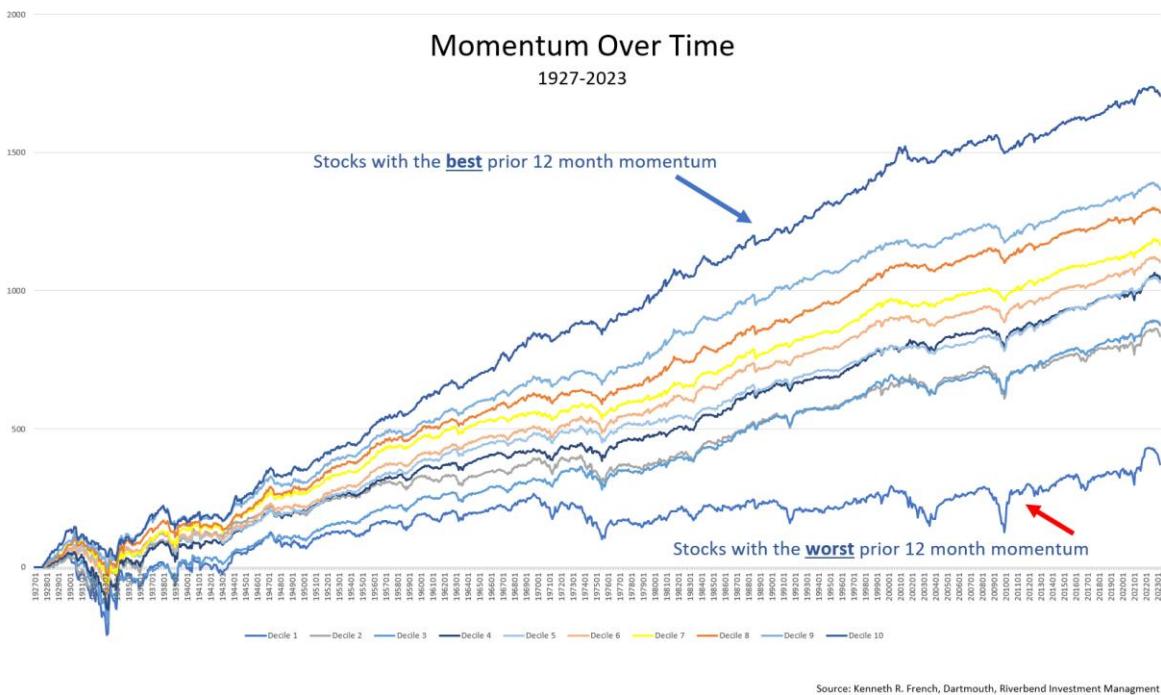
This tactic has been leveraged by both professional investors and individual traders for many years, helping many to consistently outperform the stock market.

What is Momentum Investing?

Momentum investing is a systematic investment approach that capitalizes on the continuance of existing market trends.

This method entails buying securities that have exhibited an upward price trend and selling those with a downward trend. It operates on the assumption that securities that have performed well in the past will continue to excel, and those that have underperformed will continue to do poorly.

The concept of momentum investing is deeply rooted in behavioral finance, attributing its effectiveness to cognitive biases among investors. Investors can be slow to react to new information, leading to trends persisting for longer than traditional financial models might suggest. Likewise, investor sentiment and herd behavior can further perpetuate these trends. (Barberis, Shleifer & Vishny, 1998)



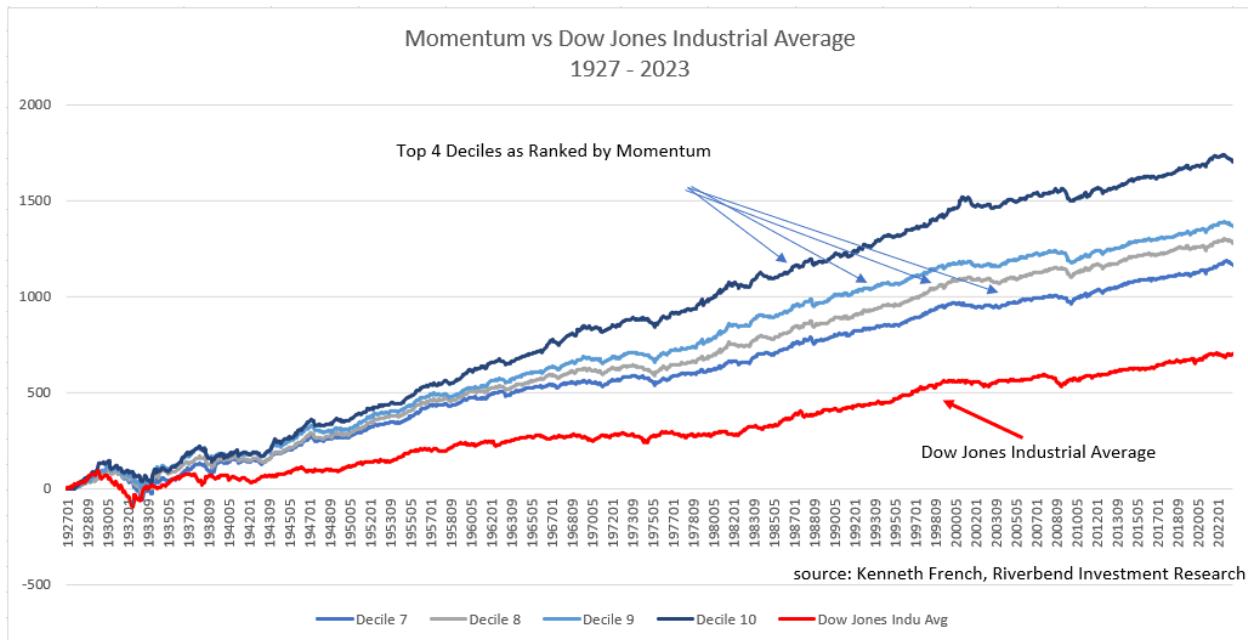
Momentum investing necessitates active monitoring and reevaluation of market trends. Investors must frequently rebalance their portfolios, often on a monthly or quarterly basis, to maintain exposure to securities currently demonstrating strong momentum.

In contrast to ‘buy and hold’ strategies, momentum investing adopts a more dynamic approach, continually adjusting to the ebb and flow of market trends. This strategy can be applied to individual stocks, industry sectors, or even entire markets, and it can be utilized across various asset classes, including stocks, bonds, commodities, and even cryptocurrencies.

How Effective Is It?

Historical data and academic research demonstrate the effectiveness of momentum investing.

For instance, a comprehensive study by Jegadeesh and Titman (1993) found that strategies that bought stocks that had performed well in the past and sold stocks that had performed poorly generated significant positive returns over 3 to 12 month holding periods.



Furthermore, a research paper by Moskowitz, Ooi, and Pedersen (2012) analyzed momentum returns across different asset classes and found consistent momentum premiums.

These researchers also discovered that momentum strategies implemented across various asset classes provided significant diversification benefits.

Asset Class	Annualized Momentum Premium
Equities	7.60%
Bonds	7.00%
Commodities	9.80%
Currencies	8.10%

Table: Momentum Premiums Across Asset Classes (Moskowitz, Ooi, and Pedersen, 2012)

As evidenced by the above table, the momentum premium – the additional return obtained from a momentum strategy compared to a benchmark – is significant across different asset classes.

In the academic world, the pioneering research on momentum was a 1993 study published in the Journal of Finance by Narasimhan Jegadeesh and Sheridan Titman, both at UCLA Anderson at the time.

They documented how strategies of buying recent stock winners and selling recent losers generated significantly higher near-term returns than the U.S. market overall from 1965 to 1989.

The authors established the basic time frame for momentum-investing success as a three-to-12-month window on either side. In other words, a stock's relative performance over the previous three to 12 months typically predicted its relative performance for the following three to 12 months.

They measured various time combinations of prior returns and future returns within those windows and found trading them to be "on average quite profitable" strategies.

For example, a portfolio that selected stocks based on their previous six-month returns, and then held them for six months, generated an extra return of about 1 percent per month above what would have been expected.

Relative Strength ---

Relative Strength is an investment strategy that focuses on the comparative performance of individual securities within a specific market or sector. Unlike momentum investing, which looks at an asset's own historical performance, relative strength aims to identify the strongest performers in relation to their peers.

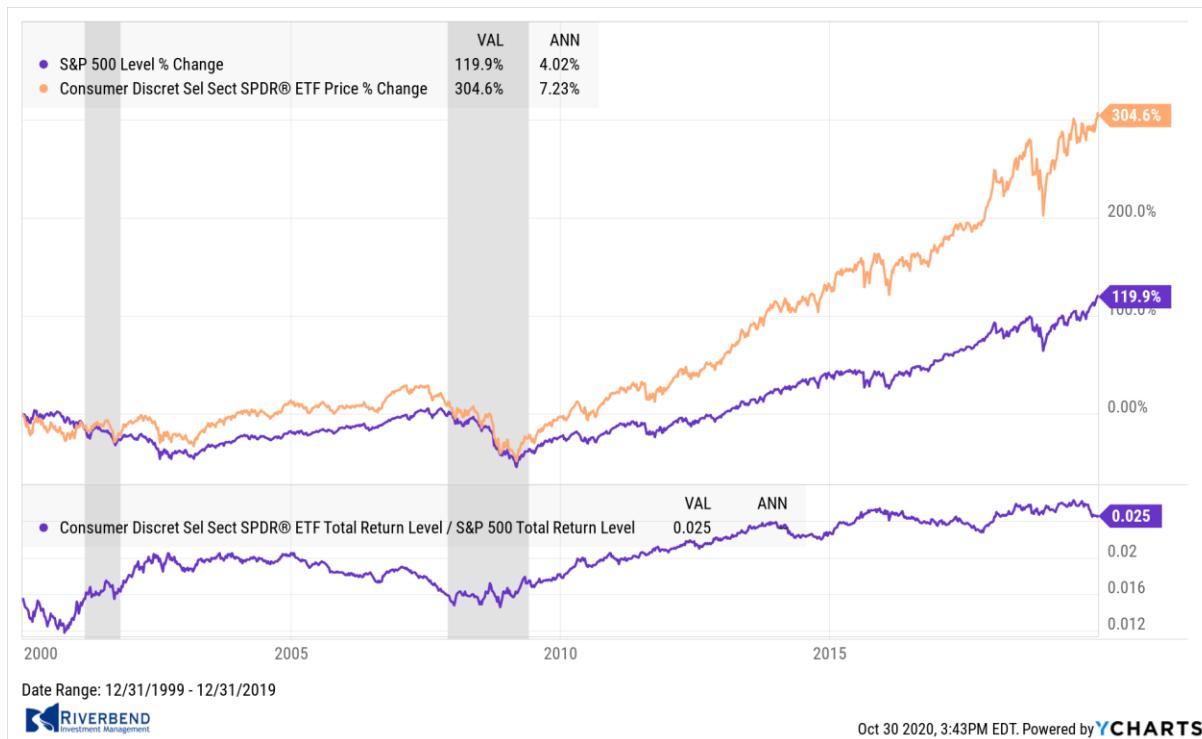
By buying the outperformers and often avoiding or short-selling the underperformers, investors hope to achieve returns that exceed market averages.

How It Works

In the context of relative strength investing, the term is used to explain the comparison of the performance of a variety of assets to each other, often visualized through relative strength charts.

The methodology of Relative Strength Analysis involves a sequence of well-defined actions:

- Selection of Securities for Comparison:** Initially, the focus is on pinpointing the assets or securities you wish to juxtapose. For instance, an investor might be interested in contrasting the performance of a specific equity with that of a broader market index.
- Calculating the Relative Strength Ratio:** The ensuing phase entails calculating this ratio. This is achieved by dividing the price of the asset under consideration by that of a reference asset, such as a benchmark index like the S&P 500. The resulting numerical value serves as an indicator of the asset's performance in relation to the chosen benchmark.
- Graphical Representation of the Ratio:** After the ratio has been ascertained, it can be plotted over a given time frame. This graphical presentation assists in visualizing how the asset or security in question fares relative to the benchmark across the selected period.



Relative strength between Consumer Discretionary Sector and the S&P 500 Index favors Consumer Discretionary

- Trend Examination:** The subsequent action involves scrutinizing the directional movement of the ratio. If the plotted curve trends upward, it suggests that the asset is

outperforming its benchmark. Conversely, a downward trajectory would indicate an underperformance relative to the reference point.

5. **Investment Decision-Making:** Armed with this analysis, investors are better positioned to make calculated investment choices. For example, a stock exhibiting robust relative strength could be viewed as a promising investment candidate, especially for traders seeking short-term gains.

Each of these steps aids in providing a holistic understanding of an asset's performance, enabling an investor to make a more informed and strategic investment decision.

Historical Performance

Historically, relative strength investing has been an effective way to achieve above-average returns. Research indicates that stocks demonstrating superior relative strength often continue their outperformance for some time, capitalizing on the behavioral biases such as investors' tendency to underreact to new information.

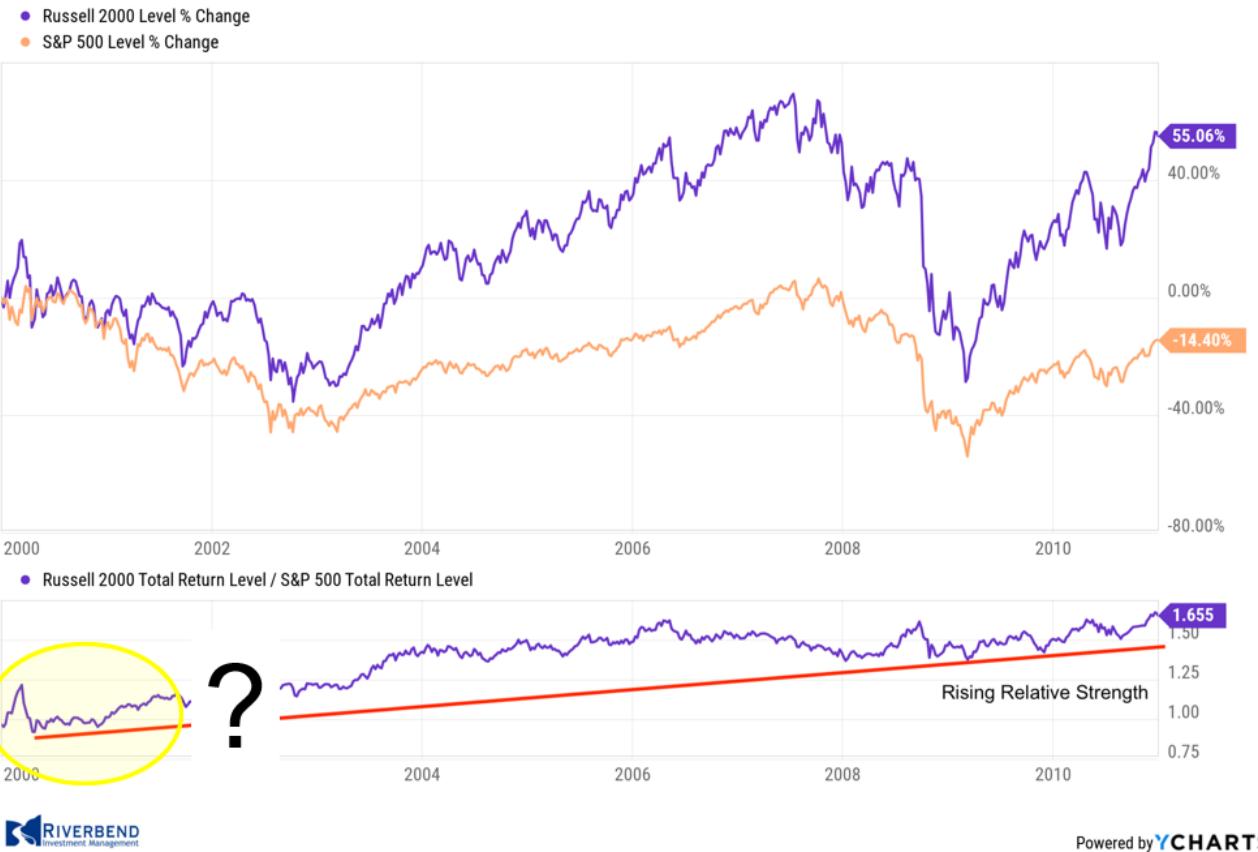
A noteworthy study on this topic is by Eugene F. Fama and Kenneth R. French, who in their three-factor model, acknowledged momentum factors, including relative strength, as additional explanations for stock outperformance.

In 1967, Robert Levy, PhD, published a paper in the Journal of Finance which studied the profitability of relative strength strategies. In the paper, he argued that relative strength provided a major argument against the Random Walk Hypothesis due to its nature of long lasting and profitable price trends.

Risks and Limitations

Like all investment strategies, relative strength investing is not without risks. The biggest concern is that past performance may not be indicative of future results. Markets are dynamic, and a security that has shown strength in the past may not necessarily do so in the future.

During the period between 2000-2010, small-caps outperformed their large-cap counterparts. Looking at a relative strength chart, like the one below, it becomes obvious which area to favor:



However, the problem arises when we try to decide in real-time (instead of hindsight) when the trend begins. If we were to examine the chart in the year 2000, would we have been able to identify the relative strength relationship at that time?

One solution to this problem are Relative Rotation Graphs.

Relative Rotation Graphs (RRG)

RRG charts can provide early insight into which sectors are outperforming a particular index, which sectors are strengthening, and which may become leadership areas to focus on. This helps to eliminate the problem of deciding when the “trend” begins.

Relative Rotation Graphs (RRGs) are a powerful tool that depicts the relative strength and momentum of different sectors or asset classes.

Developed by Julius de Kempenaer, RRGs provide a visual representation of how sectors are rotating over time, allowing investors to assess their performance relative to a benchmark index.

Typically, sectors will rotate in a clockwise fashion around an index, such as the S&P 500:



Each sector is represented by a point on the graph, and the direction and curvature of the lines connecting these points indicate the rotation of sectors over time.

The x-axis of an RRG represents the relative strength of a sector, while the y-axis signifies its momentum – giving us an indication of the velocity of the trend.

Here's how RRGs can assist in the investment selection process:

- Visual Representation:** RRGs offer a visually intuitive representation of sector rotation. They provide a clear depiction of which sectors are leading, lagging, improving, or weakening over time. This visual representation helps investors identify emerging trends and potential investment opportunities.
- Relative Strength Analysis:** The x-axis of an RRG measures relative strength, which compares a sector's performance against a benchmark index.

3. **Momentum Analysis:** The y-axis of an RRG measures momentum, which determines the speed and direction of a sector's price movement.
4. **Rotation Analysis:** The direction and curvature of lines connecting the sectors' points on an RRG indicate their rotation patterns. Sectors moving from the "Weakening" quadrant to the "Leading" quadrant are displaying improving strength and momentum.

Improving Portfolio Performance Using RRGs

In the quest to add alpha, investors are constantly seeking innovative strategies to gain a competitive edge. Relative Rotation Graphs (RRGs) have emerged as a popular tool for analyzing sector rotation dynamics and identifying potential investment opportunities among traders and investors.

So, is there evidence available to show us if RRGs may provide an opportunity to add alpha to a portfolio?

Numerous studies have shown the benefits of using RRGs in portfolio selection:

Enhanced Sector Selection:

One of the primary advantages of utilizing RRGs for investment decisions is the ability to identify sectors with strong relative strength and positive momentum.

By focusing on sectors in the "Leading" quadrant of an RRG, investors can select areas of the market that exhibit robust performance compared to the broader benchmark.

This approach has the potential to improve investment returns by targeting sectors that are on an upward trajectory.

A study conducted by Hsu et al. (2017) examined the effectiveness of RRGs in sector rotation strategies. The research found that RRG-based strategies consistently outperformed buy-and-hold strategies, providing evidence of the enhanced sector selection capabilities of RRGs.

Dynamic Portfolio Management:

RRGs enable investors to adapt their portfolios dynamically based on changing market conditions. By monitoring the rotation of sectors on an RRG, investors can identify when sectors are losing strength or momentum, potentially indicating the need for portfolio adjustments.

This flexibility allows investors to capitalize on emerging opportunities while minimizing exposure to underperforming sectors, enhancing overall portfolio performance.

A research paper by Deshmukh et al. (2019) explored the efficacy of RRGs in managing portfolios. The study demonstrated that RRG-based strategies achieved superior risk-adjusted returns compared to traditional buy-and-hold strategies.

The dynamic nature of RRGs allows for more efficient portfolio management by taking advantage of sector rotation dynamics.

Early Identification of Trends:

RRGs provide a unique advantage by visually displaying the rotation patterns of sectors. By observing sectors transitioning from the “Weakening” quadrant to the “Leading” quadrant, investors can identify sectors that are beginning to exhibit improved strength and momentum.

This early identification of emerging trends allows investors to enter positions at an opportune time, potentially capturing substantial gains as the sector gains momentum.

In a research study by Narang et al. (2020), the authors investigated the performance of RRG-based strategies in capturing trend reversals.

The study found that RRG-based strategies outperformed traditional momentum strategies, demonstrating the effectiveness of RRGs in identifying trends early.

Risk Mitigation:

While RRGs excel in identifying sectors with strong performance, they can also act as risk management tools. By monitoring sectors in the “Lagging” or “Weakening” quadrants, investors can identify areas of the market that are underperforming or losing momentum.

This information can prompt investors to reduce exposure to such sectors, potentially mitigating losses during market downturns or periods of sector-specific weakness.

A study by Chen et al. (2021) investigated the risk management capabilities of RRG-based strategies. The research concluded that incorporating RRG-based signals into portfolio management resulted in improved risk-adjusted returns and reduced downside risk.

Opportunities:

In his whitepaper, *Buying Outperformers is Too Late*, Matthew Verdouw, CMT, CFTe examined which quadrants provided the best opportunities.

His research shows that the best performance comes from equities entering the lagging quadrant. While the improving quadrant shows the highest probability of gain, with less volatility, as measured by standard deviation.

Statistic	Leading	Weakening	Lagging	Improving
Signal Count	25,905	25,173	24,014	22,616
Signal Probability of Gain	54.9%	55.1%	56.2%	56.6%
Signal Mean Return	0.76%	1.00%	1.44%	1.2%
Signal Annual Return ⁸	9.1%	12.0%	17.3%	14.7%
Signal Risk:Reward ⁹	1:1.26	1:1.29	1:1.46	1:1.42
Signal Standard Deviation	10.7%	18.7%	20.4%	12.0%
Monte Carlo Probability of Gain	54.3%	55.7%	58.7%	58.5%
Monte Carlo Mean Return	9.6%	12.5%	18.9%	15.6%
Monte Carlo Risk:Reward	1:1.64	1:1.79	1:2.23	1:2.16

source: Buying Outperformers is Too Late

Combining relative rotation graphs with other indicators may provide investors with an opportunity to enhance returns, as well as using other benchmarks – such as short-term treasuries – instead of the S&P 500 index.

Testing Relative Rotation Graphs (RRG)

To further test the results of using an RRG strategy, we can compare the sectors of the S&P 500 vs the index itself to see if there are any alpha-generating benefits:

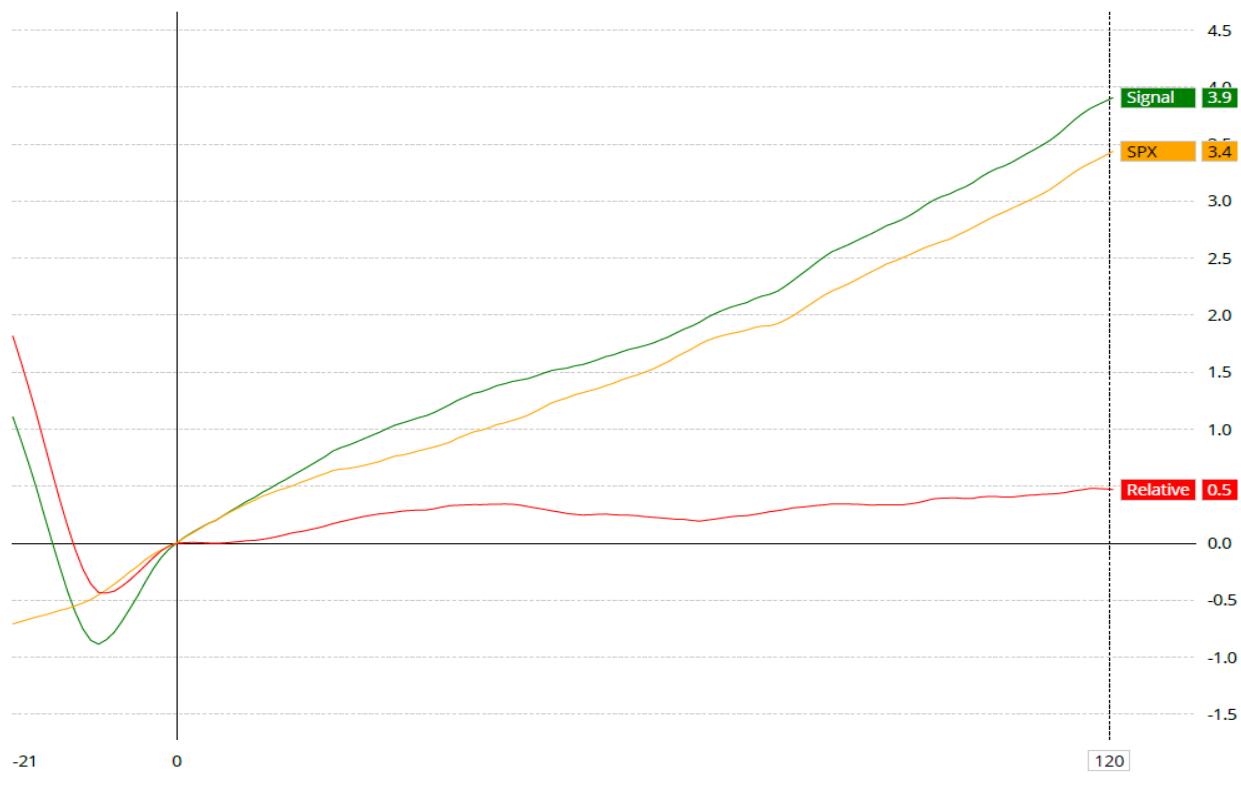
All tests are using 1/1/2000 – 12/31/2022 as the time frame. The test examines returns 21 days before the signal to 120 days post-signal using OPTUMA's signal tester.

Test 1:

Buy sectors when they enter the 'improving' quadrant:

Probability of Gain	68.13%
Mean Return (120 Days)	3.91%
Annualized Return	8.38%

Mean Returns



Source: Optuma

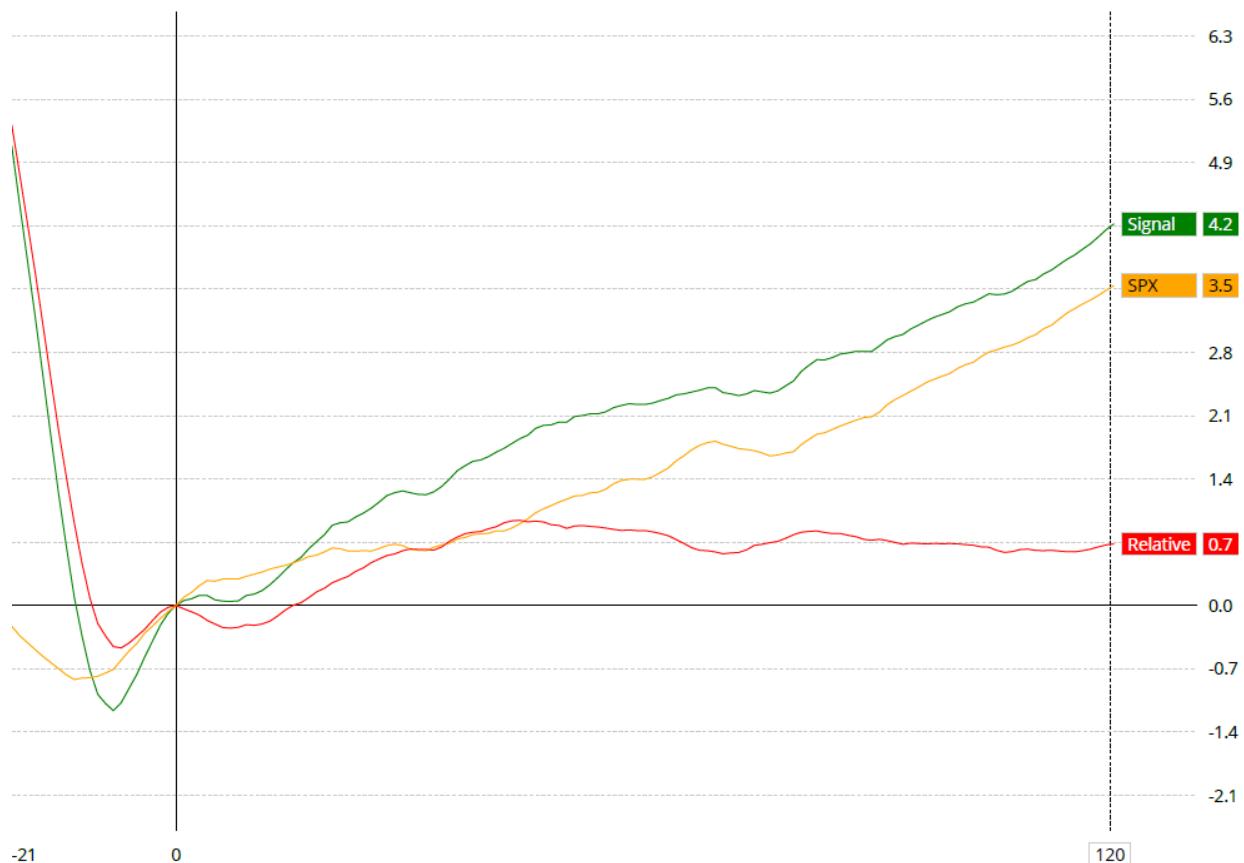
Test 2:

Buy sectors when they enter the 'improving' quadrant and if the distance from the center point is greater than 2.

Sectors with a larger distance value will appear further from the center of an RRG chart. One of the observations is that higher alpha comes from those that make bigger arcs, the distance measure allows us to quantify that.

Probability of Gain	63.90%
Mean Return <small>(120 Days)</small>	4.22%
Annualized Return	9.07%

Mean Returns



Source: Optuma

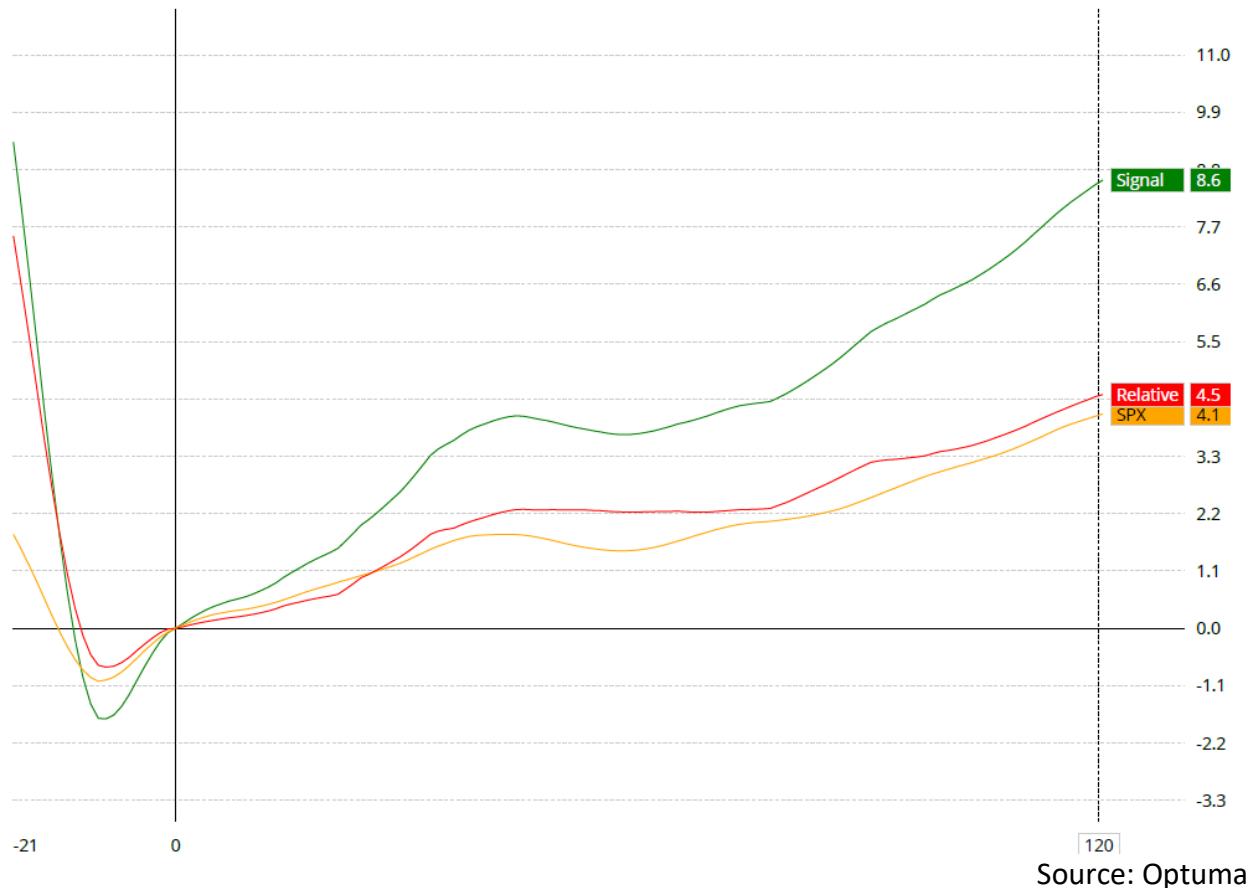
Test 3:

Relative rotation graphs can also be used on individual names within the S&P 500 index (using historical index data provided by Optuma).

Buy stock when they enter the 'improving' quadrant and if the distance from the center point is greater than 2.

Probability of Gain	59.30%
Mean Return (120 Days)	8.60%
Annualized Return	18.91%

Mean Returns



Risk Management

In addition to using Relative Rotation Graphs in portfolio selection, risk still needs to be managed to help prevent catastrophic losses when risk and volatility is high in the equity markets.

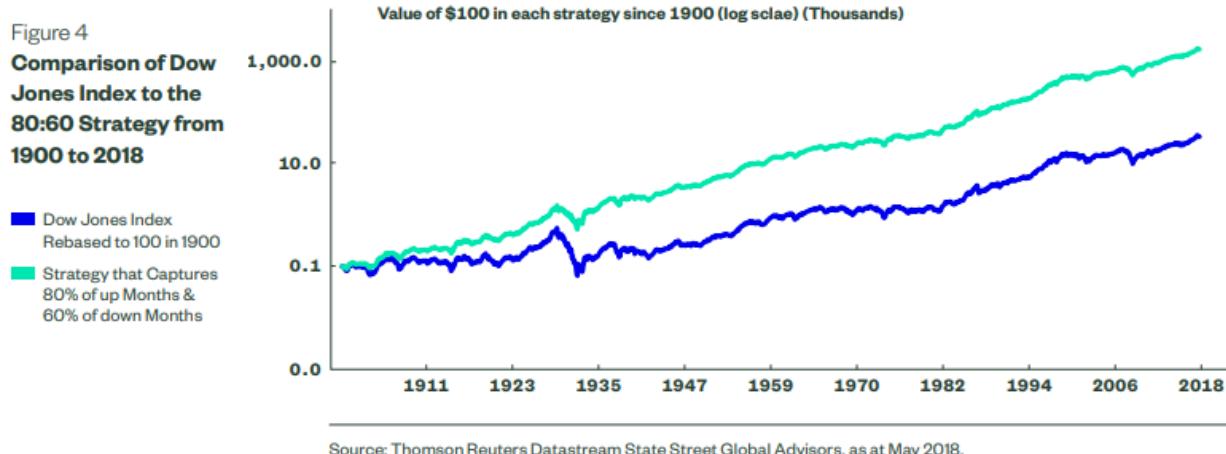
Studies have shown risk management to be an important component of portfolio performance.

In his paper, *The Power of Less Downside: The 80:60 Case Study*, Bruce Apte of State Street Global Advisors, demonstrated the positive impact controlling risk can have on a portfolio.

He created a hypothetical strategy that participates in 80% of up return, and 60% of down return. The strategy outperformed the Dow Jones Index, despite *never* outperforming the index itself.

Applying the 80:60 Strategy to the full history of the Dow Jones index, up to 2019, produces outperformance of 3.6% per annum, and annualized volatility is reduced from 18.1% to 12.8%, (-5.3% lower).

Obviously both these characteristics are desirable.

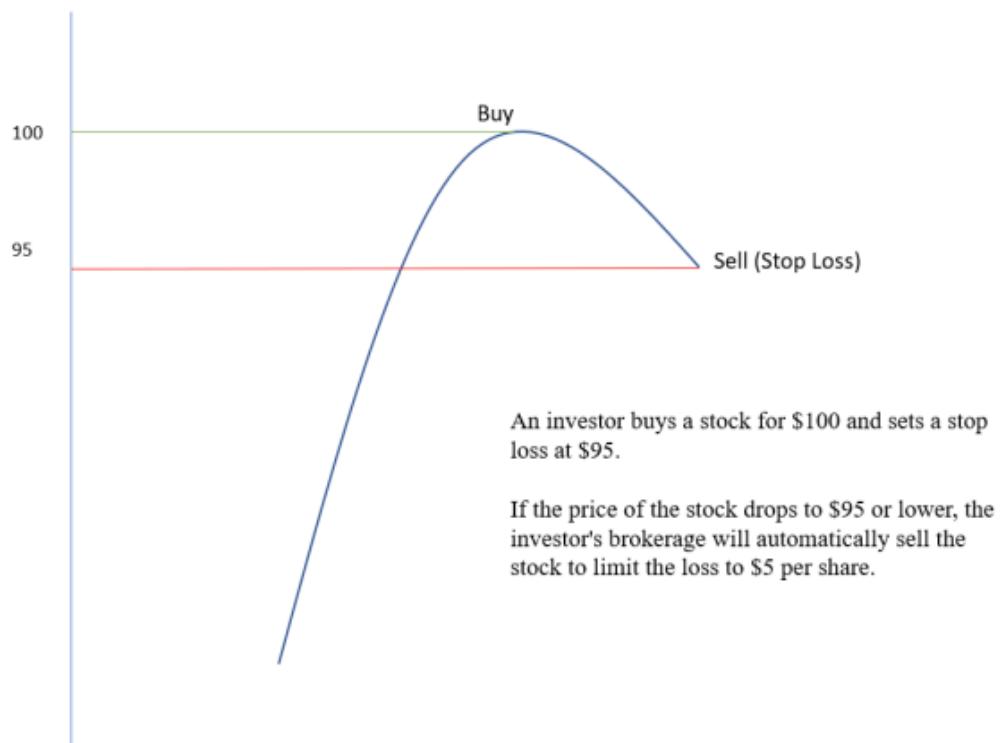


From: *The Power of Less Downside: The 80:60 Case Study*

Using Stop Losses to Control Risk

A stop loss is a risk management strategy used by investors to limit potential losses on a trade or investment. It involves setting a predetermined price at which an investor will sell a stock or other security in order to minimize losses if the price moves in an unfavorable direction.

For example, if an investor buys a stock for \$100 and sets a stop loss at \$95, then if the price of the stock drops to \$95 or lower, the investor's brokerage will automatically sell the stock to limit the loss to \$5 per share.



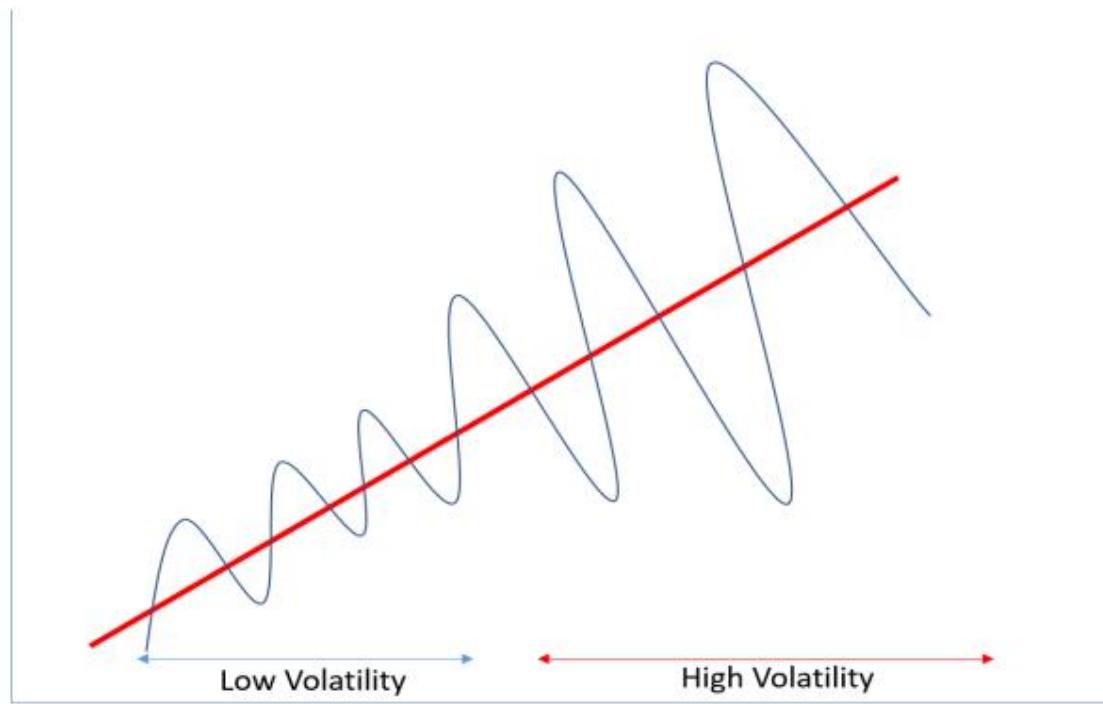
This type of order is sometimes called a "stop loss order" or a "stop order." Stop loss orders can be used to manage risk in a variety of investments, including stocks, bonds, exchange-traded funds (ETFs), and other securities.

The question facing investors is how to determine where to place a stop-loss order

The Impact of Volatility on Trends

Volatility is a widely used measure of risk in financial markets, and it reflects the degree of fluctuation in the prices of assets, such as stocks or bonds.

It is often used to gauge the level of uncertainty in the market, and as such, can provide valuable insights into the direction of the market and the likelihood of future price movements. In this context, volatility can be used to indicate a change in trend.



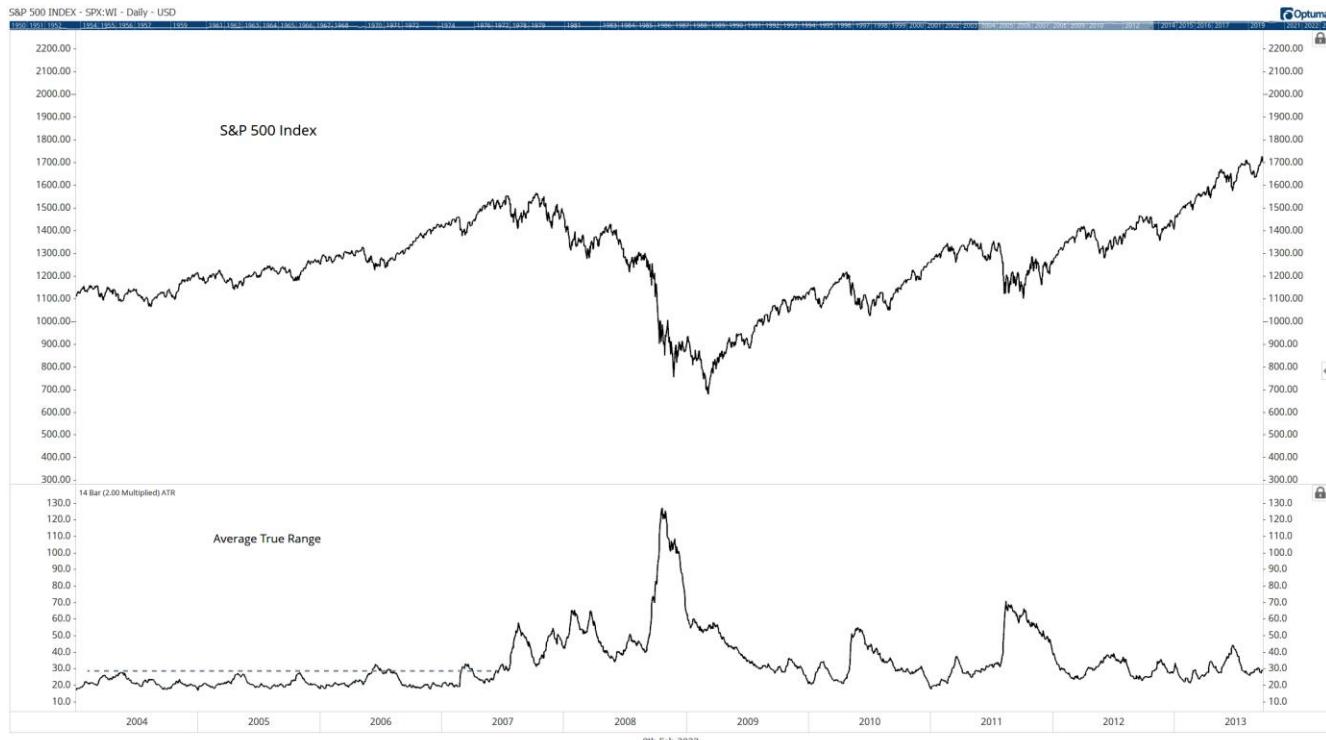
One of the key reasons why volatility can indicate a change in trend is because it reflects the observed level of risk in the market.

In general, high volatility levels are associated with higher levels of risk, while low volatility levels are associated with lower levels of risk. When the level of volatility in the market increases, it often signals a change in investor sentiment and a shift in the underlying market dynamics.

This change in sentiment can result in a shift in market direction, with prices moving higher or lower, depending on the prevailing market conditions.

There is a strong empirical evidence that supports the view that volatility can indicate a change in trend in the stock market. For example, a study by Baker and Haugen (2010) found that periods of high volatility are often followed by significant changes in market direction.

Similarly, a study by Ang and Chen (2002) found that high volatility levels are associated with greater market instability and greater likelihood of a market reversal.



The rise in volatility and the change of trend in the S&P 500 index during the 2008-2009 market decline.

Studying trends in volatility can also provide valuable information about the underlying market conditions.

For example, rising volatility levels can indicate that the market is experiencing increased uncertainty or investor risk aversion, which can be a result of a variety of factors, such as economic data releases, political events, or changes in monetary policy.

In contrast, low volatility levels can indicate that the market is relatively calm and stable, and that investors are confident about the future direction of prices.

Using Volatility to Create a Stop Loss Target

The Average True Range (ATR) is a technical indicator that measures the average range of price movements for a given security over a specified period of time.

$$\left(\frac{1}{n}\right) \sum_i^n \text{TR}_i$$

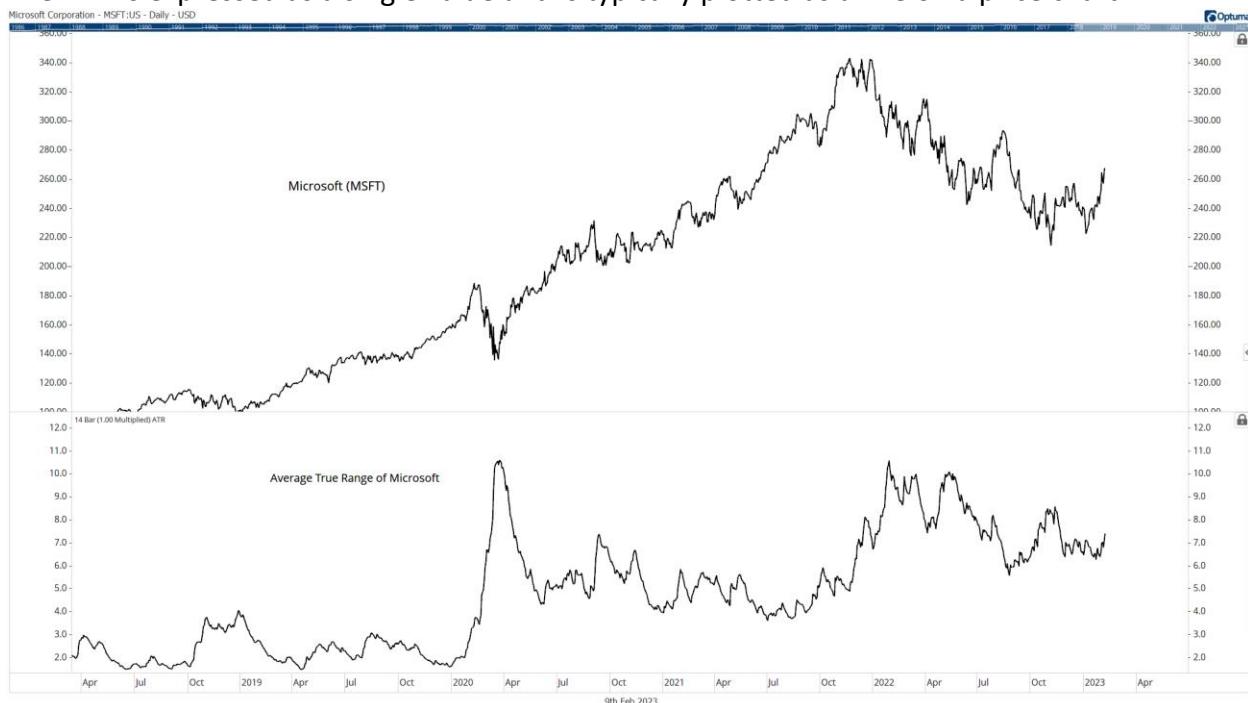
where: TR_i =Particular true range, such as first day's TR,
then second, then third
 n =Number of periods

Developed by J. Welles Wilder Jr., the ATR is used to help traders identify market volatility and to set stop loss orders that are based on market conditions rather than a fixed price level. (Murphy, 1999)

The ATR is calculated by first determining the true range of a security, which is defined as the greatest of the following three values:

1. The current high minus the current low
2. The absolute value of the current high minus the previous close
3. The absolute value of the current low minus the previous close. The true range is then calculated over a specified number of periods, typically 14, and the result is the ATR.

The ATR is expressed as a single value and is typically plotted as a line on a price chart.



Microsoft (top) and its Average True Range (bottom)

Traders use the ATR to help identify market volatility and to adjust their risk management strategy accordingly.

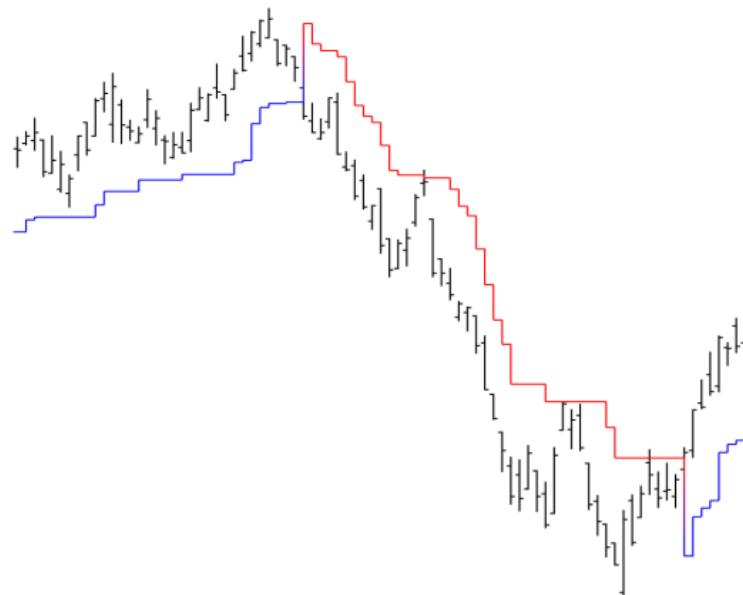
For example, in a volatile market, a trader might set a stop loss order using a multiple of the ATR, with a higher multiple used in a more volatile market and a lower multiple used in a less volatile market.

Wilder Volatility Stop Loss

The Wilder Volatility Stop Loss is a technical indicator that is used by traders to help manage risk and is based on the concept of the Average True Range (ATR), which measures the average range of price movements for a given security over a specified period of time.

The Wilder Volatility Stop Loss is used by traders to set stop loss orders that are based on market volatility rather than a fixed price level. To calculate the Wilder Volatility Stop Loss, a trader first determines the ATR for a security over a specified period of time, typically 14 periods. (Wilder, 1978)

The Wilder Volatility Stop Loss is then calculated by multiplying the ATR by a factor that is chosen by the trader, typically between 1 and 4.



Wilder Volatility Stop Loss Example (Source OPTUMA)

The Wilder Volatility Stop Loss has several advantages over traditional stop loss orders, which are set at a specific price level.

In a volatile market, a fixed stop loss order may be triggered by price fluctuations that are not representative of a change in trend. By adjusting the stop loss order based on market volatility, the Wilder Volatility Stop Loss helps to reduce the risk of false signals and to better manage risk in the market.

Testing Wilder Volatility Stop Loss (WVS)

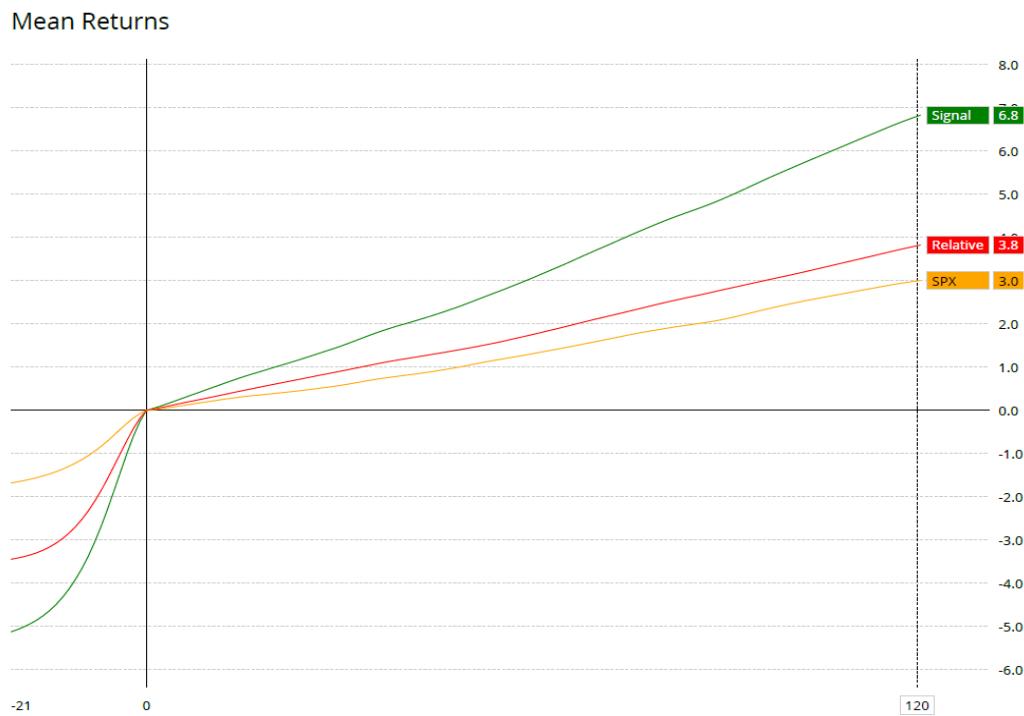
Can using a volatility stop provide alpha to a portfolio?

Below is a signal test using the sectors of the S&P 500 vs the index.

All tests are using 1/1/2000 – 12/31/2022 as the time frame. The test examines returns 21 days before the signal to 120 days post-signal using OPTUMA's signal tester.

Criteria: Buy when close is above WVS, using 5-day, 2.5 multiplier.

Probability of Gain	63.86%
Mean Return (120 Days)	6.83%
Annualized Return	14.88%



Selecting an Investable Universe

The previous signal test gives us important data on the benefits of relative rotation graphs and using Wilder Volatility Stop Losses. However, these tests were performed on all the members of the S&P 500 index.

Non-institutional investors most likely do not have the available capital to include dozens, if not hundreds of stocks, in equal proportion, within their portfolio.

To better understand if the above methodology can add alpha to an individual portfolio, a more defined universe was created using ETFs to represent sector and subsectors within the US stock market.

Daily trading volume, years in existence, overlap of sector and subsectors, assets under management and liquidity were some of the criteria used to create the following list:

IAI	iShares U.S. Broker-Dealers & Security Exchanges ETF
IAK	iShares U.S. Insurance Index Fund ETF
IAT	iShares U.S. Regional Banks Index Fund ETF
IBB	BlackRock Institutional Trust Company N.A. - iShares Biotechnology
IEO	iShares U.S. Oil & Gas Exploration & Production ETF
IEZ	iShares U.S. Oil Equipment & Services Index Fund ETF
IGM	iShares North American Tech ETF
IGN	iShares North American Tech-Multimedia Networking ETF
IGV	iShares Expanded Tech-Software Sector ETF
IHE	iShares U.S. Pharmaceuticals ETF
IHF	iShares U.S. Healthcare Providers ETF
IHI	iShares U.S. Medical Devices ETF
ITA	BlackRock Institutional Trust Company N.A. - iShares U.S. Aerospace
ITB	iShares U.S. Home Construction Index Fund ETF
IVC	iShares U.S. Consumer Services ETF
IYG	iShares U.S. Financial Services ETF
IYJ	iShares U.S. Industrials ETF
IYT	iShares US Transportation ETF
IYZ	iShares U.S. Telecommunications ETF
SOXX	iShares PHLX SOX Semiconductor Sector Index Fund ETF
XLB	SPDR Materials Select Sector Fund ETF
XLC	SPDR Communication Services Select Sector ETF
XLE	SPDR Energy Select Sector Fund ETF
XLF	SPDR Financial Select Sector Fund ETF
XLI	SPDR Industrial Select Sector Fund ETF
XLK	SPDR Technology Select Sector Fund ETF
XLP	SPDR Consumer Staples Select Sector Fund ETF
XLRE	SPDR Real Estate Select Sector Fund ETF
XLU	SPDR Utilities Select Sector Fund ETF
XLV	SPDR Health Care Select Sector Fund ETF
XLY	SPDR Consumer Discretionary Select Sector Fund ETF

Backtested Results

Backtesting strategies have their pros and cons. While backtesting a strategy can provide invaluable data on how the strategy would have performed in past economic environment, it also has the benefit of hindsight – also referred to as “curve fitting”.

To limit the impact of curve fitting, the below strategy focuses on a broad universe of sectors and subsectors of the US stock market.

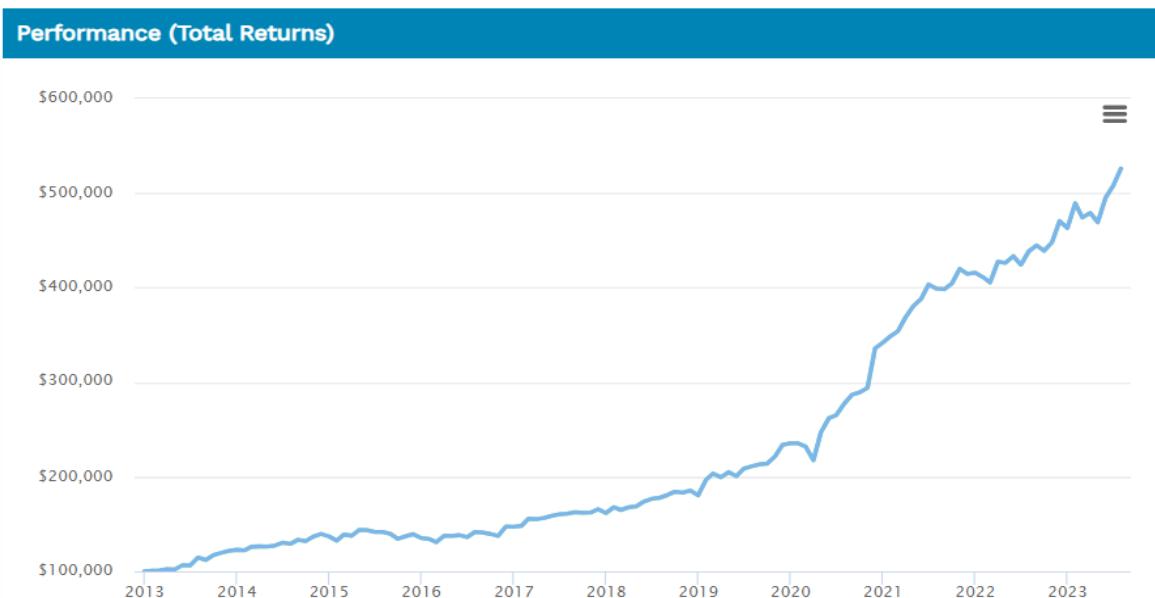
Buy and sell criteria are based on previous academic research and not optimized to provide stronger results.

The strategy equally invests in the top 5 ETFs that cross into the “improving quadrant” of a relative rotation graph. The strategy is also designed to be an absolute return strategy. As a result, the comparison index is the “BIL” ETF, used to represent 1-3 month Treasury bills – a common component of money market funds.

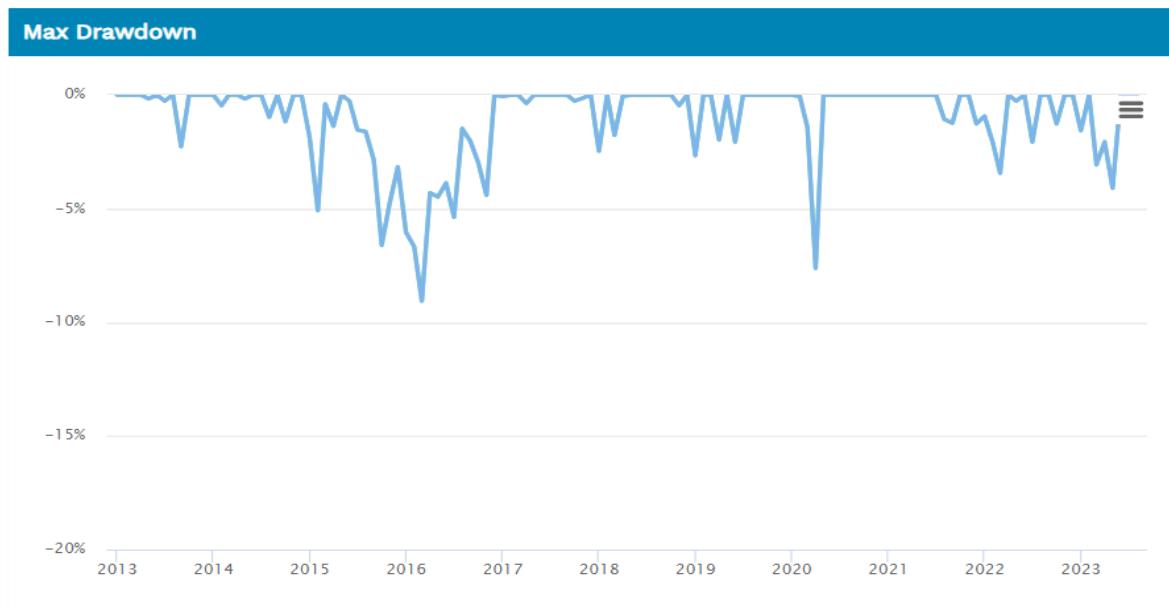
Risk is managed by using a Wilder Volatility Stop. A 5-day range is used since we are focused on weekly trends.

Results are provided by Optuma and Onpointe Risk Analyzer and assume a maximum 2% annual management fee.

HYPOTHETICAL GROWTH OF \$100,000



MAXIMUM DRAWDOWNS



Calender Year Returns

Year	Dynamic Sector Rotation	S&P 500 Momentum Index
2023	13.17	4.05
2022	11.34	-10.51
2021	21.65	22.79
2020	45.21	28.32
2019	30.52	26.25
2018	11.65	-0.04
2017	9.79	28.27
2016	8.91	5.7
2015	-1.28	5.56
2014	11.52	11.23
2013	22.74	31.42

Performance figures contained herein are hypothetical, unaudited, and prepared by Riverbend Investment Management, LLC; hypothetical results are intended for illustrative purposes only. Past performance is not indicative of future results, which may vary. Please see the full disclosure at the end of this document

PORTFOLIO STATISTICS

Dynamic Sector Rotation

Total Return	424.10%
Avg Return (CAGR)	16.80%
Max Drawdown	-9.07%
Calmar Ratio	1.85
Historical VaR	2.67%
Std. Deviation	10.43%
Downside Deviation	3.87%
Mean Return (Monthly)	1.35%
Mean Return (Annualized)	17.41%
Sharpe Ratio	1.39%
Beta	0.52
Correlation	0.72
R-Squared	52.07%
*Cycle-Based Upside	96.63%
*Cycle-Based Downside	-32.61%
Annual Dividend Yield	0.00%
Wrap Fee	2%

Cycle-based upside/downside uses S&P 500 data and always includes all available data points

APPENDIX

List of Trades – Data from Optuma

Start value = \$1,000,000

Does not include dividends, fees, or interest

SYMBOL	Type	Date	Price	Quantity	Amount	Return	Equity	Cash	Pct Profit
XLP	Buy	1/10/2013	35.8	5586	199978.8	0	1000000	800021.2	16.01
ITB	Buy	3/7/2013	23.82	8525	203065.5	0	1015362	596955.7	0.29
XLB	Buy	3/7/2013	39.42	5141	202658.2	0	1013486	394297.5	-0.2
IHI	Buy	3/8/2013	12.25	16595	203355.5	0	1016797	190941.9	-1.25
IGN	Buy	3/11/2013	29.3	6516	190920.1	0	1018308	21.84	-1.72
IHI	Sell	3/18/2013	12.1	16595	200812.1	-2543.47	1010055	200833.9	0
IGN	Sell	3/19/2013	28.8	6516	187640	-3280.15	1010719	388473.9	0
XLB	Sell	3/21/2013	39.34	5141	202246.9	-411.28	1013411	590720.8	0
ITB	Sell	4/1/2013	23.89	8525	203662.3	596.75	1013187	794383.1	0
XLB	Buy	4/25/2013	39.43	5188	204562.8	0	1022850	589820.2	2.31
SOXX	Buy	4/25/2013	59.31	3449	204560.2	0	1023006	385260	7.22
ITB	Buy	4/25/2013	24.4	8394	204813.6	0	1024144	180446.4	3.48
IYT	Buy	4/26/2013	108.84	1657	180347.9	0	1020022	98.54	4.3
ITB	Sell	5/29/2013	25.25	8394	211948.5	7134.9	1054468	212047	0
IYT	Sell	5/29/2013	113.52	1657	188102.6	7754.76	1059169	400149.7	0
XLP	Sell	5/29/2013	41.53	5586	231986.6	32007.78	1059914	632136.3	0
XLB	Sell	6/5/2013	40.34	5188	209283.9	4721.08	1055367	841420.2	0
SOXX	Sell	6/12/2013	63.59	3449	219321.9	14761.72	1056224	1060742	0
IYC	Buy	6/19/2013	25.55	8304	212125.7	0	1060742	848616.4	0
IYC	Sell	6/20/2013	25.55	8304	212125.7	0	1056985	1060742	0
IYC	Buy	7/1/2013	25.81	8220	212137.7	0	1060742	848604.4	5.69
IBB	Buy	7/1/2013	59.67	3555	212114.8	0	1060781	636489.7	8.64
XLY	Buy	7/1/2013	56.72	3737	211962.6	0	1059904	424527	3.86
IGV	Buy	7/3/2013	67.75	3138	212592.9	0	1063204	211934.1	6.12
IYZ	Buy	7/3/2013	26.23	8079	211912.2	0	1061786	21.93	6.94
IBB	Sell	8/12/2013	64.82	3555	230446.7	18331.93	1133601	230468.7	0
IYZ	Sell	8/13/2013	28.05	8079	226616	14703.78	1134164	457084.6	0
IYC	Sell	8/14/2013	27.28	8220	224200.5	12062.85	1131099	681285.1	0
XLY	Sell	8/15/2013	58.91	3737	220146.7	8184.03	1125248	901431.8	0
IGV	Sell	8/16/2013	71.89	3138	225602.4	13009.52	1127065	1127034	0
IBB	Buy	8/30/2013	65.42	3445	225371.7	0	1127034	901662.5	5.98
IEZ	Buy	8/30/2013	55.62	4042	224809.2	0	1124140	676853.4	9.39

IEO	Buy	9/3/2013	72.22	3121	225401.4	0	1127229	451451.9	7.25
XLE	Buy	9/3/2013	82.07	2747	225446.3	0	1127317	226005.6	0.57
SOXX	Buy	9/4/2013	64.72	3492	226002.2	0	1136670	3.4	2.29
XLE	Sell	9/30/2013	82.54	2747	226737.4	1291.09	1164100	226740.8	0
IBB	Sell	10/8/2013	69.33	3445	238853.1	13481.42	1148599	465593.9	0
SOXX	Sell	10/9/2013	66.2	3492	231170.4	5168.16	1155405	696764.3	0
IAT	Buy	10/10/2013	30.06	7773	233656.4	0	1168349	463107.9	7.42
IYG	Buy	10/16/2013	76.52	3110	237977.2	0	1189961	225130.7	0.94
XLE	Buy	10/16/2013	85.73	2626	225127	0	1192007	3.71	0.73
IEO	Sell	11/7/2013	77.46	3121	241744.2	16342.8	1179784	241748	0
IYG	Sell	11/7/2013	77.24	3110	240216.4	2239.2	1186017	481964.4	0
IHF	Buy	11/11/2013	88.18	2737	241349.8	0	1206835	240614.6	3.26
IGN	Buy	11/15/2013	29.26	8222	240602	0	1214227	12.56	0.42
IEZ	Sell	11/25/2013	60.84	4042	245924.6	21115.41	1214118	245937.1	0
IEO	Buy	11/26/2013	78.15	3125	244213.4	0	1221340	1723.7	-2.22
IAT	Sell	12/3/2013	32.29	7773	250990.2	17333.79	1211014	252713.9	0
IHF	Sell	12/5/2013	91.05	2737	249209.6	7859.84	1210850	501923.5	0
XLE	Sell	12/11/2013	86.36	2626	226781.4	1654.38	1202163	728704.8	0
IEO	Sell	12/11/2013	76.42	3125	238800.3	-5413.13	1205603	967505.1	0
IGN	Sell	12/12/2013	29.39	8222	241620.7	1018.71	1206570	1209126	0
IYZ	Buy	12/18/2013	28.47	8494	241824.2	0	1209126	967301.7	4.64
XLB	Buy	12/18/2013	45.08	5366	241899.3	0	1209636	725402.4	0.93
IEO	Buy	12/24/2013	77.63	3142	243914.4	0	1219945	481488	-1.56
XLE	Buy	12/24/2013	87.48	2787	243806.8	0	1219259	237681.3	-0.94
IHI	Buy	12/26/2013	15	15843	237679.8	0	1223457	1.45	2.17
XLB	Sell	1/7/2014	45.5	5366	244153	2253.72	1223272	244154.5	0
IYZ	Sell	1/9/2014	29.79	8494	253036.3	11212.08	1218772	497190.7	0
XLU	Buy	1/10/2014	38.19	6422	245256.2	0	1226285	251934.5	10.89
XLE	Sell	1/13/2014	86.66	2787	241521.4	-2285.34	1210854	493456	0
IEO	Sell	1/13/2014	76.42	3142	240098.4	-3815.96	1215006	733554.4	0
IHI	Sell	1/24/2014	15.33	15843	242835.7	5155.85	1216511	976390.1	0
XLB	Buy	2/11/2014	45.43	5416	246048.9	0	1230316	730341.2	4.56
IYC	Buy	2/11/2014	29.86	8241	246055.7	0	1230370	484285.5	3.92
IAK	Buy	2/11/2014	44.46	5529	245819.3	0	1229237	238466.2	2.42
XLY	Buy	2/11/2014	64.65	3688	238429.2	0	1228186	36.97	3.76
IYC	Sell	3/13/2014	31.03	8241	255697.6	9641.97	1261597	255734.6	0
XLY	Sell	3/13/2014	67.08	3688	247391	8961.84	1265821	503125.6	0
XLB	Sell	3/26/2014	47.5	5416	257260	11211.12	1268553	760385.6	0
IAK	Sell	3/27/2014	45.53	5529	251760.8	5941.46	1272946	1012146	0
IHI	Buy	4/3/2014	16.42	15554	255384	0	1276990	756762.5	-2.54
ITA	Buy	4/4/2014	53.98	4716	254546.1	0	1272932	502216.4	0
IHI	Sell	4/7/2014	16	15554	248905.5	-6478.51	1265642	751121.8	0
ITA	Sell	4/7/2014	53.98	4716	254546.1	0	1268288	1005668	0

IHE	Buy	4/22/2014	123.05	2076	255446.4	0	1277383	750221.5	6.17
IYT	Buy	4/22/2014	138.54	1844	255467.8	0	1277383	494753.8	4.83
XLB	Buy	4/22/2014	47.73	5350	255355.5	0	1276977	239398.3	3.18
IYJ	Buy	4/22/2014	101.44	2359	239297	0	1276817	101.31	-0.23
XLU	Sell	5/12/2014	42.35	6422	271971.7	26715.52	1282532	272073	0
IHI	Buy	5/12/2014	15.95	16121	257116.8	0	1285615	14956.25	4.59
IYJ	Sell	5/20/2014	101.21	2359	238754.4	-542.57	1271242	253710.6	0
IGN	Buy	5/22/2014	32.69	7761	253697	0	1283323	13.64	4.62
IYT	Sell	6/12/2014	145.23	1844	267804.1	12336.36	1307934	267817.8	0
IGN	Sell	7/8/2014	34.2	7761	265408.4	11711.35	1328765	533226.1	0
IHE	Sell	7/8/2014	130.64	2076	271207.2	15760.78	1333151	804433.3	0
IHI	Sell	7/15/2014	16.68	16121	268921.1	11804.36	1335954	1073354	0
IAI	Buy	7/24/2014	38.28	7006	268189.7	0	1340961	805164.7	-1.44
IGN	Buy	7/29/2014	33.79	7938	268213.9	0	1341123	536950.8	-0.2
IGN	Sell	7/31/2014	33.72	7938	267672.5	-541.37	1327395	804623.4	0
XLB	Sell	7/31/2014	49.25	5350	263487.5	8132	1331339	1068111	0
IBB	Buy	7/31/2014	83.18	3208	266830.5	0	1334549	801280.4	7.45
IAI	Sell	8/1/2014	37.73	7006	264336.4	-3853.3	1332339	1065617	0
SOXX	Buy	8/14/2014	84.89	3168	268931.5	0	1344926	796685.2	2.89
IYJ	Buy	8/14/2014	102.01	2632	268490.3	0	1342740	528194.9	0.64
XLP	Buy	8/14/2014	44.69	6004	268318.8	0	1341714	259876.2	1.14
IAK	Buy	8/14/2014	47.17	5509	259859.5	0	1340333	16.63	1.74
IBB	Sell	9/15/2014	89.37	3208	286709.4	19878.89	1365360	286726	0
SOXX	Sell	9/15/2014	87.34	3168	276693.1	7761.6	1367531	563419.1	0
IYJ	Sell	9/23/2014	102.66	2632	270201.1	1710.8	1364892	833620.2	0
IAK	Sell	9/23/2014	47.99	5509	264376.9	4517.38	1366445	1097997	0
XLP	Sell	9/23/2014	45.2	6004	271380.8	3062.04	1367877	1369378	0
XLU	Buy	10/8/2014	43.48	6298	273837	0	1369378	1095541	3.54
IHI	Buy	10/8/2014	16.87	16232	273822.8	0	1369126	821718.2	-3.03
IHI	Sell	10/14/2014	16.36	16232	265533.1	-8289.7	1358455	1087251	0
ITB	Buy	10/17/2014	22.76	11933	271595.1	0	1358065	815656.1	12.48
IHF	Buy	10/21/2014	109.13	2519	274894.9	0	1374722	540761.2	5.24
ITA	Buy	10/21/2014	53.16	5168	274730.9	0	1373722	266030.3	7.53
IYJ	Buy	10/22/2014	100.02	2659	265953.2	0	1367060	77.12	6.79
XLU	Sell	11/14/2014	45.02	6298	283536	9698.92	1432564	283613.1	0
IYJ	Sell	12/1/2014	106.81	2659	284007.8	18054.61	1450888	567620.9	0
ITA	Sell	12/10/2014	57.17	5168	295428.7	20697.84	1441194	863049.6	0
ITB	Sell	12/10/2014	25.6	11933	305484.8	33889.72	1447990	1168534	0
IHF	Sell	12/15/2014	114.84	2519	289290.8	14395.83	1455601	1457825	0
IEZ	Buy	12/19/2014	48.16	6053	291537.3	0	1457825	1166288	-4.83
IEO	Buy	12/22/2014	69.56	4179	290674.5	0	1453718	875613.4	-2.59
XLE	Buy	12/22/2014	80.33	3613	290232.3	0	1451441	585381.1	-2.38
IGV	Buy	12/23/2014	93.89	3105	291523.5	0	1457982	293857.6	-1.99

IYJ	Buy	12/24/2014	108.56	2672	290072.3	0	1450442	3785.26	-1.43
IGV	Sell	1/2/2015	92.02	3105	285726.8	-5796.72	1430473	289512	0
IYJ	Sell	1/2/2015	107.01	2672	285930.7	-4141.6	1433080	575442.7	0
IEZ	Sell	1/5/2015	45.84	6053	277448.9	-14088.4	1395521	852891.7	0
XLE	Sell	1/5/2015	78.42	3613	283331.5	-6900.83	1400382	1136223	0
IEO	Sell	1/5/2015	67.75	4179	283139	-7535.57	1408258	1419362	0
XLV	Buy	1/9/2015	70.78	4010	283827.8	0	1419362	1135534	0.73
IYZ	Buy	1/21/2015	29.54	9602	283643.1	0	1418279	851891.2	-2.51
XLB	Buy	1/22/2015	48.9	5820	284598	0	1422992	567293.2	4.13
IYT	Buy	1/22/2015	162.01	1757	284651.6	0	1423632	282641.6	-2.83
IGV	Buy	1/23/2015	91.83	3077	282572.6	0	1413916	69.03	-2.42
IGV	Sell	1/30/2015	89.61	3077	275734	-6838.63	1374247	275803	0
IYT	Sell	1/30/2015	157.42	1757	276586.9	-8064.63	1377894	552389.9	0
IYZ	Sell	1/30/2015	28.8	9602	276537.6	-7105.48	1381760	828927.5	0
XLY	Buy	2/3/2015	72.39	3857	279208.2	0	1396376	549719.3	3.88
IAK	Buy	2/4/2015	47.69	5836	278318.8	0	1391795	271400.5	3.12
ITB	Buy	2/4/2015	26.4	10280	271392	0	1392846	8.47	2.92
XLB	Sell	3/6/2015	50.92	5820	296354.4	11756.4	1435021	296362.9	0
ITB	Sell	3/6/2015	27.17	10280	279307.6	7915.6	1437698	575670.5	0
XLV	Sell	3/10/2015	71.3	4010	285913	2085.2	1431065	861583.5	0
IAK	Sell	3/10/2015	49.18	5836	287014.5	8695.64	1432068	1148598	0
XLY	Sell	3/10/2015	75.2	3857	290046.4	10838.17	1436562	1438644	0
XLU	Buy	3/18/2015	45.1	6379	287692.9	0	1438644	1150951	-0.82
IYT	Buy	3/23/2015	160.93	1787	287581.9	0	1438070	863369.5	-0.86
ITB	Buy	3/24/2015	27.99	10243	286701.6	0	1433630	576668	-1.61
IEO	Buy	3/24/2015	69.56	4120	286582.3	0	1433015	290085.7	6.26
XLE	Buy	3/24/2015	76.61	3736	286215	0	1431108	3870.76	6.83
IYT	Sell	3/25/2015	159.54	1787	285098	-2483.93	1423388	288968.7	0
IEZ	Buy	3/25/2015	44.69	6394	285737.6	0	1428749	3231.11	8.85
ITB	Sell	4/20/2015	27.54	10243	282092.2	-4609.35	1502836	285323.3	0
IYT	Buy	4/21/2015	158.04	1805	285262.2	0	1485577	61.13	-1.9
IYT	Sell	4/30/2015	155.04	1805	279847.2	-5415	1506685	279908.3	0
IAT	Buy	5/4/2015	35.27	7936	279902.7	0	1510138	5.61	1.7
XLU	Sell	5/5/2015	44.73	6379	285332.7	-2360.23	1491826	285338.3	0
IEO	Sell	5/7/2015	73.91	4120	304510.9	17928.59	1477098	589849.1	0
IAK	Buy	5/8/2015	50.04	5979	299189.2	0	1496085	290660	0.38
XLE	Sell	5/11/2015	81.84	3736	305754.2	19539.28	1487055	596414.2	0
IBB	Buy	5/14/2015	118.64	2522	299209.8	0	1496638	297204.4	3.39
IYJ	Buy	5/14/2015	110.17	2697	297128.5	0	1496360	75.93	-0.72
IEZ	Sell	5/19/2015	48.64	6394	311020.1	25282.52	1497045	311096.1	0
IYC	Buy	5/19/2015	36.37	8263	300525.3	0	1502689	10570.77	-1.07
IAK	Sell	5/26/2015	50.23	5979	300325.2	1136.01	1486006	310895.9	0
IYJ	Sell	5/29/2015	109.38	2697	294997.9	-2130.63	1491564	605893.8	0

IAT	Sell	6/1/2015	35.87	7936	284664.3	4761.6	1492690	890558.1	0
IYC	Sell	6/8/2015	35.98	8263	297302.7	-3222.57	1491924	1187861	0
ITA	Buy	6/19/2015	61.9	4863	300995.4	0	1505204	886865.5	-2.54
XLP	Buy	6/19/2015	48.93	6145	300674.9	0	1503405	586190.6	-1.53
IYC	Buy	6/22/2015	36.72	8216	301712.1	0	1508656	284478.6	-1.79
IBB	Sell	6/29/2015	122.66	2522	309356.6	10146.84	1463378	593835.2	0
XLP	Sell	6/29/2015	48.18	6145	296066.1	-4608.75	1469616	889901.3	0
ITA	Sell	6/29/2015	60.33	4863	293360.5	-7634.91	1472688	1183262	0
IYC	Sell	6/29/2015	36.07	8216	296310	-5402.02	1476409	1479572	0
XLU	Buy	7/7/2015	43.3	6834	295912.2	0	1479572	1183660	-0.95
XLP	Buy	7/7/2015	48.7	6080	296096	0	1480597	887563.6	2.36
ITA	Buy	7/15/2015	60.95	4869	296741.2	0	1483890	590822.4	-0.73
IGM	Buy	7/15/2015	104.14	2847	296491.1	0	1482697	294331.3	0.15
XLK	Buy	7/15/2015	42.57	6914	294329	0	1480523	2.28	0.54
ITA	Sell	7/21/2015	60.5	4869	294574.5	-2166.71	1489445	294576.8	0
XLU	Sell	7/23/2015	42.89	6834	293110.3	-2801.94	1480587	587687	0
XLK	Sell	7/24/2015	42.8	6914	295919.2	1590.22	1480837	883606.2	0
IGM	Sell	7/27/2015	104.3	2847	296937	445.84	1480687	1180543	0
IYZ	Buy	8/3/2015	29.29	10152	297352.1	0	1486854	883191.1	-1.6
XLI	Buy	8/5/2015	54.24	5481	297289.4	0	1486686	585901.7	-1.22
IYJ	Buy	8/5/2015	105.34	2822	297269.5	0	1486631	288632.2	-1.28
IHF	Buy	8/7/2015	139.35	2071	288586.6	0	1472550	45.61	-0.24
XLP	Sell	8/19/2015	49.85	6080	303088	6992	1485267	303133.6	0
IYJ	Sell	8/20/2015	103.99	2822	293459.8	-3809.7	1459866	596593.4	0
XLI	Sell	8/20/2015	53.58	5481	293672	-3617.46	1464155	890265.4	0
IHF	Sell	8/20/2015	139.02	2071	287907.5	-679.08	1467772	1178173	0
IYZ	Sell	8/21/2015	28.82	10152	292580.6	-4771.44	1471058	1470754	0
IEZ	Buy	9/3/2015	38.19	7701	294125.8	0	1470754	1176628	-2.42
SOXX	Buy	9/4/2015	83	3539	293737	0	1468793	882890.7	-2.05
IEO	Buy	9/8/2015	57.85	5115	295901.7	0	1479701	586989	-6.39
XLE	Buy	9/8/2015	65.24	4532	295667.7	0	1478515	291321.3	-3.39
IGN	Buy	9/8/2015	36.84	7908	291320.4	0	1476385	0.85	-4.27
IEZ	Sell	9/21/2015	37.27	7701	287009.3	-7116.49	1435847	287010.2	0
SOXX	Sell	9/22/2015	81.3	3539	287720.7	-6016.3	1422230	574730.9	0
XLE	Sell	9/23/2015	63.03	4532	285652	-10015.7	1415151	860382.9	0
IGN	Sell	9/28/2015	35.27	7908	278895.4	-12425.1	1402933	1139278	0
IEO	Sell	9/28/2015	54.15	5115	276979.8	-18921.9	1406272	1416258	0
XLE	Buy	10/5/2015	66.01	4291	283248.9	0	1416258	1133009	-0.52
IAK	Buy	10/5/2015	49.34	5736	283014.2	0	1415271	849994.9	5.92
IEO	Buy	10/5/2015	59.53	4757	283191.8	0	1416017	566803.1	1.24
IGN	Buy	10/5/2015	36.59	7737	283120	0	1415647	283683	0.89
IYJ	Buy	10/7/2015	101.4	2797	283615.8	0	1439389	67.24	3.62
IEO	Sell	10/26/2015	60.27	4757	286703.4	3511.62	1447108	286770.7	0

XLE	Sell	10/27/2015	65.67	4291	281790	-1458.94	1442226	568560.6	0
IBB	Buy	10/27/2015	108.95	2646	288290.2	0	1441711	280270.4	2.22
IHE	Buy	10/28/2015	154.44	1814	280157.1	0	1466028	113.35	1.08
IGN	Sell	11/10/2015	36.92	7737	285626.8	2506.79	1453749	285740.2	0
IYJ	Sell	11/12/2015	105.07	2797	293880.8	10264.99	1426427	579621	0
IAK	Sell	11/12/2015	52.26	5736	299763.4	16749.12	1429420	879384.3	0
XLP	Buy	11/25/2015	49.75	5898	293425.5	0	1467344	585958.8	0.86
XLRE	Buy	11/25/2015	30.68	9566	293484.9	0	1467462	292474	-1.01
IGN	Buy	11/27/2015	37.57	7783	292443.9	0	1471175	30.06	-1.36
XLRE	Sell	12/3/2015	30.37	9566	290519.4	-2965.46	1432579	290549.5	0
IBB	Sell	12/3/2015	111.37	2646	294693.6	6403.31	1436023	585243	0
IGN	Sell	12/9/2015	37.06	7783	288471.5	-3972.44	1447918	873714.5	0
IHE	Sell	12/11/2015	156.1	1814	283171.4	3014.32	1445545	1156886	0
XLU	Buy	12/16/2015	43.48	6712	291837.8	0	1459217	865048.1	13.16
XLP	Sell	12/18/2015	50.18	5898	295961.6	2536.14	1441501	1161010	0
IBB	Buy	12/23/2015	112.94	2572	290490	0	1452982	870519.8	-2.27
IYZ	Buy	12/28/2015	29.41	9873	290364.9	0	1451937	580154.8	-3.26
ITA	Buy	12/29/2015	59.83	4879	291886.2	0	1459684	288268.7	-3.7
IYC	Buy	12/29/2015	36.7	7855	288258.9	0	1460003	9.81	-3.21
IBB	Sell	1/4/2016	110.38	2572	283905.7	-6584.31	1411834	283915.5	0
IYC	Sell	1/4/2016	35.52	7855	279009.6	-9249.26	1415503	562925.1	0
IYZ	Sell	1/4/2016	28.45	9873	280886.9	-9478.08	1415503	843811.9	0
XLB	Buy	1/4/2016	42.92	6610	283701.2	0	1418564	560110.7	-1.82
XLB	Sell	1/6/2016	42.14	6610	278545.4	-5155.8	1411651	838656.1	0
ITA	Sell	1/7/2016	57.61	4879	281079.2	-10807	1406418	1119735	0
SOXX	Buy	1/29/2016	82.38	3458	284870	0	1424594	834865.3	-5.22
IYZ	Buy	1/29/2016	27.71	10298	285357.6	0	1426842	549507.7	-5.7
IEZ	Buy	1/29/2016	30.72	9293	285513.5	0	1427666	263994.2	-10.14
XLE	Buy	1/29/2016	57.24	4612	263990.9	0	1433420	3.31	6.48
SOXX	Sell	2/8/2016	78.08	3458	270000.6	-14869.4	1385502	270004	0
IYZ	Sell	2/9/2016	26.13	10298	269086.7	-16270.8	1367120	539090.7	0
IEZ	Sell	2/11/2016	27.61	9293	256563.9	-28949.6	1352304	795654.6	0
IYG	Buy	2/17/2016	77.61	3527	273730.5	0	1368724	521924.2	3.29
IGM	Buy	2/17/2016	99.83	2740	273539.7	0	1367807	248384.5	6.63
IAK	Buy	2/17/2016	46.96	5289	248371.4	0	1366406	13.03	4.54
IAK	Sell	3/24/2016	49.09	5289	259637.5	11266.1	1451235	259650.6	0
IHE	Buy	4/1/2016	136.09	1907	259531.6	0	1465686	118.93	1.81
XLE	Sell	4/4/2016	60.95	4612	281101.4	17110.52	1461309	281220.3	0
IYG	Sell	4/7/2016	80.16	3527	282724.3	8993.85	1451153	563944.7	0
IEZ	Buy	4/18/2016	35.69	8217	293282.8	0	1466488	270661.8	1.8
IAT	Buy	4/18/2016	33.08	8182	270660.6	0	1464444	1.28	0.45
XLU	Sell	4/20/2016	49.2	6712	330230.4	38392.64	1477330	330231.7	0
IAI	Buy	4/20/2016	38.49	7720	297142.8	0	1485854	33088.88	-1.66

IGM	Sell	4/27/2016	106.45	2740	291666.2	18126.47	1490200	324755	0
IAI	Sell	4/29/2016	37.85	7720	292202	-4940.8	1473098	616957	0
IHE	Sell	4/29/2016	138.56	1907	264225	4693.32	1474488	881182	0
IAT	Sell	5/4/2016	33.23	8182	271887.9	1227.3	1443997	1153070	0
IEZ	Sell	5/5/2016	36.33	8217	298547.4	5264.63	1441716	1451617	0
XLU	Buy	5/5/2016	48.91	5935	290280.9	0	1451617	1161336	-1.19
XLP	Buy	5/6/2016	53.27	5448	290215	0	1451142	871121.5	0.21
XLRE	Buy	5/6/2016	32.78	8852	290168.6	0	1450979	580952.9	-2.38
XLP	Sell	5/17/2016	53.38	5448	290814.2	599.28	1438197	871767.2	0
XLRE	Sell	5/17/2016	32	8852	283264	-6904.56	1442828	1155031	0
IGV	Buy	5/17/2016	100.95	2859	288623.5	0	1443536	866407.7	3.59
XLU	Sell	5/18/2016	48.33	5935	286838.6	-3442.3	1440384	1153246	0
IHE	Buy	5/20/2016	138.23	2092	289183.2	0	1446262	864063	2.53
SOXX	Buy	5/20/2016	90.75	3187	289220.3	0	1446201	574842.8	3.87
IAI	Buy	5/24/2016	39.24	7468	293044.3	0	1465416	281798.4	-1.96
IGM	Buy	5/24/2016	109.73	2568	281787.2	0	1463698	11.28	-0.04
IAI	Sell	6/9/2016	38.47	7468	287294	-5750.36	1488177	287305.2	0
IHE	Sell	6/13/2016	141.73	2092	296497.1	7313.84	1464171	583802.3	0
IGM	Sell	6/13/2016	109.69	2568	281686	-101.18	1465131	865488.3	0
IGV	Sell	6/13/2016	104.57	2859	298977.4	10353.87	1465710	1164466	0
SOXX	Sell	6/17/2016	94.26	3187	300406.6	11186.37	1462801	1464872	0
IBB	Buy	7/6/2016	89	3291	292898.7	0	1464872	1171974	11.19
XLV	Buy	7/6/2016	73.34	3992	292773.3	0	1464039	879200.3	1.99
IHE	Buy	7/6/2016	144.79	2019	292336.9	0	1462282	586863.4	5.54
ITB	Buy	7/7/2016	28.56	10249	292711.4	0	1463578	294152	1.3
XLY	Buy	7/8/2016	81.06	3628	294085.7	0	1479215	66.28	0.1
ITB	Sell	8/2/2016	28.93	10249	296503.6	3792.13	1517393	296569.9	0
IEO	Buy	8/8/2016	57.16	5188	296553.9	0	1518038	15.99	2.99
XLV	Sell	8/16/2016	74.8	3992	298601.6	5828.32	1518691	298617.6	0
ITB	Buy	8/23/2016	29.45	10139	298593.6	0	1533516	24.04	-2.82
IBB	Sell	8/24/2016	98.96	3291	325688	32789.3	1507257	325712	0
IHE	Sell	8/24/2016	152.81	2019	308531.5	16194.66	1518951	634243.6	0
XLY	Sell	8/30/2016	81.14	3628	294375.9	290.24	1528145	928619.5	0
IYZ	Buy	9/7/2016	32.63	9400	306722	0	1533614	621897.5	-0.64
ITB	Sell	9/9/2016	28.62	10139	290178.2	-8415.37	1507751	912075.7	0
IYZ	Sell	9/9/2016	32.42	9400	304748	-1974	1516572	1216824	0
IEO	Sell	9/13/2016	58.87	5188	305418.6	8864.74	1516180	1522242	0
IHE	Buy	9/16/2016	150.58	2021	304318.1	0	1522242	1217924	-0.48
IBB	Buy	9/20/2016	98.75	3079	304051	0	1520739	913873.2	-0.63
XLU	Buy	9/21/2016	51.08	5967	304794.4	0	1524189	609078.8	-2.17
IHF	Buy	9/22/2016	124.24	2462	305886.5	0	1529671	303192.3	-1.32
XLV	Buy	9/22/2016	73.23	4140	303172.2	0	1530297	20.11	-0.9
IBB	Sell	9/29/2016	98.13	3079	302142	-1908.98	1478597	302162.1	0

IHE	Sell	9/29/2016	149.85	2021	302853.3	-1464.82	1487341	605015.4	0	
XLV	Sell	9/29/2016	72.57	4140	300439.8	-2732.4	1496281	905455.2	0	
XLU	Sell	9/29/2016	49.97	5967	298171	-6623.37	1501208	1203626	0	
IEO	Buy	9/30/2016	60.63	4973	301525.4	0	1507872	902100.8	-2.5	
XLE	Buy	9/30/2016	70.73	4262	301451.3	0	1507529	600649.5	-2.28	
IAT	Buy	10/6/2016	35.97	8381	301464.6	0	1507435	299184.9	-1.7	
XLF	Buy	10/10/2016	19.66	15217	299166.2	0	1516539	18.71	18.72	
IHF	Sell	10/11/2016	122.6	2462	301841.7	-4044.82	1497722	301860.4	0	
IAT	Sell	10/13/2016	35.36	8381	296352.2	-5112.41	1485989	598212.6	0	
IEO	Sell	10/25/2016	59.12	4973	293984.9	-7540.56	1485381	892197.4	0	
IHF	Buy	10/25/2016	121.33	2453	297634.3	0	1488711	594563.2	0	
XLU	Buy	10/25/2016	48.35	6161	297884.4	0	1489444	296678.8	-0.08	
ITA	Buy	10/25/2016	64.76	4581	296665.6	0	1490245	13.25	10.18	
IHF	Sell	10/26/2016	121.33	2453	297634.3	0	1490981	297647.5	0	
IGV	Buy	10/27/2016	111.6	2667	297642.8	0	1490213	4.71	-0.26	
XLE	Sell	10/31/2016	69.12	4262	294589.4	-6861.82	1495196	294594.2	0	
IGN	Buy	11/1/2016	39.93	7377	294572.5	0	1487520	21.69	7.1	
IGV	Sell	11/2/2016	111.31	2667	296870.4	-772.36	1473052	296892.1	0	
IYJ	Buy	11/8/2016	112.43	2640	296815.2	0	1506137	76.93	8.88	
XLU	Sell	11/9/2016	48.31	6161	297637.9	-246.44	1535291	297714.8	0	
IAK	Buy	11/9/2016	55.32	5381	297676.9	0	1541144	37.92	7.68	
IGN	Sell	12/1/2016	42.77	7377	315477.4	20904.94	1620826	315515.3	0	
XLP	Buy	12/7/2016	51.31	6149	315505.2	0	1652516	10.13	1.36	
ITA	Sell	12/14/2016	71.35	4581	326854.4	30188.79	1643466	326864.5	0	
IGV	Buy	12/15/2016	112.37	2908	326774.9	0	1652925	89.62	-1.38	
IGV	Sell	12/22/2016	110.82	2908	322264.9	-4510.02	1641165	322354.5	0	
XLP	Sell	12/28/2016	52.01	6149	319809.5	4304.3	1635807	642164	0	
IYJ	Sell	12/28/2016	122.41	2640	323162.4	26347.2	1637529	965326.4	0	
IBB	Buy	1/4/2017	92.84	3550	329593.5	0	1648399	635732.9	-0.37	
IGV	Buy	1/6/2017	112.73	2922	329390.9	0	1647205	306341.9	19.73	
IAK	Sell	1/9/2017	59.57	5381	320546.2	22869.25	1646125	626888.1	0	
XLY	Buy	1/11/2017	83.54	3947	329732.4	0	1648690	297155.7	4.57	
IYC	Buy	1/13/2017	38.73	7673	297136.9	0	1652520	18.8	2.52	
IBB	Sell	1/17/2017	92.5	3550	328374.7	-1218.83	1635484	328393.5	0	
XLF	Sell	1/17/2017	23.34	15217	355164.8	55998.56	1639010	683558.3	0	
IYT	Buy	1/24/2017	168.3	1967	331046.1	0	1655820	352512.2	-1.65	
ITB	Buy	1/24/2017	29.2	11326	330719.2	0	1653695	21792.95	16.2	
IYT	Sell	2/1/2017	165.53	1967	325597.5	-5448.59	1645609	347390.5	0	
IHE	Buy	2/6/2017	144.17	2287	329724.3	0	1649308	17666.12	4.27	
IYC	Sell	3/7/2017	39.7	7673	304618.1	7481.18	1719895	322284.2	0	
IYZ	Buy	3/20/2017	33.4	9649	322276.6	0	1743535	7.62	-2.01	
IHE	Sell	3/21/2017	150.33	2287	343800.1	14075.8	1714519	343807.8	0	
XLY	Sell	3/21/2017	87.36	3947	344809.9	15077.54	1722052	688617.7	0	

IYZ	Sell	3/22/2017	32.73	9649	315811.8	-6464.83	1722291	1004429	0	
IGN	Buy	3/23/2017	45.1	7663	345626.6	0	1728253	658802.9	-0.86	
IEO	Buy	3/29/2017	60.75	5713	347084.8	0	1735440	311718.1	-2.96	
XLRE	Buy	3/31/2017	31.66	9845	311692.7	0	1734942	25.41	1.14	
IGN	Sell	4/5/2017	44.72	7663	342657.2	-2969.41	1715108	342682.6	0	
IYZ	Buy	4/5/2017	33.04	10371	342657.8	0	1720895	24.75	2.72	
IEO	Sell	4/19/2017	58.95	5713	336803.1	-10281.7	1739591	336827.8	0	
IYJ	Buy	4/20/2017	126.43	2664	336809.5	0	1745509	18.29	0.95	
XLRE	Sell	4/26/2017	32.02	9845	315236.9	3544.2	1762325	315255.2	0	
SOXX	Buy	4/26/2017	137.53	2292	315218.8	0	1764393	36.43	4.78	
IYZ	Sell	5/3/2017	33.94	10371	351991.7	9333.9	1742502	352028.2	0	
IEO	Buy	5/15/2017	58.26	6042	352016.6	0	1792102	11.58	-2.16	
IGV	Sell	5/17/2017	134.97	2922	394388.2	64997.26	1751302	394399.8	0	
SOXX	Sell	5/17/2017	144.1	2292	330277.2	15058.44	1760207	724677	0	
IYJ	Sell	5/17/2017	127.63	2664	340006.3	3196.8	1770704	1064683	0	
XLU	Buy	5/17/2017	51.81	6848	354794.9	0	1774114	709888.4	3.07	
IEO	Sell	5/25/2017	57.01	6042	344429	-7587.54	1784450	1054317	0	
XLRE	Buy	5/25/2017	32.21	11123	358271.8	0	1791380	696045.6	-0.65	
IAK	Buy	5/31/2017	61.16	5840	357183.2	0	1786196	338862.5	1.51	
IYT	Buy	5/31/2017	166.01	2041	338826.4	0	1785954	36.05	3.96	
IAK	Sell	6/22/2017	62.09	5840	362593.3	5410.18	1810905	362629.4	0	
XLU	Sell	6/23/2017	53.4	6848	365683.2	10888.32	1815073	728312.6	0	
IEO	Buy	7/3/2017	55.13	6628	365374.5	0	1827030	362938.1	-0.5	
IEZ	Buy	7/3/2017	33.56	10813	362913.5	0	1828477	24.64	-5.65	
XLRE	Sell	7/6/2017	32	11123	355936	-2335.83	1777708	355960.6	0	
XLE	Buy	7/6/2017	63.9	5570	355923	0	1782936	37.64	1.97	
IEZ	Sell	7/7/2017	31.67	10813	342414.2	-20499.3	1792574	342451.8	0	
IGM	Buy	7/13/2017	149.39	2292	342405.1	0	1810259	46.74	0.32	
IYT	Sell	7/20/2017	172.59	2041	352256.2	13429.78	1812729	352302.9	0	
XLRE	Buy	7/20/2017	32.36	10886	352271	0	1816505	31.97	-0.87	
IEO	Sell	8/3/2017	54.85	6628	363533.9	-1840.6	1805417	363565.8	0	
IGM	Sell	8/10/2017	149.87	2292	343500.7	1095.58	1794951	707066.5	0	
XLE	Sell	8/10/2017	65.16	5570	362941.2	7018.2	1800612	1070008	0	
XLRE	Sell	8/11/2017	32.08	10886	349222.9	-3048.08	1804028	1419231	0	
IYT	Buy	8/15/2017	169.68	2133	361927.4	0	1809638	1057303	-3.09	
IHI	Buy	8/17/2017	27.12	13228	358692.1	0	1793561	698611.1	4.2	
ITB	Sell	8/18/2017	33.93	11326	384291.2	53571.98	1786255	1082902	0	
IYT	Sell	8/18/2017	164.43	2133	350729.2	-11198.3	1789992	1433631	0	
IGV	Buy	8/24/2017	144.28	2482	358107.9	0	1790696	1075524	1.3	
IHF	Buy	8/28/2017	144.41	2480	358147.5	0	1791120	717376.1	1.49	
IBB	Buy	8/28/2017	104.75	3422	358454.1	0	1792581	358921.9	6.13	
IHE	Buy	8/28/2017	149.16	2406	358882.1	0	1795592	39.85	4.1	
IHF	Sell	9/19/2017	146.57	2480	363494.3	5346.88	1839019	363534.2	0	

IHI	Sell	9/19/2017	28.26	13228	373774	15081.93	1847188	737308.2	0	
IGV	Sell	9/21/2017	146.15	2482	362748	4640.1	1848941	1100056	0	
IYZ	Buy	9/25/2017	30.88	11986	370127.7	0	1850740	729928.5	0.71	
IHE	Sell	9/26/2017	155.28	2406	373598.6	14716.54	1839543	1103527	0	
XLU	Buy	10/11/2017	54.31	6869	373055.4	0	1865489	730471.8	3.44	
XLRE	Buy	10/11/2017	32.73	11396	372991.1	0	1865077	357480.7	-0.52	
IYZ	Sell	10/13/2017	31.1	11986	372764.6	2636.92	1859558	730245.3	0	
XLP	Buy	10/16/2017	54.45	6832	372002.4	0	1860072	358242.9	-1.16	
IBB	Sell	10/20/2017	111.17	3422	380423.4	21969.22	1854785	738666.2	0	
XLRE	Sell	10/24/2017	32.56	11396	371053.8	-1937.32	1851953	1109720	0	
XLP	Sell	10/24/2017	53.82	6832	367698.2	-4304.16	1853776	1477418	0	
IHF	Buy	10/24/2017	147.77	2510	370909.7	0	1854801	1106509	-0.95	
IEZ	Buy	11/3/2017	33.51	11103	372024.9	0	1860240	734483.6	0.59	
XLE	Buy	11/6/2017	70.37	5322	374509.1	0	1872669	359974.5	-1.95	
XLP	Buy	11/10/2017	54.31	6628	359966.7	0	1864811	7.8	5.49	
IHF	Sell	11/14/2017	146.36	2510	367375.4	-3534.33	1846182	367383.2	0	
XLE	Sell	11/14/2017	69	5322	367218	-7291.14	1846057	734601.2	0	
IEZ	Sell	11/14/2017	33.71	11103	374233.3	2208.39	1850634	1108834	0	
IGN	Buy	11/16/2017	46.77	7949	371778.7	0	1859081	737055.8	3.05	
IYZ	Buy	11/21/2017	28.93	12907	373399.5	0	1867013	363656.3	2	
XLF	Buy	11/28/2017	27.14	13399	363648.9	0	1888256	7.4	10.39	
IGN	Sell	12/4/2017	48.2	7949	383110	11331.3	1905518	383117.4	0	
XLE	Buy	12/4/2017	69.65	5480	381682	0	1908529	1435.4	8.69	
XLU	Sell	12/5/2017	56.18	6869	385900.4	12845.03	1891012	387335.8	0	
IYZ	Sell	12/6/2017	29.51	12907	380885.6	7486.06	1882941	768221.4	0	
IGM	Buy	12/18/2017	171.37	2217	379937.9	0	1900489	388283.5	-1.04	
IGV	Buy	12/18/2017	157.41	2415	380156	0	1901205	8127.45	4.42	
IGM	Sell	12/29/2017	169.6	2217	375996.6	-3941.38	1902143	384124	0	
IAK	Buy	1/12/2018	67.94	5653	384064.8	0	1974578	59.17	0.75	
IAK	Sell	1/30/2018	68.45	5653	386947.9	2883.03	1981598	387007	0	
XLE	Sell	1/30/2018	75.7	5480	414836	33154	1983577	801843	0	
XLP	Sell	2/2/2018	57.29	6628	379718.1	19751.44	1970999	1181561	0	
XLF	Sell	2/2/2018	29.96	13399	401434	37785.18	1976434	1582995	0	
IGV	Sell	2/5/2018	164.37	2415	396962.7	16806.71	1972037	1979958	0	
XLU	Buy	2/20/2018	49.5	7999	395950.5	0	1979958	1584007	3.09	
IGV	Buy	2/22/2018	169.21	2336	395282.3	0	1976518	1188725	3.41	
XLK	Buy	2/22/2018	67.44	5857	394996.1	0	1975117	793729.1	2.25	
IHE	Buy	2/22/2018	152.04	2593	394245.9	0	1971895	399483.1	-2.74	
ITA	Buy	2/22/2018	101.5	3880	393800.6	0	1969105	5682.52	-2.1	
IHE	Sell	3/1/2018	147.88	2593	383445.6	-10800.4	1955434	389128.1	0	
IYJ	Buy	3/9/2018	153.07	2542	389103.9	0	2020894	24.16	-3.41	
XLK	Sell	3/19/2018	68.96	5857	403898.7	8902.64	1977807	403922.9	0	
ITA	Sell	3/22/2018	99.37	3880	385536.2	-8264.4	1949288	789459.1	0	

IGV	Sell	3/22/2018	174.98	2336	408753.3	13471.01	1958271	1198212	0
IYJ	Sell	3/22/2018	147.85	2542	375834.7	-13269.2	1963994	1574047	0
XLP	Buy	4/5/2018	52.8	7502	396105.6	0	1980556	1177941	-1.21
ITB	Buy	4/5/2018	40.79	9716	396315.6	0	1981757	781625.8	-2.16
IHF	Buy	4/9/2018	159.53	2463	392930.3	0	1965170	388695.6	12.7
IEZ	Buy	4/11/2018	35.33	11001	388665.3	0	1957075	30.22	9.03
XLP	Sell	4/19/2018	52.16	7502	391304.3	-4801.28	1981189	391334.5	0
ITB	Sell	4/19/2018	39.91	9716	387765.6	-8550.08	1987266	779100.1	0
IAK	Buy	4/20/2018	65.42	6078	397622.8	0	1988340	381477.3	-1.09
IAT	Buy	4/27/2018	51.68	7381	381450.1	0	2013826	27.26	-0.37
IAK	Sell	5/2/2018	64.71	6078	393307.4	-4315.38	1983962	393334.6	0
XLU	Sell	5/8/2018	51.03	7999	408189	12238.47	1992343	801523.6	0
SOXX	Buy	5/8/2018	179.19	2233	400131.3	0	2000902	401392.3	5.19
IBB	Buy	5/11/2018	106.8	3758	401354.4	0	2035251	37.94	3.16
IEZ	Sell	5/24/2018	38.52	11001	423758.5	35093.19	2053976	423796.5	0
IAT	Sell	5/29/2018	51.49	7381	380047.7	-1402.39	2038862	803844.2	0
XLP	Buy	5/30/2018	50.38	8183	412259.5	0	2061457	391584.6	7.17
XLU	Buy	5/30/2018	50.85	7700	391545	0	2062193	39.61	-2.58
XLU	Sell	6/6/2018	49.54	7700	381458	-10087	2064056	381497.6	0
IYZ	Buy	6/6/2018	27.63	13807	381487.4	0	2073065	10.2	-0.2
SOXX	Sell	6/19/2018	188.49	2233	420898.2	20766.9	2093203	420908.4	0
XLU	Buy	6/20/2018	50.28	8358	420240.2	0	2101432	668.13	5.73
IYZ	Sell	6/25/2018	27.58	13807	380743.2	-744.2	2092995	381411.3	0
IBB	Sell	6/26/2018	110.17	3758	414018.9	12664.46	2090726	795430.2	0
IHF	Sell	6/27/2018	179.8	2463	442847.4	49917.13	2090624	1238278	0
XLU	Sell	7/9/2018	53.16	8358	444311.3	24071.04	2094645	1682589	0
IEZ	Buy	7/9/2018	37.63	11205	421644.2	0	2108269	1260945	-4.54
IYJ	Buy	7/10/2018	146.43	2887	422743.4	0	2113902	838201.3	6.99
XLC	Buy	7/10/2018	50.7	8354	423547.8	0	2117915	414653.5	-1.87
XLB	Buy	7/10/2018	58.85	7045	414598.3	0	2120747	55.27	-1.44
IEZ	Sell	7/19/2018	35.92	11205	402483.6	-19160.6	2100674	402538.9	0
XLC	Sell	7/26/2018	49.75	8354	415611.5	-7936.3	2111655	818150.4	0
IEZ	Buy	8/3/2018	36.1	11716	422947.6	0	2114857	395202.8	-0.14
IYZ	Buy	8/7/2018	28.52	13857	395201.6	0	2121443	1.13	4.24
IEZ	Sell	8/13/2018	36.05	11716	422361.8	-585.8	2083922	422362.9	0
XLC	Buy	8/14/2018	49.24	8554	421199	0	2106089	1163.97	-0.39
XLB	Sell	8/15/2018	58	7045	408610	-5988.25	2093422	409774	0
IGV	Buy	8/17/2018	191.06	2144	409632.6	0	2121016	141.33	5.21
XLP	Sell	8/29/2018	53.99	8183	441800.2	29540.63	2164957	441941.5	0
SOXX	Buy	8/29/2018	190.56	2272	432952.3	0	2165121	8989.18	-2.65
XLC	Sell	9/4/2018	49.05	8554	419573.7	-1625.26	2146077	428562.9	0
IGV	Sell	9/5/2018	201.02	2144	430986.9	21354.24	2136131	859549.8	0
SOXX	Sell	9/7/2018	185.51	2272	421478.7	-11473.6	2133206	1281028	0

XLE	Buy	9/19/2018	75.42	5700	429894	0	2149542	851134.5	-1.06
IEZ	Buy	9/19/2018	35.65	12048	429511.2	0	2147718	421623.3	3.56
IEO	Buy	9/20/2018	74.42	5665	421589.3	0	2148619	33.98	4.68
IYZ	Sell	10/5/2018	29.73	13857	411968.6	16766.97	2172932	412002.6	0
IYJ	Sell	10/5/2018	156.67	2887	452306.3	29562.88	2177921	864308.9	0
XLU	Buy	10/8/2018	54.03	8068	435914	0	2179813	428394.8	2.35
IEO	Sell	10/10/2018	77.9	5665	441303.5	19714.2	2139099	869698.3	0
IEZ	Sell	10/10/2018	36.92	12048	444812.2	15300.96	2158473	1314511	0
XLE	Sell	10/11/2018	74.62	5700	425334	-4560	2157155	1739845	0
XLP	Buy	10/22/2018	53.96	8069	435432.3	0	2177291	1304412	3.4
XLRE	Buy	10/25/2018	32.18	13585	437165.3	0	2185896	867246.9	3.98
IAI	Buy	11/1/2018	61.61	7086	436568.5	0	2183077	430678.5	1.4
IGN	Buy	11/1/2018	52.01	8280	430642.8	0	2180668	35.65	0.21
IAI	Sell	11/12/2018	62.47	7086	442662.4	6093.96	2199309	442698.1	0
IGN	Sell	11/12/2018	52.12	8280	431553.6	910.8	2210150	874251.7	0
XLP	Sell	11/20/2018	55.8	8069	450250.2	14817.91	2211021	1324502	0
IHI	Buy	11/29/2018	35.79	12415	444375.1	0	2221972	880126.8	-1.97
IBB	Buy	11/30/2018	111.15	4024	447267.6	0	2236600	432859.2	-4.36
XLI	Buy	11/30/2018	73.91	5856	432817	0	2228351	42.19	-6.7
XLI	Sell	12/6/2018	68.96	5856	403829.8	-28987.2	2198178	403872	0
IBB	Sell	12/7/2018	106.3	4024	427751.2	-19516.4	2161654	831623.2	0
IHI	Sell	12/7/2018	35.09	12415	435622.5	-8752.59	2172358	1267246	0
XLRE	Sell	12/17/2018	33.46	13585	454554.1	17388.8	2147934	1721800	0
XLU	Sell	12/18/2018	55.3	8068	446160.4	10246.36	2162474	2167960	0
IAK	Buy	12/31/2018	57.39	7555	433581.5	0	2167960	1734379	11.34
XLF	Buy	1/2/2019	23.84	18197	433816.5	0	2169153	1300562	11.7
IAI	Buy	1/2/2019	56.1	7744	434438.4	0	2172429	866123.9	9.27
XLB	Buy	1/3/2019	50.14	8578	430100.9	0	2150602	436022.9	10.71
IAT	Buy	1/3/2019	41.02	10452	428741	0	2143740	7281.89	13.24
IAI	Sell	3/6/2019	61.3	7744	474725	40286.61	2397444	482006.9	0
IAT	Sell	3/7/2019	46.45	10452	485495.4	56754.36	2383195	967502.3	0
IAK	Sell	3/7/2019	63.9	7555	482764.5	49183.05	2388734	1450267	0
XLF	Sell	3/20/2019	26.63	18197	484586.1	50769.63	2401243	1934853	0
IHF	Buy	3/20/2019	171.51	2810	481943.1	0	2410160	1452910	-0.59
IEZ	Buy	3/20/2019	25.92	18611	482397.1	0	2412099	970512.7	0.58
IEO	Buy	3/20/2019	58.81	8208	482712.5	0	2413774	487800.2	3.42
XLB	Sell	3/22/2019	55.51	8578	476164.8	46063.86	2364404	963965	0
IHF	Sell	3/25/2019	170.49	2810	479076.9	-2866.2	2371081	1443042	0
ITB	Buy	3/28/2019	35.6	13446	478677.6	0	2393494	964364.3	4.35
XLI	Buy	4/1/2019	76.62	6283	481403.5	0	2407348	482960.8	1.33
ITA	Buy	4/1/2019	101.96	4721	481329.6	0	2407097	1631.28	-0.86
XLI	Sell	4/25/2019	77.64	6283	487812.1	6408.66	2459017	489443.4	0
IEZ	Sell	4/25/2019	26.07	18611	485188.8	2791.65	2463415	974632.2	0

IEO	Sell	4/30/2019	60.82	8208	499210.6	16498.08	2472577	1473843	0
XLU	Buy	4/30/2019	58.54	8469	495775.3	0	2479061	978067.5	-1.38
IHF	Buy	5/1/2019	162.82	3041	495135.6	0	2476149	482931.9	8.86
IHI	Buy	5/2/2019	37.67	12820	482930.4	0	2482337	1.48	-3.4
XLU	Sell	5/8/2019	57.73	8469	488915.4	-6859.89	2459632	488916.9	0
IHI	Sell	5/13/2019	36.39	12820	466499.4	-16431	2436006	955416.2	0
ITA	Sell	5/13/2019	101.08	4721	477175.1	-4154.48	2436583	1432591	0
IYZ	Buy	5/23/2019	29.27	16674	488048	0	2440241	944543.3	-1.37
ITB	Sell	5/29/2019	37.15	13446	499518.9	20841.3	2422416	1444062	0
IYZ	Sell	5/30/2019	28.87	16674	481378.4	-6669.6	2426463	1925441	0
XLB	Buy	6/4/2019	56.29	8648	486795.9	0	2434169	1438645	3.09
IGN	Buy	6/5/2019	53.69	9064	486646.2	0	2433472	951998.5	5.48
IHI	Buy	6/5/2019	38.02	12779	485816	0	2429121	466182.6	5.24
IYZ	Buy	6/6/2019	29.54	15781	466170.7	0	2443872	11.82	3.08
XLB	Sell	7/9/2019	58.03	8648	501843.4	15047.52	2513286	501855.3	0
IHF	Sell	7/25/2019	177.25	3041	539017.3	43881.63	2552953	1040873	0
IYZ	Sell	7/31/2019	30.45	15781	480531.5	14360.71	2551406	1521404	0
IGN	Sell	8/1/2019	56.63	9064	513294.3	26648.16	2548244	2034698	0
XLRE	Buy	8/2/2019	37.7	13548	510759.6	0	2553952	1523939	4.27
IHI	Sell	8/5/2019	40.01	12779	511267.5	25451.56	2530210	2035206	0
XLP	Buy	8/19/2019	60.78	8436	512740.1	0	2563714	1522466	0.3
ITA	Buy	8/19/2019	107.63	4764	512725.5	0	2563967	1009741	4.67
XLY	Buy	8/21/2019	119.94	4272	512383.7	0	2562442	497356.9	1.73
IYC	Buy	8/22/2019	54.08	9197	497350.8	0	2572422	6.16	2.51
XLRE	Sell	9/10/2019	39.31	13548	532571.9	21812.28	2609539	532578	0
IBB	Buy	9/17/2019	105.27	4999	526244.7	0	2631527	6333.31	-2.96
XLY	Sell	9/20/2019	122.02	4272	521269.4	8885.76	2601870	527602.8	0
IYC	Sell	9/20/2019	55.43	9197	509812.7	12461.93	2608834	1037415	0
IBB	Sell	9/26/2019	102.15	4999	510647.9	-15596.9	2596391	1548063	0
ITA	Sell	10/1/2019	112.65	4764	536664.6	23939.1	2588345	2084728	0
XLP	Sell	10/2/2019	60.96	8436	514258.6	1518.48	2591141	2598986	0
IGV	Buy	10/11/2019	216.22	2404	519792.9	0	2598986	2079194	-1.96
IBB	Buy	10/15/2019	102.25	5092	520657	0	2603578	1558537	18.63
XLV	Buy	10/15/2019	91.47	5695	520921.7	0	2604647	1037615	10.36
IYC	Buy	10/15/2019	54.82	9504	520985.5	0	2605046	516629.4	1.11
XLK	Buy	10/15/2019	81.97	6302	516574.9	0	2605474	54.48	4.34
IGV	Sell	10/18/2019	211.99	2404	509624	-10168.9	2576271	509678.4	0
IGN	Buy	10/18/2019	53.11	9596	509643.6	0	2585887	34.88	-0.06
IYC	Sell	12/3/2019	55.43	9504	526759.2	5773.68	2752012	526794.1	0
IGN	Sell	12/3/2019	53.08	9596	509355.7	-287.88	2751848	1036150	0
XLK	Sell	12/3/2019	85.53	6302	539010.1	22435.12	2748490	1575160	0
IEO	Buy	12/12/2019	53.15	10395	552494.3	0	2762587	1022666	3.93
XLE	Buy	12/13/2019	60.74	9079	551458.5	0	2757578	471207.1	-1.02

IYT	Buy	12/18/2019	193.12	2439	471019.7	0	2785094	187.43	0.71
XLE	Sell	12/30/2019	60.12	9079	545829.5	-5628.98	2779440	546016.9	0
XLRE	Buy	12/30/2019	38.38	14226	545993.9	0	2783254	23.03	8.08
IBB	Sell	1/2/2020	121.3	5092	617659.6	97002.6	2795677	617682.6	0
ITA	Buy	1/2/2020	114.48	4896	560469.6	0	2802857	57213.03	-0.45
XLV	Sell	1/3/2020	100.95	5695	574910.3	53988.6	2800768	632123.3	0
ITB	Buy	1/10/2020	45.34	12342	559586.3	0	2797961	72537	9.18
IEO	Sell	1/17/2020	55.24	10395	574219.8	21725.55	2848392	646756.8	0
XLB	Buy	1/22/2020	59.76	9528	569393.3	0	2847026	77363.52	0.84
XLB	Sell	1/24/2020	60.26	9528	574157.3	4764	2864357	651520.8	0
IYT	Sell	1/27/2020	194.49	2439	474361.1	3341.43	2850927	1125882	0
ITA	Sell	2/3/2020	113.97	4896	557972.6	-2496.96	2830816	1683855	0
IBB	Buy	2/7/2020	121.29	4709	571154.6	0	2855812	1112700	-0.54
IYG	Buy	2/10/2020	155.06	3708	574962.5	0	2875184	537737.5	-4.46
XLF	Buy	2/10/2020	31.09	17296	537732.6	0	2872218	4.82	-4.15
XLF	Sell	2/24/2020	29.8	17296	515420.8	-22311.8	2824603	515425.6	0
IYG	Sell	2/24/2020	148.14	3708	549303.1	-25659.4	2825122	1064729	0
ITB	Sell	2/25/2020	49.5	12342	610929	51342.72	2770276	1675658	0
XLRE	Sell	2/25/2020	41.48	14226	590094.5	44100.6	2799404	2265752	0
IBB	Sell	2/25/2020	120.63	4709	568046.7	-3107.94	2815763	2833799	0
IGN	Buy	3/26/2020	43.81	12936	566719.7	0	2833799	2267079	10.57
XLI	Buy	3/30/2020	59.25	9584	567852	0	2839368	1699227	4.74
XLB	Buy	3/30/2020	45.53	12493	568806.3	0	2844160	1130421	11.22
ITA	Buy	3/30/2020	73.6	7733	569110.1	0	2845909	561310.8	-8.29
IAK	Buy	3/30/2020	51.61	10876	561310.4	0	2847378	0.41	-1.76
ITA	Sell	4/3/2020	67.5	7733	521938.8	-47171.3	2642174	521939.2	0
IYC	Buy	4/6/2020	46.88	11132	521896	0	2795413	43.25	7.1
IAK	Sell	4/22/2020	50.7	10876	551413.2	-9897.16	2892533	551456.5	0
IGN	Sell	5/1/2020	48.44	12936	626619.8	59900.15	2956261	1178076	0
XLI	Sell	5/6/2020	62.06	9584	594783	26931.04	2943992	1772859	0
XLB	Sell	5/13/2020	50.64	12493	632645.5	63839.23	2945126	2405505	0
IYC	Sell	5/13/2020	50.21	11132	558937.7	37041.73	2955370	2964443	0
IYT	Buy	5/22/2020	155.64	3809	592832.8	0	2964443	2371610	3
IAK	Buy	5/22/2020	53.08	11093	588816.4	0	2944103	1782793	5.35
ITA	Buy	5/22/2020	79.05	7403	585207.2	0	2926354	1197586	8.25
XLF	Buy	5/26/2020	24.09	24722	595553	0	2977785	602033.2	-0.37
XLRE	Buy	5/27/2020	34.86	17270	602032.2	0	3041569	1.04	1.35
IAK	Sell	6/11/2020	55.92	11093	620320.6	31504.12	2977330	620321.6	0
XLF	Sell	6/11/2020	24	24722	593328	-2224.98	2998567	1213650	0
XLRE	Sell	6/11/2020	35.33	17270	610149.1	8116.9	3020075	1823799	0
ITA	Sell	6/11/2020	85.57	7403	633474.7	48267.56	3035272	2457273	0
IYT	Sell	6/11/2020	160.31	3809	610620.8	17788.03	3055020	3067894	0
IHE	Buy	6/29/2020	151.96	4037	613462.5	0	3067894	2454432	8.55

IHI	Buy	7/2/2020	45.17	13628	615532.6	0	3077711	1838899	10.15
XLV	Buy	7/6/2020	101.88	6062	617596.6	0	3087988	1221303	3.58
IHF	Buy	7/6/2020	196.42	3148	618330.2	0	3092534	602972.4	4.74
XLB	Buy	7/9/2020	57.13	10554	602950	0	3055554	22.38	12.18
IHF	Sell	8/26/2020	205.74	3148	647669.5	29339.36	3302408	647691.9	0
IHI	Sell	9/4/2020	49.75	13628	678017.1	62484.5	3293841	1325709	0
IHE	Sell	9/4/2020	164.95	4037	665892.3	52429.73	3305516	1991601	0
XLV	Sell	9/8/2020	105.53	6062	639722.9	22126.3	3289136	2631324	0
IBB	Buy	9/16/2020	134.15	4967	666323.1	0	3331899	1965001	4.73
XLB	Sell	9/21/2020	64.09	10554	676405.9	73455.84	3291886	2641407	0
ITB	Buy	9/29/2020	55.71	11883	662001.9	0	3310015	1979405	5.03
IHF	Buy	9/30/2020	202.77	3279	664882.8	0	3325158	1314522	2.72
IGV	Buy	10/1/2020	310.99	2149	668317.5	0	3342476	646204.6	1.6
SOXX	Buy	10/1/2020	303.09	2132	646187.9	0	3355649	16.74	4.79
IBB	Sell	10/19/2020	140.5	4967	697863.5	31540.45	3462557	697880.2	0
ITB	Sell	10/21/2020	58.51	11883	695274.3	33272.4	3454641	1393155	0
SOXX	Sell	10/26/2020	317.6	2132	677123.2	30935.32	3445829	2070278	0
IHF	Sell	10/28/2020	208.29	3279	682982.9	18100.08	3411315	2753261	0
IGV	Sell	10/28/2020	315.96	2149	678998	10680.53	3421578	3432259	0
IEZ	Buy	11/3/2020	7.57	90680	686447.6	0	3432259	2745811	62.75
IEO	Buy	11/9/2020	29.78	23757	707483.5	0	3537448	2038328	19.81
IYZ	Buy	11/9/2020	28.73	24557	705522.6	0	3527707	1332805	4.77
XLE	Buy	11/9/2020	33.68	20939	705225.5	0	3526234	627579.5	11.07
ITA	Buy	11/10/2020	89.47	7014	627507.5	0	3571358	72.02	4.64
IEO	Sell	11/30/2020	35.68	23757	847649.8	140166.3	3853291	847721.8	0
XLE	Sell	12/21/2020	37.41	20939	783328	78102.47	4059291	1631050	0
IYZ	Sell	12/21/2020	30.1	24557	739165.7	33643.09	4044215	2370215	0
ITA	Sell	12/22/2020	93.62	7014	656650.7	29143.17	4031305	3026866	0
XLE	Buy	1/8/2021	40.52	20637	836211.2	0	4181223	2190655	3.68
IYT	Buy	1/8/2021	224.97	3733	839813	0	4199796	1350842	-2.16
IYJ	Buy	1/12/2021	99.41	8727	867551.1	0	4338062	483290.8	-1.51
ITA	Buy	1/14/2021	96.36	5015	483245.4	0	4359048	45.43	-2.4
IEZ	Sell	1/25/2021	12.32	90680	1117178	430730	4117007	1117223	0
ITA	Sell	1/26/2021	94.05	5015	471660.8	-11584.7	4092199	1588884	0
IYJ	Sell	1/26/2021	97.91	8727	854460.6	-13090.5	4101326	2443344	0
XLE	Sell	1/26/2021	42.01	20637	866960.4	30749.13	4117209	3310305	0
IYT	Sell	1/27/2021	220.1	3733	821633.3	-18179.7	4118238	4131938	0
ITA	Buy	2/8/2021	97.34	8489	826319.3	0	4131938	3305619	7.37
XLI	Buy	2/9/2021	90.38	9160	827880.8	0	4139493	2477738	14.61
IYJ	Buy	2/9/2021	100.73	8211	827094	0	4135829	1650644	9.65
IYG	Buy	2/10/2021	158.71	5195	824498.5	0	4123210	826145.5	6.96
XLP	Buy	2/10/2021	65.95	12490	823715.5	0	4118587	2429.98	-1.52
XLP	Sell	2/25/2021	64.95	12490	811225.5	-12490	4160092	813655.5	0

XLU	Buy	3/10/2021	61.63	13202	813639.3	0	4300288	16.22	7.25		
IYG	Sell	3/23/2021	169.76	5195	881903.2	57404.75	4254248	881919.4	0		
IHI	Buy	3/26/2021	54.83	15909	872212.7	0	4361071	9706.75	7.08		
XLU	Sell	4/27/2021	66.1	13202	872652.2	59012.94	4584063	882359	0		
XLE	Buy	4/28/2021	50.83	17359	882358	0	4583467	0.98	3.99		
IHI	Sell	5/4/2021	58.71	15909	933966.2	61753.56	4568618	933967.2	0		
IYJ	Sell	5/12/2021	110.45	8211	906905	79810.92	4531406	1840872	0		
XLI	Sell	5/12/2021	103.58	9160	948792.8	120912	4549306	2789665	0		
ITA	Sell	5/12/2021	104.51	8489	887185.4	60866.13	4569275	3676850	0		
IGN	Buy	5/20/2021	68.63	13348	916073.2	0	4580386	2760777	4.91		
SOXX	Buy	5/24/2021	427.62	2147	918100.1	0	4590971	1842677	1.38		
IGV	Buy	5/24/2021	355.47	2579	916757.1	0	4584273	925919.8	18.25		
IGM	Buy	5/25/2021	379.55	2405	912817.8	0	4564256	13102.09	5.44		
XLE	Sell	6/18/2021	52.86	17359	917596.7	35238.77	4703008	930698.8	0		
IGN	Sell	6/18/2021	72	13348	961056	44982.76	4711166	1891755	0		
IHF	Buy	6/25/2021	268.61	3573	959743.5	0	4799098	932011.3	-1.24		
IAT	Buy	7/1/2021	58.21	16011	932000.3	0	4830667	10.99	-3.92		
IAT	Sell	7/7/2021	55.93	16011	895495.2	-36505.1	4833736	895506.2	0		
SOXX	Sell	7/8/2021	433.53	2147	930788.9	12688.77	4790436	1826295	0		
XLP	Buy	7/9/2021	70.03	13730	961511.9	0	4807845	864783.2	2.47		
XLB	Buy	7/12/2021	83.1	10406	864738.6	0	4808336	44.63	-4.14		
XLB	Sell	7/19/2021	79.66	10406	828942	-35796.6	4700550	828986.6	0		
IGM	Sell	7/19/2021	400.19	2405	962457	49639.2	4703776	1791444	0		
IHF	Sell	7/19/2021	265.27	3573	947809.7	-11933.8	4701876	2739253	0		
IYZ	Buy	7/23/2021	33.56	28432	954177.9	0	4770905	1785075	0.09		
IYT	Buy	7/26/2021	253.66	3763	954522.6	0	4773773	830552.8	-1.27		
XLB	Buy	7/27/2021	82.56	10059	830471	0	4753513	81.71	0.64		
IYT	Sell	8/4/2021	250.44	3763	942405.7	-12116.9	4746692	942487.4	0		
IAT	Buy	8/6/2021	57.93	16269	942463.2	0	4779262	24.26	-2.95		
IYZ	Sell	8/18/2021	33.59	28432	955030.9	852.96	4744369	955055.1	0		
IAT	Sell	8/19/2021	56.22	16269	914643.2	-27820	4746982	1869698	0		
XLB	Sell	8/19/2021	83.09	10059	835802.3	5331.27	4746982	2705501	0		
IHF	Buy	8/25/2021	266.45	3583	954690.4	0	4773487	1750810	1.03		
XLP	Sell	8/26/2021	71.76	13730	985264.8	23752.9	4755811	2736075	0		
IEZ	Buy	8/27/2021	12.99	73672	956999.3	0	4785005	1779076	14.01		
IGN	Buy	8/27/2021	73.62	13085	963317.7	0	4816684	815758.1	-2.44		
XLY	Buy	8/31/2021	184.28	4426	815623.3	0	4783262	134.82	-2.13		
IGN	Sell	9/9/2021	71.82	13085	939764.7	-23553	4728268	939899.5	0		
IHF	Sell	9/10/2021	269.19	3583	964507.8	9817.42	4706768	1904407	0		
IGV	Sell	9/13/2021	420.33	2579	1084031	167273.9	4761387	2988438	0		
XLY	Sell	9/20/2021	180.35	4426	798229.1	-17394.2	4708845	3786667	0		
ITA	Buy	9/23/2021	104.14	9148	952672.7	0	4763558	2833995	1.58		
IAT	Buy	9/24/2021	60.28	15847	955257.2	0	4776472	1878738	8.08		

IYG	Buy	9/24/2021	193.19	4934	953199.5	0	4766329	925538.1	4.44
XLF	Buy	9/27/2021	38.73	23897	925530.8	0	4864517	7.31	2.48
ITA	Sell	10/27/2021	105.79	9148	967766.9	15094.2	4970706	967774.2	0
IAT	Sell	10/27/2021	65.15	15847	1032432	77174.89	4982324	2000206	0
IYG	Sell	10/27/2021	201.77	4934	995533.2	42333.72	5007838	2995739	0
IEZ	Sell	10/29/2021	14.81	73672	1091082	134083	5020920	4086822	0
IYZ	Buy	11/5/2021	33.13	30444	1008610	0	5043180	3078212	-3.23
ITA	Buy	11/11/2021	106.85	9412	1005672	0	5028609	2072540	-1.1
XLF	Sell	11/18/2021	39.69	23897	948471.9	22941.12	4989405	3021012	0
IYZ	Sell	11/18/2021	32.06	30444	976034.6	-32575.1	4995140	3997046	0
ITA	Sell	11/19/2021	105.67	9412	994566	-11106.2	4977589	4991612	0
IEZ	Buy	12/8/2021	13.37	74668	998311.2	0	4991612	3993301	-8.23
IYJ	Buy	12/10/2021	110.79	9050	1002650	0	5013266	2990652	-3.1
IHF	Buy	12/10/2021	276.67	3627	1003482	0	5018425	1987170	3.74
XLP	Buy	12/13/2021	75.01	13233	992607.3	0	4963385	994562.4	1.76
IHI	Buy	12/13/2021	63.89	15543	993042.3	0	4965370	1520.12	0.58
IYJ	Sell	12/20/2021	107.36	9050	971608	-31041.5	4870177	973128.1	0
IEZ	Sell	12/20/2021	12.27	74668	916176.4	-82134.8	4875155	1889304	0
IYT	Buy	12/23/2021	272.21	3634	989211.1	0	4946129	900093.3	-1.05
IYC	Buy	12/23/2021	83.42	10789	900018.4	0	4948964	74.96	1.87
IHI	Sell	1/5/2022	64.26	15543	998793.2	5750.91	4937028	998868.1	0
IHF	Sell	1/5/2022	287.01	3627	1040985	37503.18	4951173	2039853	0
IYC	Sell	1/5/2022	84.98	10789	916853.5	16835.16	4964085	2956707	0
IYT	Sell	1/14/2022	269.36	3634	978854.2	-10356.9	4953409	3935561	0
XLP	Sell	1/20/2022	76.33	13233	1010075	17467.56	4939946	4945636	0
IHE	Buy	2/3/2022	189.2	5227	988948.4	0	4945636	3956688	-0.9
XLK	Buy	2/3/2022	158.11	6263	990242.9	0	4951229	2966445	-0.53
XLV	Buy	2/3/2022	131.57	7534	991248.4	0	4956553	1975196	-1.21
IYT	Buy	2/4/2022	262	3790	992980	0	4965391	982216.4	-1.31
IHI	Buy	2/4/2022	59.82	16419	982184.6	0	4960388	31.78	-2.19
XLV	Sell	2/14/2022	129.98	7534	979269.3	-11979.1	4855157	979301.1	0
IHE	Sell	2/14/2022	187.5	5227	980062.5	-8885.9	4863143	1959364	0
IHI	Sell	2/17/2022	58.51	16419	960675.7	-21508.9	4857970	2920039	0
XLK	Sell	2/17/2022	157.27	6263	984982	-5260.92	4876687	3905021	0
IYT	Sell	2/22/2022	258.56	3790	979942.4	-13037.6	4875148	4884964	0
XLU	Buy	3/1/2022	67.37	14501	976932.4	0	4884964	3908031	11.95
ITB	Buy	3/2/2022	68.67	14260	979234.2	0	4896419	2928797	-3.47
XLV	Buy	3/3/2022	130.53	7491	977800.2	0	4889293	1950997	6.11
XLRE	Buy	3/3/2022	45.93	21333	979824.7	0	4899257	971172.2	6.79
XLI	Buy	3/3/2022	99.59	9751	971102.1	0	4906723	70.12	2.07
ITB	Sell	3/7/2022	66.29	14260	945295.4	-33938.8	4843039	945365.5	0
IHE	Buy	3/14/2022	188.95	5003	945316.9	0	4869019	48.67	3.98
XLI	Sell	4/5/2022	101.65	9751	991189.2	20087.06	5126849	991237.8	0

XLV	Sell	4/18/2022	138.5	7491	1037504	59703.27	5120832	2028741	0
IHE	Sell	4/18/2022	196.47	5003	982939.4	37622.56	5131244	3011681	0
XLU	Sell	4/22/2022	75.42	14501	1093665	116733.1	5141590	4105346	0
XLRE	Sell	4/26/2022	49.05	21333	1046384	66558.96	5137223	5151730	0
ITB	Buy	5/4/2022	61.36	16791	1030296	0	5151730	4121434	-6.89
SOXX	Buy	5/4/2022	426.01	2426	1033500	0	5169192	3087934	-7.58
XLE	Buy	5/9/2022	77.23	12981	1002523	0	5012822	2085411	11.38
SOXX	Sell	5/11/2022	393.71	2426	955140.5	-78359.8	4953654	3040552	0
ITB	Sell	5/11/2022	57.13	16791	959269.8	-71025.9	4973887	3999821	0
IYZ	Buy	5/17/2022	26.93	37790	1017685	0	5088538	2982137	-2.97
IHE	Buy	5/17/2022	191.57	5319	1018961	0	5095340	1963176	-1.64
IBB	Buy	5/23/2022	115.48	8780	1013914	0	5069740	949261.5	-2.95
IEZ	Buy	5/23/2022	19.1	49699	949250.9	0	5078169	10.61	1.57
IBB	Sell	6/10/2022	112.07	8780	983974.6	-29939.8	5089892	983985.2	0
IYZ	Sell	6/10/2022	26.13	37790	987452.7	-30232	5103852	1971438	0
IHE	Sell	6/10/2022	188.43	5319	1002259	-16701.7	5115189	2973697	0
IEZ	Sell	6/13/2022	19.4	49699	964160.6	14909.7	4996996	3937858	0
XLE	Sell	6/13/2022	86.02	12981	1116626	114103	5029300	5054483	0
IBB	Buy	6/28/2022	117.02	8638	1010819	0	5054483	4043665	9.21
XLP	Buy	6/28/2022	71.96	14056	1011470	0	5057420	3032195	6.14
IHF	Buy	6/28/2022	257.23	3929	1010657	0	5053485	2021538	8.6
XLV	Buy	6/29/2022	127.86	7933	1014313	0	5072206	1007225	2.14
IHE	Buy	6/29/2022	190.92	5275	1007103	0	5077521	121.73	1.32
IHE	Sell	7/18/2022	193.44	5275	1020396	13293	5099967	1020518	0
IYJ	Buy	7/19/2022	91.45	11159	1020491	0	5207604	27.18	8.4
IBB	Sell	8/19/2022	127.8	8638	1103936	93117.64	5466258	1103964	0
IYJ	Sell	8/22/2022	99.13	11159	1106192	85701.12	5411441	2210155	0
XLV	Sell	8/23/2022	130.6	7933	1036050	21736.42	5386963	3246205	0
IHF	Sell	8/23/2022	279.36	3929	1097605	86948.77	5396879	4343810	0
XLP	Sell	8/26/2022	76.38	14056	1073597	62127.52	5390280	5417408	0
IHI	Buy	9/12/2022	52.9	20481	1083445	0	5417408	4333963	-2.46
XLV	Buy	9/13/2022	127.45	8482	1081031	0	5405324	3252932	-1.6
IHE	Buy	9/13/2022	179.47	6019	1080230	0	5401762	2172702	-1.06
IBB	Buy	9/14/2022	123.9	8727	1081275	0	5406642	1091427	-1.69
IYG	Buy	9/15/2022	156.36	6913	1080917	0	5404759	10510.06	0
IHI	Sell	9/16/2022	51.6	20481	1056820	-26625.3	5374392	1067330	0
IYG	Sell	9/16/2022	156.36	6913	1080917	0	5380946	2148246	0
XLF	Buy	9/16/2022	32.5	33102	1075815	0	5379148	1072431	1.52
IBB	Sell	9/19/2022	121.81	8727	1063036	-18239.4	5376385	2135467	0
IHE	Sell	9/19/2022	177.56	6019	1068734	-11496.3	5376472	3204201	0
XLF	Sell	9/20/2022	33	33102	1092200	16385.49	5347337	4296401	0
XLV	Sell	9/20/2022	125.41	8482	1063728	-17303.3	5354785	5360129	0
IGN	Buy	10/4/2022	68.42	15668	1072005	0	5360129	4288124	-4.85

ITB	Buy	10/4/2022	55.59	19326	1074332	0	5371880	3213792	-2.43
SOXX	Buy	10/5/2022	347.68	3097	1076765	0	5385361	2137027	-6.64
IGV	Buy	10/5/2022	266.68	4039	1077121	0	5386476	1059907	-6.99
IBB	Buy	10/5/2022	122.5	8652	1059870	0	5392170	36.58	8.82
SOXX	Sell	10/10/2022	324.58	3097	1005224	-71540.7	5096453	1005261	0
IGV	Sell	10/11/2022	248.03	4039	1001793	-75327.4	5093181	2007054	0
IGN	Sell	10/11/2022	65.1	15668	1019987	-52017.8	5105379	3027041	0
ITB	Sell	10/14/2022	54.24	19326	1048242	-26090.1	5065053	4075283	0
IHE	Buy	10/17/2022	174.76	5876	1026890	0	5135067	3048393	5.57
ITA	Buy	10/20/2022	99.53	10180	1013215	0	5066229	2035178	10.93
IGN	Buy	10/21/2022	69.15	14875	1028606	0	5143242	1006572	4.66
XLB	Buy	10/21/2022	72.61	13862	1006520	0	5145771	51.82	10.91
IGN	Sell	11/4/2022	72.37	14875	1076504	47897.5	5343705	1076556	0
IGM	Buy	11/15/2022	299.69	3592	1076486	0	5548470	69.09	-3.24
IGM	Sell	12/7/2022	289.98	3592	1041608	-34878.3	5547689	1041677	0
XLB	Sell	12/15/2022	80.53	13862	1116307	109787	5508253	2157984	0
IHE	Sell	12/16/2022	184.49	5876	1084063	57173.48	5500725	3242047	0
IBB	Sell	12/19/2022	133.3	8652	1153312	93441.6	5484632	4395359	0
ITA	Sell	12/19/2022	110.41	10180	1123974	110758.4	5508338	5519333	0
IEZ	Buy	12/21/2022	20.89	52841	1103848	0	5519333	4415484	3.16
IAT	Buy	12/29/2022	47.3	23368	1105306	0	5526730	3310178	9.15
XLF	Buy	1/4/2023	34.75	31790	1104703	0	5523514	2205475	3.83
IYZ	Buy	1/4/2023	22.96	48147	1105455	0	5527329	1100020	4.44
XLC	Buy	1/4/2023	49.43	22254	1100015	0	5527810	5.02	16.2
IYZ	Sell	2/8/2023	23.98	48147	1154565	49109.94	6017411	1154570	0
XLC	Sell	2/9/2023	57.44	22254	1278270	178254.5	5934584	2432840	0
XLF	Sell	2/21/2023	36.08	31790	1146983	42280.7	5876218	3579823	0
IEZ	Sell	2/21/2023	21.55	52841	1138724	34875.06	5890206	4718547	0
IAT	Sell	2/21/2023	51.63	23368	1206490	101183.4	5904473	5925036	0
XLB	Buy	3/3/2023	84.27	14062	1185005	0	5925036	4740032	-2.63
IEO	Buy	3/6/2023	91.11	12974	1182061	0	5910412	3557971	-4.08
IEZ	Buy	3/7/2023	22.35	52556	1174627	0	5873209	2383344	-0.67
IYT	Buy	3/8/2023	234.53	4989	1170070	0	5851027	1213274	-2.26
XLB	Sell	3/9/2023	82.05	14062	1153787	-31217.6	5725260	2367061	0
IEZ	Sell	3/9/2023	22.2	52556	1166743	-7883.4	5755774	3533804	0
IEO	Sell	3/10/2023	87.39	12974	1133798	-48263.3	5774189	4667602	0
IYT	Sell	3/10/2023	229.23	4989	1143628	-26441.7	5790277	5811230	0
XLU	Buy	3/15/2023	66.92	17367	1162200	0	5811230	4649031	-3.8
IGM	Buy	3/16/2023	323.51	3600	1164636	0	5823387	3484395	2.58
XLK	Buy	3/16/2023	143.94	8093	1164906	0	5825079	2319488	1.7
XLC	Buy	3/16/2023	55.36	21036	1164553	0	5822813	1154935	3.61
SOXX	Buy	3/16/2023	428.91	2692	1154626	0	5826600	309.67	-2.99
XLU	Sell	3/23/2023	64.38	17367	1118087	-44112.2	5828756	1118397	0

XLP	Buy	3/27/2023	73.47	15222	1118360	0	5791792	36.79	3.39
SOXX	Sell	4/20/2023	416.07	2692	1120060	-34565.3	5901041	1120097	0
XLC	Sell	4/25/2023	57.36	21036	1206625	42072	5819631	2326722	0
IGM	Sell	4/25/2023	331.86	3600	1194696	30060	5832883	3521418	0
XLK	Sell	4/25/2023	146.39	8093	1184734	19827.85	5855313	4706152	0
IGV	Buy	5/12/2023	296.07	3972	1175990	0	5880073	3530162	18.09
SOXX	Buy	5/15/2023	420.42	2804	1178858	0	5894459	2351305	15.47
IGN	Buy	5/17/2023	63.17	18792	1187091	0	5935597	1164214	7.11
XLP	Sell	5/18/2023	75.96	15222	1156263	37902.78	6032483	2320477	0
IAT	Buy	5/18/2023	33.13	36425	1206760	0	6033853	1113717	2.44
IYJ	Buy	5/18/2023	99.98	11139	1113677	0	6024383	39.75	-2.7
IYJ	Sell	5/24/2023	97.28	11139	1083602	-30075.3	5922503	1083642	0
XLF	Buy	5/25/2023	31.92	33948	1083620	0	6055570	21.51	8.27
IAT	Sell	6/22/2023	33.94	36425	1236265	29504.25	6334637	1236286	0
SOXX	Sell	6/23/2023	485.46	2804	1361230	182372.2	6303113	2597516	0
IGN	Sell	6/23/2023	67.66	18792	1271467	84376.08	6305188	3868983	0
IAT	Buy	7/10/2023	34.89	36613	1277428	0	6387151	2591555	8.46
IBB	Buy	7/17/2023	129.23	10102	1305481	0	6527926	1286074	-1.04
IHE	Buy	7/21/2023	182.47	7048	1286049	0	6620950	24.98	3.52
IBB	Sell	8/2/2023	127.88	10102	1291844	-13637.7	6556820	1291869	0
IGV	Sell	8/3/2023	349.64	3972	1388770	212780	6567418	2680639	0
IAT	Sell	8/14/2023	37.84	36613	1385436	108008.4	6571782	4066075	0
XLF	Sell	8/15/2023	34.56	33948	1173243	89622.72	6576899	5239318	0
IHE	Sell	8/24/2023	188.9	7048	1331367	45318.64	6566173	6570685	0
XLK	Buy	8/29/2023	173.53	7572	1313969	0	6570685	5256716	0
IGV	Buy	8/29/2023	353.81	3714	1314050	0	6570458	3942665	0
IGM	Buy	8/29/2023	401.55	3273	1314273	0	6572129	2628392	0
IBB	Buy	8/30/2023	129.69	10182	1320504	0	6603117	1307889	0
XLRE	Buy	8/30/2023	37.27	35092	1307879	0	6604746	9.75	0

REFERENCES

- Ang, A., & Chen, J. (2002). "Asymmetric Volatility and Financial Crises." *Journal of Financial Economics*.
- Apted, Bruce (2018). "The Power of Less Downside: The 80:60 Case Study." *State Street Global Advisors*.
- Baker, M., & Haugen, R. A. (2010). "Commonality in the Determinants of Implied and Historical Volatility."
- Barberis, N., Shleifer, A., & Vishny, R. (1998). "A model of investor sentiment." *Journal of Financial Economics*.
- De Kempenaer, Julius. "Sector Rotation with RRGs." *Relative Rotation*
- Deshmukh, A., Jain, P., & Krishnamurti, C. (2019). "Using Relative Rotation Graphs (RRGs) to Build Investment Portfolios." *Journal of Behavioral Finance. Graphs*, <https://www.relativerotationgraphs.com/>
- Fama, E. F. (1970). "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance*.
- French, Kenneth R <http://mba.tuck.dartmouth.edu/pages/faculty/ken.french>
- Chen, S., Hsu, J., & Chen, Y. (2021). "Relative Rotation Graphs and Risk Management in Sector Rotation Strategies." *International Journal of Financial Research*.
- Hsu, J., Lin, T., & Chen, S. (2017). "Relative Rotation Graphs: A Systematic Approach for Sector Rotation Strategies." *Journal of Applied Finance & Banking*.
- Jegadeesh, N., & Titman, S. (1993). "Returns to buying winners and selling losers: Implications for stock market efficiency." *The Journal of Finance*.
- Levy, Robert. (1967). "Relative Strength as a Criteria for Investment Selection". *Journal of Finance*.
- Moskowitz, T. J., Ooi, Y. H., & Pedersen, L. H. (2012). "Time series momentum." *Journal of Financial Economics*
- Murphy, John J (1999) "Technical Analysis of the Financial Markets: A Comprehensive Guide to Trading Methods and Applications"
- Narang, S., Sirjuesingh, M., & Kapoor, K. (2020). "Sector Rotation using Relative Rotation Graphs." *International Journal of Business and Globalization*
- Verdouw, Matthew (2016). "Buying Outperformers is Too Late." <https://www.optuma.com/research>.
- Wilder, J Welles. (1978) "New Concepts in Technical Trading Systems."

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