

Sector Rotation

GLORIA LOEW

12/16/15

Similar Terms

Momentum Investing

Relative Strength

Trend Following

Agenda

Theory

Strategies

Stocks

ETFs

An ETF that does it for you

Theory

Certain sectors of business profit more in certain stages of an economic cycle

Movement of money from one industry sector to another in an attempt to beat the market

From the National Bureau of Economic Research (NBER) data on economic cycles dating back to 1854

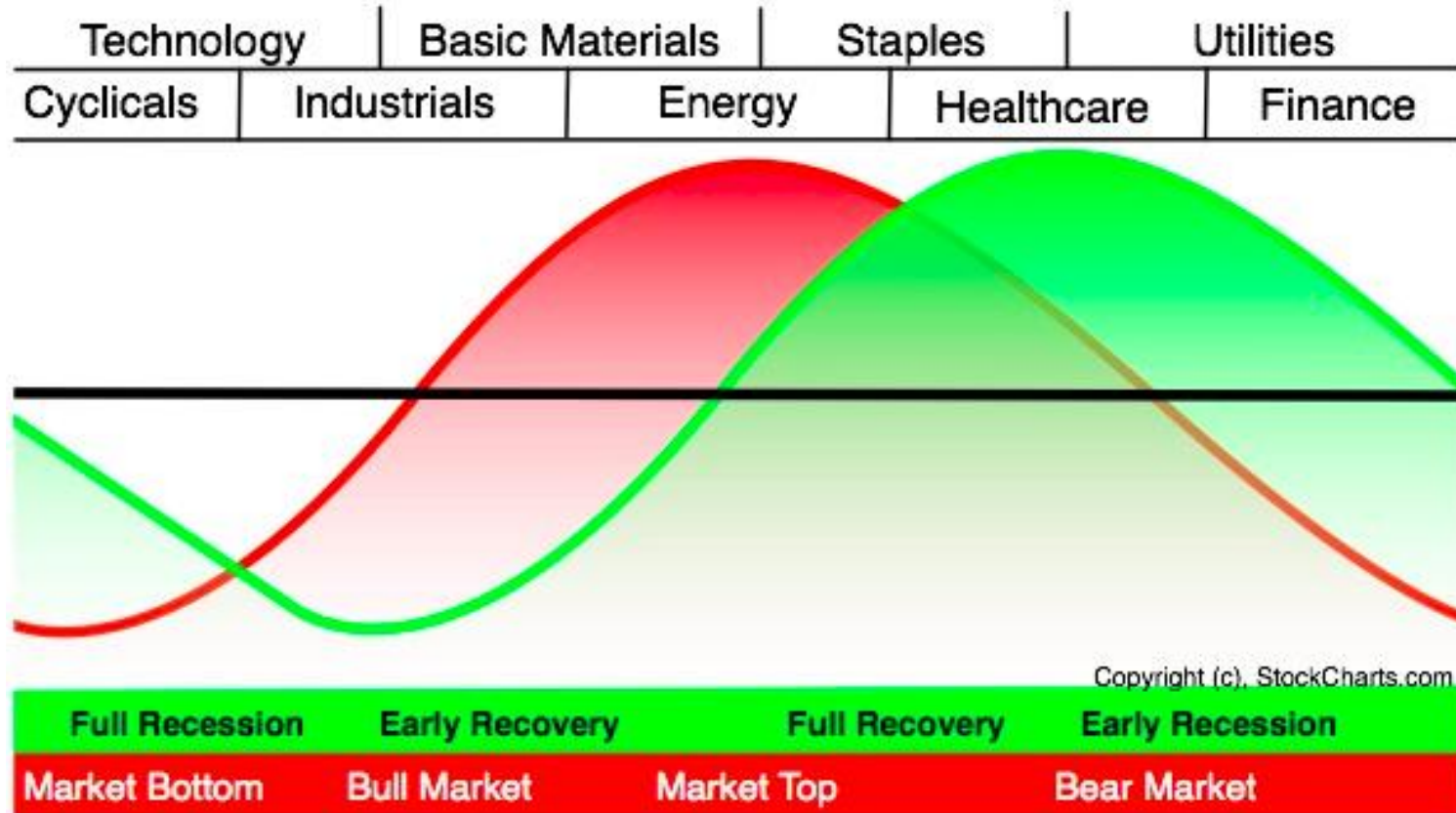
The start, end, and duration of each business cycle

Most of the time, financial markets attempt to predict the state of the economy, anywhere from three to six months into the future

The market cycle is usually well ahead of the economic cycle

Crucial because as the economy is in the pits of a recession, the market begins to look ahead to a recovery

Match 4 stages of market and economic cycles



Three strategies that require an opinion

Investopedia: <http://www.investopedia.com/articles/exchangetradedfunds/08/sector-rotation.asp>

The most well-known strategy follows the normal economic cycle:

- Buy into the next sector that is about to experience a move up
- Sell when a sector reaches the peak of its move as defined by the economic cycle, investors should sell that ETF sector
- May be in multiple sectors at once
- Major problem with this strategy is that the economy usually does not follow the economic cycle as exactly defined

The second strategy follows the calendar

- Takes advantage of those sectors that tend to do well during specific times of the year
- Example: summer driving season. People in the northern hemisphere tend to drive their cars more during the summer months. This increases the demand for gasoline and diesel, creating opportunities for oil refiners. Any ETF that has a significant portion of their holdings in companies that refine oil may benefit. However, as the season winds down, so will the profits of that related sector's ETFs

The third focuses on geographic issues

- Take advantage of potential gains in one or more of the global economies

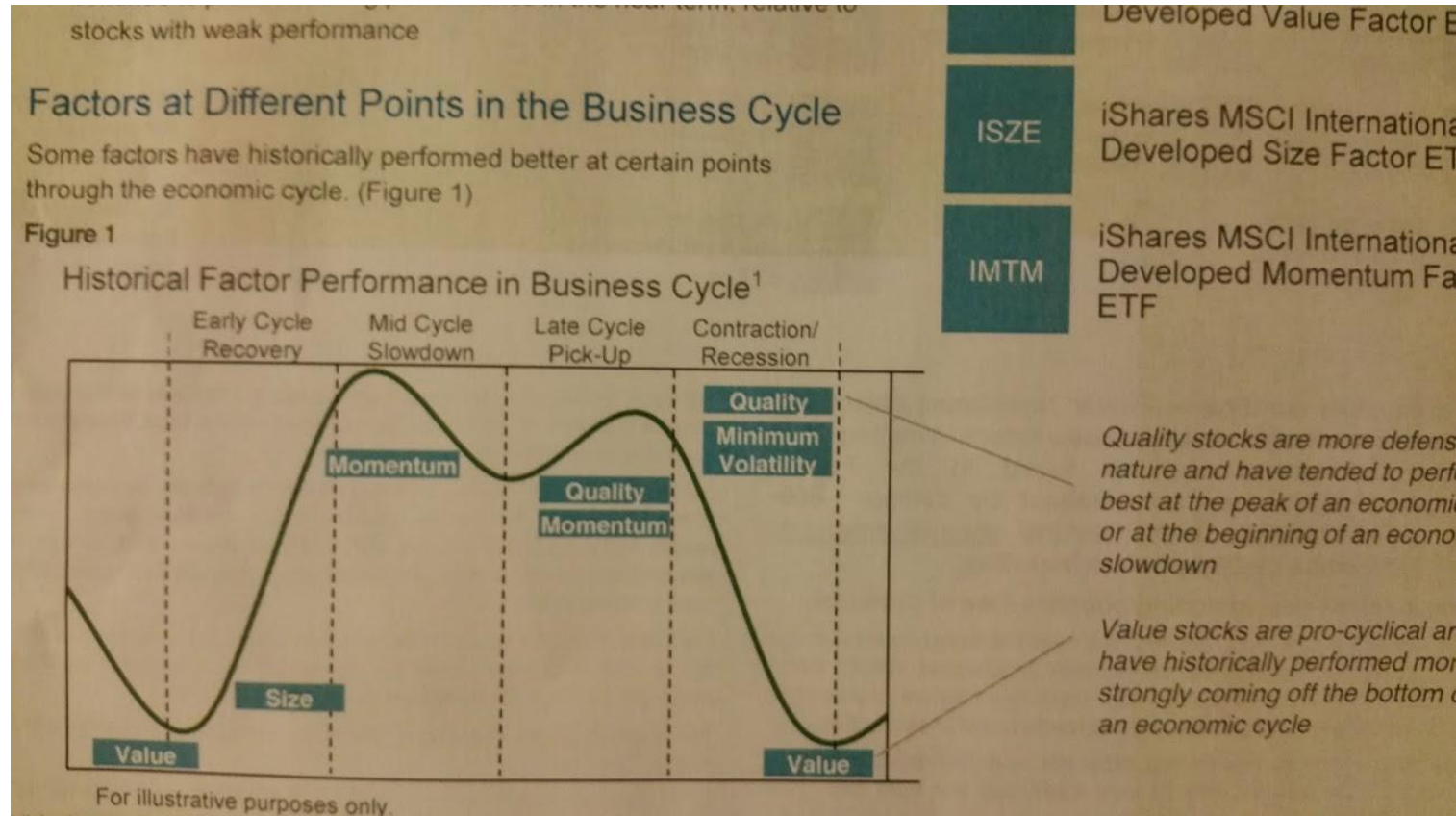
Best performing sectors in each stage of the business cycle

Three stages of expansion			Two stages of recession	
Stage I	Stage II	Stage III	Stage IV	Stage V
Technology: Computer Software Measuring & Control Equip. Computers Electronic Equipment Transportation: General Transportation Shipping Containers	Basic Materials: Precious Metals Chemicals Steel Works Etc Non-Metallic & Metal Mining Capital Goods Fabricated Products Defense Machinery Ships & Railroad Equip. Aircraft Electrical Equipment Services: Business Services Personal Services	Consumer Staples Agriculture Beer & Liquor Candy & Soda Food Products Healthcare Medical Equipment Pharmaceutical Products Tobacco Products Energy Coal Petroleum & Natural Gas	Utilities: Gas & Electrical Utilities Telecom	Consumer Cyclical: Apparel Automobiles & Trucks Business Supplies Construction Construction Materials Consumer Goods Entertainment Printing & Publishing Recreation Restaurants, Hotels, Motels Retail Rubber & Plastic Products Textiles Wholesale Financial: Banking Insurance Real Estate Trading

Source: Standard & Poor's Guide to Sector Investing 1995

<https://www.fidelity.com/learning-center/trading-investing/markets-sectors/sector-rotation-introduction>

Another factor: Style



Rules-Based Strategies

Don't think!

Current and past performance

- 1, 3, 6, 12 month price performance

Moving averages

- Types
 - Simple moving average (SMA)
 - Exponential moving average (EMA)
 - Weighted moving average
- Single MAs
- Multiple moving average crossovers

Meb Faber's Sector Rotation Strategy

What Works on Wall Street, by James O'Shaunessey: relative strength strategies consistently at the top of the performance list

Buy the strongest stocks and avoid the weakest

The strong tend to get stronger and the weak tend to get weaker

Mebane Faber, Cambria Investment Management, white paper *Relative Strength Strategies for Investing*

Used sector/industry group data going back to the 1920s

A simple momentum strategy that outperformed buy-and-hold approximately 70% of the time

Buying the sector/industry groups with the largest gains outperformed buy-and-hold over a test period that exceeded 80 years

This strategy worked for 1-month, 3-month, 6-month, 9-month and 12-month performance intervals

Could be improved by adding a simple trend following requirement before considering positions.

This strategy: http://stockcharts.com/school/doku.php?id=chart_school:trading_strategies:sector_rotation_roc

FIRST: Criteria for being in or out of the market

Long when the S&P 500 is above its 10-month simple moving average (SMA)

Out of the market when the S&P 500 is below its 10-month SMA

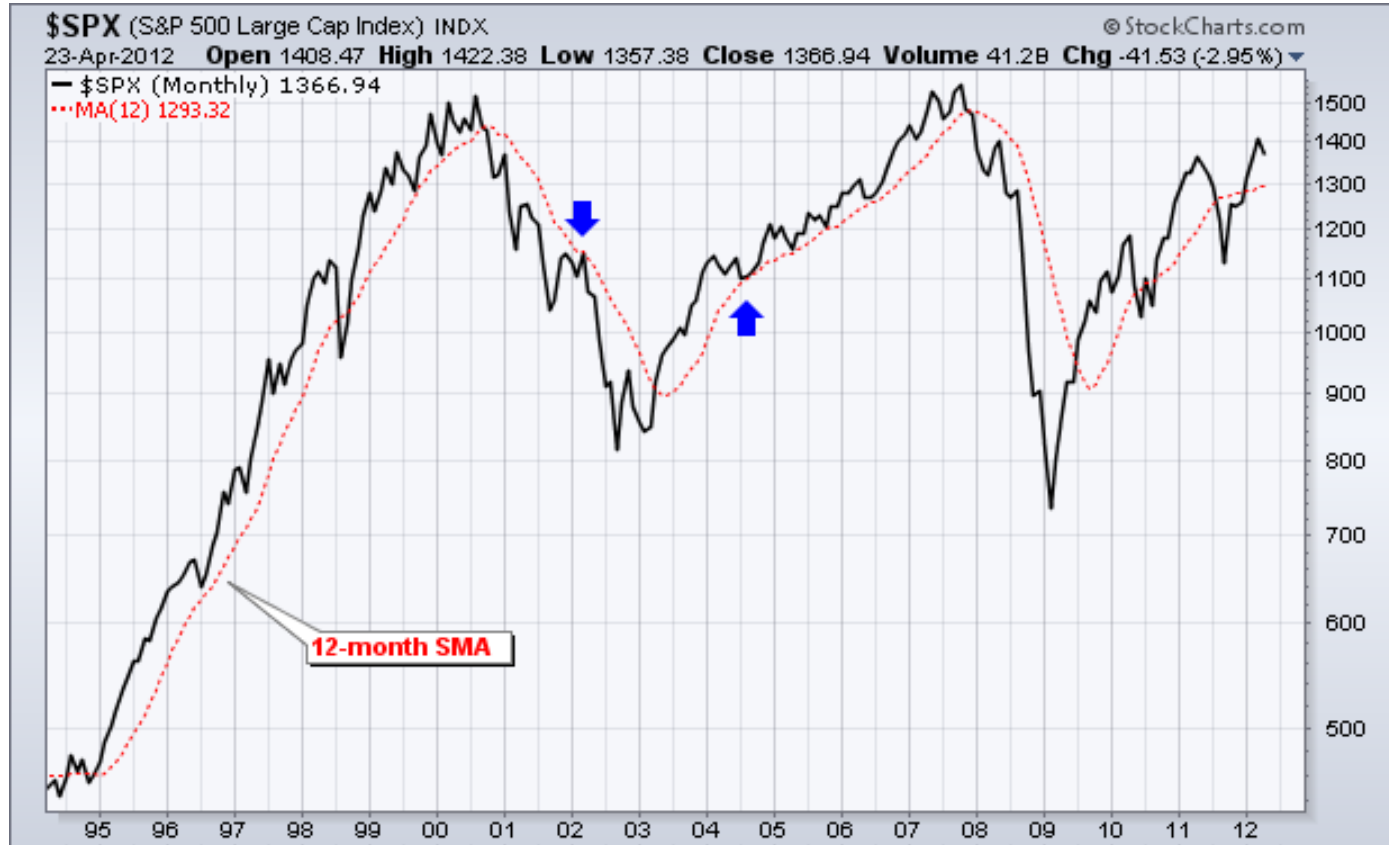
Insures investors are out of the market during extended downtrends and in the market during extended uptrends

Would have avoided the 2001-2002 bear market and the 2008 decline

*10-month SMA is proxy for 200-day SMA



Refinement using 12-month SMA



THEN

Select strongest sectors

Best return last three months

Buy Signal: When the S&P 500 is above its 10-month simple moving average, buy the sectors with the biggest gains over a three month timeframe.

Sell Signal: Exit all positions when the S&P 500 moves below its 10-month simple moving average on a monthly closing basis.

Rebalance: Once per month, sell sectors that fall out of the top tier (three) and buy the sectors that move into the top tier (three).

Some additional references

<http://poseidon01.ssrn.com/delivery.php?ID=831111064100004084103088019101097110060043028048003056002083110099098092123021126105097043100107049008028121087090008002122090020025003011053072005097119028027108002006024070116101066068064074103026095092090072021022004114089073000092072086101098013&EXT=pdf>

Relative Strength Strategies for Investing, Mebane Faber, 2010

Some simple methods that people can use

1,3,6,9,12 month system uses average of the five rolling returns

<http://mebfaber.com/timing-model/>

Article about Ivy Portfolio

Click to see current status of components

Uses mean of 3, 6, 12 month performance to pick best performer

ETFs VTI (US), VEU (foreign), IEF (bonds), VNQ (Real Estate), and DBC (Commodities)

<http://poseidon01.ssrn.com/delivery.php?ID=365086110124002103028081000071126029031084070081044092070068064070126098105089071113057037031013031061114093094017084102073072015055013006080113012010090107127120001012040114093118121113005068081103077002006006065005069123121082004093029003126124026&EXT=pdf>

A Quantitative Approach to Tactical Asset Allocation, Mebane Faber, May 2006 to February 2013

More Meb Faber

<http://mebfaber.com/2009/06/25/combining-rotation-and-timing-systems/>

Top fund based on average rolling 3/6/12 month performance

Top 3 funds equal-weighted and updated monthly based on 3/6/12 average rolling month performance

Same portfolios, moved to cash when S&P moved below 10 month SMA

Generated 5-10% outperformance each year

Cambria uses 50 asset classes in their work

Three ways to view sector information using stockcharts.com

<http://stockcharts.com/freecharts/sectorsummary.html#&S=P1&O=4>

<http://stockcharts.com/freecharts/perf.php?%5BSECT%5D>

Both histogram version and line version

Click on S&P button to toggle between absolute numbers and relative numbers

Instructions at left below chart; double click in middle of slider to enter #days you want

Default is 200 days; set to 64 days for 3 months

Can use slider to see if sector getting stronger or weaker OR click on line chart

Can enter any symbols you want










Note sector rotation model at bottom

Old example, in case Internet isn't working

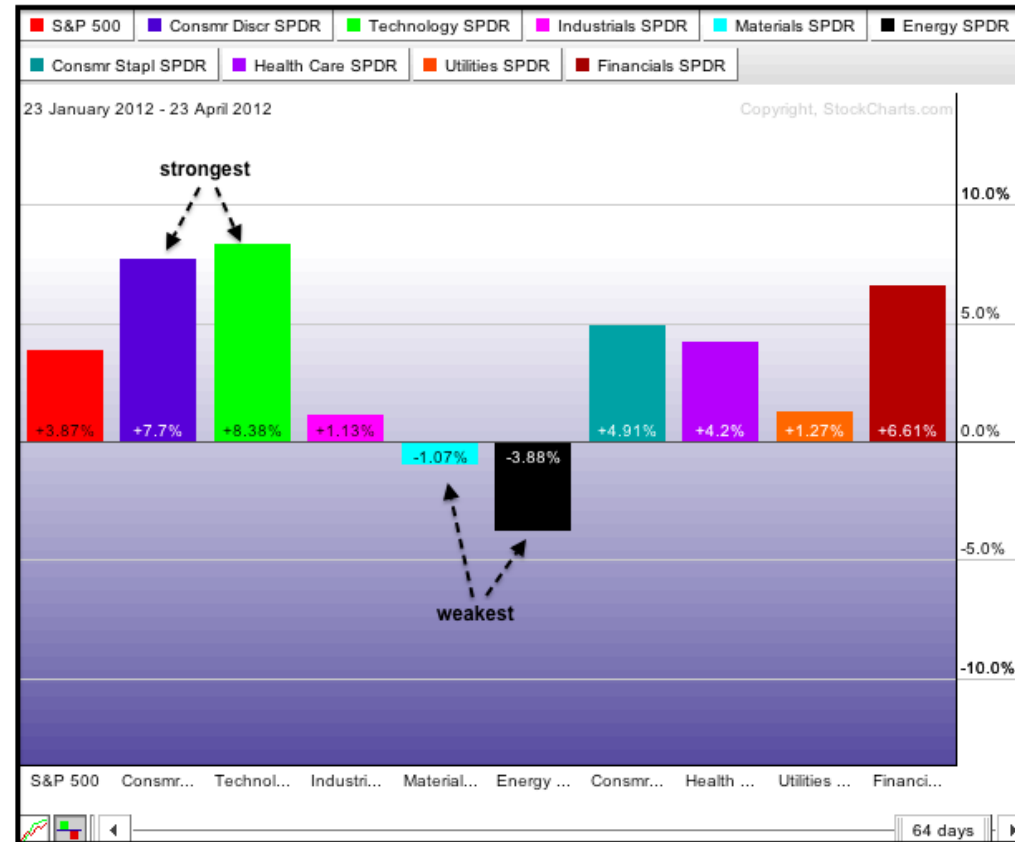
Sector Summary: S&P Sectors

View performance data using

23 Apr 2012

◆ Name	◆ Close	◆ Change	◆ % Chg	
Technology Select Sector SPDR	26.80	2.25	8.38	
Consumer Discretionary Select Sector SPDR	41.00	3.16	7.70	
Financials Select Sector SPDR	14.15	0.93	6.61	
Consumer Staples Select Sector SPDR	32.20	1.58	4.91	
Health Care Select Sector SPDR	35.51	1.49	4.20	
Utilities Select Sector SPDR	34.43	0.44	1.27	
Industrials Select Sector SPDR	35.95	0.41	1.13	
Materials Select Sector SPDR	36.42	-0.39	-1.07	
Energy Select Sector SPDR	71.67	-2.78	-3.88	

Another old example



Everything is variable

of funds

Selection of funds

Time periods to consider

Rules to get in

Rules to get out

Moving Average Strategies

Work in trending markets/indices

Do not work so well in range-bound markets

Absolute, not relative

Examples

- 50/200
- 10/30

Rules can keep you out of trouble in a bear market

Instruments for investing

Sector mutual funds (Fidelity, Vanguard, others)

- Restricts frequency of trading
- End of day trading

Sector ETFs

- Buy and sell during market hours
- Trade like equities, no restrictions

Stocks within those sectors

Freestockcharts.com/TC2000

Look at S&P U.S. Equity Sectors

Consumer Discretionary

Consumer Staples

Energy

Financial

Health Care

Industrial

Information Technology

Materials

Utilities

Freestockcharts.com/TC2000

Morningstar Industry Groups

- Can sort on performance but components no longer available
- Methodology at <http://videos.worden.com/TC2000/MorningstarIndustryMethodology.pdf>

SX Sector Indexes and iX Industry Indexes

- Worden says based on Morningstar data but calculated by Worden
 - Sort by performance
 - Two screen icons for components and to plot

Dorsey Wright

Recently bought by NASDAQ for \$225M

Point and Figure charting ex.: [http://stockcharts.com/freecharts/pnf.php?c=\\$INDU,P](http://stockcharts.com/freecharts/pnf.php?c=$INDU,P)

Relative Strength ETFs

9 for U.S. market sectors

ETFs reconstituted every three months

DWAT Power 4 Methodology

Based on a strategy their advisors have used for several years

Rebalanced every month

Sector rotation based on performance

25% in each of top 4 sectors

Cash (T-bills) is a sector; will move to cash if cash outperforms top 4 slots

So will put you in cash in a bad market

Automatic

Total expense ratio .75

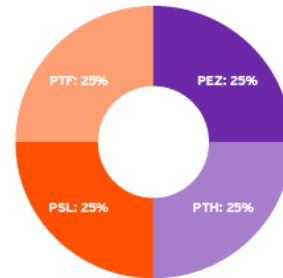
Use this strategy to replace growth

powershares.com/DWA

DWAT Components

PEZ	DWA Consumer Cyclical Momentum
PTH	DWA Healthcare Momentum
PSL	DWA Consumer Staples Momentum
PTF	DWA Technology Momentum
PRN	DWA Industrials Momentum
PFI	DWA Financial Momentum
PUI	DWA Utilities Momentum
N/A	Cash (represented by 1-6 month Treasury Bills)
PYZ	DWA Basic Materials Momentum
PXI	DWA Energy Momentum

Index



The Dorsey Wright Sector 4 Index allocation process

A universe of subsectors ETFs that span nine broad sectors and cash (represented by T-Bills) is analyzed for relative strength monthly.

Each sector and cash are ranked from strongest to weakest then the top four sectors are equally weighted.

The sector rankings are evaluated monthly. If a sector falls out of the top four, it is sold and replaced with the highest ranking sector not in the Index.

If cash (represented by T-Bills) is in the #4 spot, it receives a 25% weighting. For each slot cash moves up in the top four ranking, an additional 25% is allocated to cash. If cash is the #1 ranked asset class, it will receive a 100% weighting. In other words, the Index can hold all cash, no cash, or cash in increments of 25%, 50%, and 75%.

Portfolio changes are transacted in a “replacement” method, and rebalanced only when a position drifts materially from its target allocation.

Relative Rotation Graphs

--a topic for another time

Developed by Julius de Kempnaer

Relative strength monitor and visualization

www.relativerotationgraphs.com for more information

<http://www.tradersoos.nl/page7/files/Juus%20de%20Kempnaer%20pres.pdf> for paper by Julius de Kempnaer

<http://stockcharts.com/articles/rrg/2015/08/how-to-setup-rrgs-holding-sector-constituents.html>

Stockcharts.com website

http://stockcharts.com/school/doku.php?id=chart_school:chart_analysis:rrg_charts detailed article

<http://stockcharts.com/freecharts/rrg/> sample chart

Click “animate” to show tendency to move in clockwise direction