Portfolio Alpha from Relative Strength
An Introduction to Relative Rotation Graphs
By Mathew Verdouw, CMT
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About Me

• Honours Degree in Computer Systems Engineering.
• Started Market Analyst in Australia one year after leaving University.
• Designing and building software models for 18 years.
• Based here in Charlotte as we continue to expand our company.
• Obtained the Chartered Market Technician Designation in 2013.
• Passionate about breakthroughs in Financial Analysis.
About Technical Analysis (TA)

• Technical Analysts are less concerned with Value and more concerned with Price.

• We create mathematical models on price and apply statistics to the signals to determine if there is validity in them.

• There are many sub-disciplines in Technical Analysis, some of which are very subjective.

• Relative Strength is a method that takes a fundamental value concept and fuses it with technicals to produce an amazing result.
About Relative Rotation Graphs

- Developed by Julius de Kempenaer
  - Sell Side Analyst in The Netherlands
  - Not enough to have a position on a security
  - Needed to have a way to get a Market Overview
  - Needed to view that overview relative to a Benchmark
- Available in Bloomberg as a static chart since 2011
- We have made them a dynamic chart.
About Relative Rotation Graphs

• Based on Relative Strength.
• Take the change in the security and compare that to the change in the Benchmark (Index). The direction of the line is the “Relative Trend”.
• Math is applied to determine not only the ratio between the two, but also a measure of the momentum of the rate of change.
• Each of these figures are normalised and plotted on an XY chart.
About Relative Rotation Graphs

• Leading (Green).
  • Security here is out-performing the Index.
  • It is one of the strongest in the sector.
  • Relative Trend is positive and it is moving ahead of the Index.
About Relative Rotation Graphs

• Weakening (Yellow).
  • Security is still out-performing.
  • Relative Trend is now negative so it is losing ground on the Index.
  • Exits and short opportunities exist in this quadrant.
About Relative Rotation Graphs

- Lagging (Red).
  - Security here is now under-performing the Index.
  - It is one of the weakest in the sector.
  - Relative Trend is negative so it is falling further behind.
About Relative Rotation Graphs

• Improving (Blue).
  • Security is still under-performing.
  • Relative Trend is now positive so it is gaining ground.
  • Long opportunities exist in this quadrant.
About Relative Rotation Graphs

• Discovery - the securities on the chart tend to rotate in a clockwise direction.

• IBM from 1\textsuperscript{st} Jan to 28\textsuperscript{th} Feb.

• Each dot on the tail is a daily observation.
  • Where it has been is often a clue to where it is going.

• Complete rotation around the S&P500.
About Relative Rotation Graphs
Using Them – Top Down

• Looking for opportunities in the market.

• Top Down Example
  • Start with the S&P 500 Level 1 sectors.
  • Zero in on the sector with the most promise.
  • Find the stock within that sector that shows the most promise.

• January 16th, 2014
  • Utilities Sector is showing the most promise.
Using Them – Top Down

- We “Drill In” to the Utilities sector to see what we can find.
- It can be messy – we shortened the tails to 5 days.
- PEG is showing the most promise.
Using Them – Top Down

• At this point I would be looking at a Price Chart to get the confirmation that I need.

• Here is PEG on the 16th Jan

• What I see:
  • Double Bottom
  • RRG Momentum supported by Ratio
  • Very strong price bar

28 February 2014
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Using Them – Top Down

• Here we can see the Path through the RRG for Utilities (red) and PEG (olive) since Jan 16th.

• Utilities performed well, PEG performed better.

• WARNING!
  • PEG can still outperform the index when both are losing value.
  • PEG may be just losing less than the Index.
Using Them – Absolute Performance
Using Them – Portfolio Management

• If I am a Portfolio Manager there is always a benchmark that I am judged against.
  • Otherwise may as well invest in an Index fund!
• Sample fund of 100 names with the Sp500 as my benchmark.
• I can use the RRG to find the items in my portfolio that are weak and need to be removed.
• But given that Portfolio Management is not as simple as Buy/Sell, What can I do?
Using Them – Portfolio Management

• With the RRG we can consider the weights of each member of the Portfolio against the weight of that security in the benchmark.

• As a Portfolio Manager, for each security I may choose to:
  
  • Be Overweight – hold more in the portfolio than the benchmark has.
  • Be Equalweight – hold the same percentage.
  • Be Underweight – hold less than the benchmark has.

• Doing this correctly leads to Alpha.

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</table>
Using Them – Portfolio Management

- Here we have coloured the securities in my Portfolio as follows:
  - Green – Overweight
  - Blue – Equal weight within 1%
  - Red – Underweight
- My Goals are as follows:
  - Be Overweight any security that is in the leading quadrant.
  - Be Underweight any security in the lagging quadrant.
  - Use discretion in the other quadrants.

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Using Them – Portfolio Management

• I’m Overweight or Equal weight on most of the leaders.
• The exceptions are what I want to have a look at:
  • ECL
  • MAS
  • STZ
• I would even question why I am Equal Weighted on TDC when it has such conviction.
  • Big space between the dots
  • Big arrow.
  • Has not turned.
Using Them – Portfolio Management

• I’m Underweight or Equal weight on most of the laggers.

• The exceptions are what I want to have a look at:
  • CME
Using Them – Portfolio Management

• CME
  • Divergence between CME and SP500.
Using Them – Portfolio Management

• The Improving quadrant is where the long opportunities lie.

• FAST, IPG and EL look interesting.
Using Them – Portfolio Management

• By combining Relative Strength against a benchmark with my personal weights, I have a rapid and simple way to zero in on the securities that require my immediate attention.

• There are other dimensions that can be added too.
  • Sector Weights makes an interesting study.
    • Contact me for a white paper on this.
  • Foreign Exchange RRGs
  • Intraday RRGs
Portfolio Alpha from Relative Strength

• Thanks for listening!
• Mathew Verdouw, CMT
  • Email: Mathew@mav7.com
  • Web: www.mav7.com
  • LinkedIn: MathewVerdouw