Incorporating Technical Analysis into the Investment Process

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Riccardo Ronco is the head of technical analysis at Aviate Global in London.

Mr. Ronco follows large- and mid-cap European and U.S. equities, paying attention to domestic and foreign equity indices, currencies, commodities, and interest rates. As a medium-term trend follower, his approach is strongly quantitative in nature; particular attention, however, is devoted to identifying reversal patterns characterized by excessive consensus among investors.

Mr. Ronco brings more than 15 years of experience in trading, quantitative analysis, and teaching technical analysis in the United Kingdom and Italy. Prior to joining Aviate Global in April 2010, Mr. Ronco worked for Credit Agricole Indosuez, Banca Intesa Group, and Banca AntonVeneta (MontePaschi Group) and FBR Capital Markets.

He is a frequent guest on CNBC Europe and other European media outlets. A member of the Society of Technical Analysts (STA) and the Market Technicians Association (MTA), Mr. Ronco was a speaker at the International Federation of Technical Analysts (IFTA) 1998 conference in Rome.

His work is mentioned in the book Capital Market Revolution: The Future of Markets in an Online World by Patrick Young. Mr. Ronco received his degree (with honors) in Economics from the University of Turin.

He currently holds Chartered Market Technician (CMT) Level 1 and 2 diplomas.
Introduction

• Definition
  Technical Analysis is the study of market action, primarily through the use of charts, for the purpose of “forecasting” future price trends (John J. Murphy, 1999)

• Rationale

  1. Market action discounts everything: anything that can possibly affect the price-fundamentally, politically, psychologically, or otherwise - is actually reflected in the price of that market. Price action reflects SUPPLY and DEMAND

  2. Prices move in trends: what is a trend

  3. History repeats itself: human psychology, fear and greed, patterns, cycles, the future is a “repetition” of the past
Introduction

- Decision process in 2 phases: ANALYSIS then TIMING (crucial)

- Flexibility of technical analysis: any market, any time frame (provided that there is sufficient liquidity to reflect genuine market forces), advantage to focus on what is actually moving to follow flows (market rotation)

- Big picture: looking at commodities, interest rates, equities and currencies the technical analyst can “back-engineer” the economy becoming a “technical strategist” when using monthly or even quarterly charts

- Intermarket Technical Analysis: the next logical step when observing the “big picture”. Focus on relationships between sectors, markets, commodities on the investment thesis

- Random Walk Theory: a myth, market is FRACTAL (Mandelbrot, Behavioural Finance, etc.)
Trend

- Concept of TREND is initially derived from market DIRECT OBSERVATION

- The way (fundamental-macro) information is absorbed by investors affects financial decisions in a different manner according to the specific mandate / time horizon of the investor. Therefore markets have a DRIFT

- A bullish trend is a sequence of HIGHER highs and HIGHER lows
- A bearish trend is a sequence of LOWER lows and LOWER highs

- A trend has THREE parts → STRUCTURE
  1. Primary → tide → monthly
  2. Secondary → waves → weekly
  3. Minor → ripples (noise) → daily

- Most important development: MARKET CYCLE MODEL (Ian Notley, Martin Pring, Stan Weinstein, etc.)
Market Cycle Model (Notley – Pring)

Short-term trend
2 to 6 weeks

Intermediate trend
6 weeks to 9 months

Primary trend
9 months to 2 years

Chart courtesy of Pring.com
Market Cycle Model (Notley – Pring)

UP Trend: sequence of higher highs and higher lows in the same direction (and vice versa for DOWN Trend)

UP Trend provides MANY good selling opportunities but FEW good buying ones
The SUM of the INTERMEDIATE SEGMENTS (i.e. Uptrend) is greater than the whole PRIMARY trend

... Therefore it is more productive (but challenging) to find LOW RISK ENTRY POINTS in the direction of the PRIMARY trend and ENTER in the direction of the trend (“innocent until proven guilty” concept)

use DIRECTION of 200-day (40-week) moving average to define objectively the Primary trend (or crossover of two long enough moving averages, etc.)

Use of a simple OSCILLATOR (or momentum indicator) to define objectively low-risk entry point opportunities

Use of s/t breakouts to time entry

Use of m/t breakouts to re-enter should the intermediate correction exhaust itself LATERALLY rather than directionally
MERGE Trend + Market Cycle Model

S&P 600 Small Cap Weekly Chart

MEDIUM-TERM OSCILLATOR -> INTERMEDIATE TREND

LONG TERM OSCILLATOR -> PRIMARY TREND
Trade with the Trend!

Start 31/1/1928 – end 31/1/2011 start capital $10,000 end $995,804 + $122,511 open p/l - time in the market 64%
Dividends NOT included. Capital reinvested. 53% profitable signals. 60 trades. RAWAL 5.48. Max consec. Losers 4

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Next Step: Relative Strength

- It is possible that many stocks, sectors, commodities are all in uptrend. How can we **choose** the best to maximise the use of our funds?

- Given a benchmark we calculate the **ratio** between our stock and the benchmark itself and plot the result: this is the **RELATIVE STRENGTH**.

- We can compare the performance of pretty much **everything** so we can determine if it is leading or lagging vs benchmark.

- Excellent for long only PMs for **stock selection** (buy stocks with **strong fundamentals** AND bullish relative strength vs market).

- Same flexibility in terms of trend analysis, momentum analysis, different asset classes, different time frames.

- Buy stocks with bullish trend in price AND RS, Short stocks with bearish trend in price AND RS, everything else is “neutral”

- **Bullish / Bearish DIVERGENCES** are a powerful and simple tool to **USE**.
Relative Strength: Stock Selection

Objective UPTREND in price
Relative Strength: Choice of Market Cap

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Relative Strength: Sector OW/UW

S&P 600 Banks Index

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Relative Strength: Global “alpha”

- Pacific / World (USD)
- U.S. / World (USD)
- Europe / World (USD)

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Sam Stovall’s Sector Rotation Model

LINK between the cycle in the trend (A-U-D-T) and market cycle (SECTOR ROTATION).
Theoretical model in “S&P’s Guide to Sector Rotation” book

![Sector Rotation Model Diagram](chart.png)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Full Recession</th>
<th>Early Recovery</th>
<th>Full Recovery</th>
<th>Early Recession</th>
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<tbody>
<tr>
<td>Consumer Expectations</td>
<td>Reviving</td>
<td>Rising</td>
<td>Declining</td>
<td>Falling Sharply</td>
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<tr>
<td>Industrial Production</td>
<td>Bottoming Out</td>
<td>Rising</td>
<td>Flat</td>
<td>Falling</td>
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<tr>
<td>Interest Rates</td>
<td>Falling</td>
<td>Bottoming Out</td>
<td>Rising Rapidly (Fed)</td>
<td>Peaking</td>
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<tr>
<td>Yield Curve</td>
<td>Normal</td>
<td>Normal (Steep)</td>
<td>Flattening Out</td>
<td>Flat/Inverted</td>
</tr>
</tbody>
</table>

Chart and table courtesy of StockCharts.com
Next Step: Sector Rotation Model

Understand WHO IS THE LEADER by looking at the sectors’ STRUCTURE (RANKING) to better evaluate where we are in the overall PRIMARY Trend (BOTTOM UP approach)

<table>
<thead>
<tr>
<th>Bloomberg Ticker</th>
<th>S&amp;P 500 level 2 sectors</th>
<th>% 26 w</th>
<th>Action</th>
<th>Time</th>
<th>14-Jan</th>
<th>07-Jan</th>
<th>31-Dec</th>
<th>24-Dec</th>
<th>17-Dec</th>
<th>10-Dec</th>
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<tbody>
<tr>
<td>S5AUCO</td>
<td>Automobiles &amp; Components</td>
<td>55.3</td>
<td>Advance</td>
<td>17</td>
<td>1</td>
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<tr>
<td>S5MATRX</td>
<td>Energy</td>
<td>36.0</td>
<td>Advance</td>
<td>20</td>
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<td>3</td>
<td>3</td>
<td>4</td>
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<td>S5RETL</td>
<td>Retailing</td>
<td>29.9</td>
<td>Advance</td>
<td>18</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td></td>
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<tr>
<td>S5TRAN</td>
<td>Transportation</td>
<td>29.6</td>
<td>Advance</td>
<td>20</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>3</td>
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<tr>
<td>S5ENRSX</td>
<td>Energy</td>
<td>36.0</td>
<td>Advance</td>
<td>18</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>10</td>
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<td>S5REAL</td>
<td>Real Estate</td>
<td>22.1</td>
<td>Down</td>
<td>9</td>
<td>9</td>
<td>13</td>
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<td>14</td>
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<td>15</td>
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<td>S5TECH</td>
<td>Technology Hardware &amp; Equip.</td>
<td>21.8</td>
<td>Advance</td>
<td>17</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>16</td>
<td>17</td>
<td>13</td>
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<td>S5MEDA</td>
<td>Media</td>
<td>20.7</td>
<td>Advance</td>
<td>17</td>
<td>11</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>14</td>
<td>14</td>
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<tr>
<td>S5TELSX</td>
<td>Telecommunication Services</td>
<td>20.5</td>
<td>Advance</td>
<td>26</td>
<td>12</td>
<td>8</td>
<td>9</td>
<td>5</td>
<td>3</td>
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<tr>
<td>S5DIVF</td>
<td>Diversified Financials</td>
<td>20.4</td>
<td>Advance</td>
<td>18</td>
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<td>16</td>
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<td>Hotels Restaurants &amp; Leisure</td>
<td>19.2</td>
<td>Down</td>
<td>2</td>
<td>14</td>
<td>12</td>
<td>11</td>
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<td>12</td>
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<td>Banks</td>
<td>18.6</td>
<td>Advance</td>
<td>11</td>
<td>15</td>
<td>20</td>
<td>16</td>
<td>20</td>
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<td>23</td>
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<tr>
<td>S5SEGX</td>
<td>Semiconductors &amp; Semi. Equip.</td>
<td>18.1</td>
<td>Advance</td>
<td>15</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>10</td>
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<tr>
<td>S5HCES</td>
<td>Health Care Equipment &amp; Services</td>
<td>17.2</td>
<td>Advance</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>20</td>
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<td>19</td>
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<tr>
<td>S5FDSR</td>
<td>Food &amp; Staples Retailing</td>
<td>16.7</td>
<td>Advance</td>
<td>18</td>
<td>18</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>18</td>
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<td>Insurance</td>
<td>14.5</td>
<td>Advance</td>
<td>6</td>
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<td>22</td>
<td>21</td>
<td>24</td>
<td>20</td>
<td>16</td>
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<tr>
<td>S5COMS</td>
<td>Commercial Services &amp; Supplies</td>
<td>14.4</td>
<td>Advance</td>
<td>18</td>
<td>20</td>
<td>19</td>
<td>19</td>
<td>17</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>S5FOBT</td>
<td>Food Beverages &amp; Tobacco</td>
<td>12.1</td>
<td>Down</td>
<td>2</td>
<td>21</td>
<td>18</td>
<td>18</td>
<td>11</td>
<td>9</td>
<td>11</td>
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<tr>
<td>S5DROH</td>
<td>Pharmaceuticals &amp; Biotechnology</td>
<td>9.6</td>
<td>Advance</td>
<td>5</td>
<td>22</td>
<td>21</td>
<td>23</td>
<td>21</td>
<td>18</td>
<td>20</td>
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<tr>
<td>S5HOUS</td>
<td>Household &amp; Personal Products</td>
<td>4.0</td>
<td>Advance</td>
<td>17</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>23</td>
<td>21</td>
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Next Step: Asset Class Rotation Model

The BUSINESS CYCLE determines the PRIMARY Trend of bonds, stocks and commodities. This is another way to evaluate the STAGE of the trend in the stock market.
Stan Weinstein’s Don’t Commandments

• Don't buy when the overall market trend is bearish (index below 30-week MA).
• Don't buy a stock in a negative group (group RS is poor).
• Don't buy a stock below its 30-week MA.
• Don't buy a stock with a declining 30-week MA (even if stock > MA).
• No matter how bullish a stock is, don't buy it too late in an advance, when it is far above the ideal entry point (wait for a PULLBACK).
• Don't buy a stock that has poor volume characteristics on the breakout. If you bought it because you had a buy-stop order in, sell it quickly.
• Don't buy a stock showing poor relative strength.
• Don't buy a stock that has heavy nearby overhead resistance.
• Don't guess a bottom. What looks like a bargain can turn out to be a very expensive Stage 4 disaster. Instead, buy on breakouts above resistance.

From “Secrets for Profiting in Bull and Bear Markets”, Stan Weinstein
Legenda

Every week, for several different countries and asset classes, a given set of technical indicators is calculated on specific Equity, Equity sector, and Commodity indices. First, we calculate our proprietary momentum indicator; we then rank the industry groups from best to worst, showing the results for the last six weeks (Friday's closing prices are used in our calculations). We use the blue color for “Overweight,” the red color for “Underweight,” and no color for “Neutral.”

We prefer to find buy ideas in the top third results of our ranking model, while short ideas are better suited for those indices in the bottom third. This table provides a quick, yet effective, way to see the dynamics of relative performances in these indices, showing investors’ preferences in the medium term. From an absolute performance point of view, we need to calculate instead the weekly MACD (Moving Average Convergence/Divergence) indicator and its nine-week moving average (the “signal line”).

We technically define a bullish swing as one when the MACD is above its moving average and a bearish swing as one when the MACD is below its moving average. On the “Time” column, we count the number of weeks from one swing to the next to gauge the maturity of the current move. When comparing the MACD with its moving average and with the zero line, however, we can define four phases (Up, Advancing, Down, and Terminating).

The idea is to divide price oscillations into clearly identifiable phases (inspired by the work of Ian S. Notley) and adjust our risk/reward expectations according to these indications (see column “Action”, representing the number of weeks a particular index has spent in its bullish or bearish swing phase).

**The bullish swing includes the Up and Advancing phases.**

**Up:** The index has bottomed (possibly after showing positive divergences) and is breaking resistance levels. Investors should have a low-risk entry point here. The weekly MACD is below the zero line but above its signal line. Size should be small at the beginning, and the investor should allow prices to prove themselves.

**Advancing:** Prices are trending nicely higher with moderate volatility. Approaching the top, we usually see volatility picking up and weekly (daily) ranges increasing. The weekly MACD is above both the zero line and its signal line. Buying dips can be a rewarding strategy.

**The bearish swing includes the Down and Terminating phases.**

**Down (Declining):** The index has built a top (or a congestion phase), and the weekly MACD has crossed from above its signal line. The MACD itself is still above the zero line here, and the implication is to lighten the position and to use each short-term pullback to reduce/sell the exposure (sell on rallies).

**Terminating:** Prices are accelerating to the downside, and the weekly MACD is now below both zero and its signal line. Sharp rallies could be confusing, but sticking to the trend is the best strategy, and investors should generally avoid buying dips here. Volatility is sharply increasing.

**EM:** Emerging Market.
This trading idea is based upon technical analysis, which involves the study of historical price and volume trading patterns and the potential direction of future trading based upon such information. There is no direct or implied guarantee of any particular outcome. This analysis is different from fundamental analysis and the conclusions reached may differ. Technical research does not represent a rating or coverage of any discussed issuer(s).

Our daily charts for European and U.S. equities try to highlight in a quick and easy way information about the trend, the relative performance against its benchmark, price momentum and accumulation/distribution using volume. Our conviction is clearly a function of these elements and of the time frame used.

To determine the trend we use the classic combination of two moving averages based on a 50 and 200 day length. The trend of the stock will move above and below these moving averages and we will look for buy (sell) ideas when price will be above (below) both of them or during mild pullbacks affecting only the 50-day moving averages.

Given two or more signals on stocks in uptrend we use the relative strength versus its benchmark (usually the Eurostoxx 600 for European names and the S&P 500 for U.S. names) to discriminate which one offers the best opportunity for a given signal. Again we like stocks in uptrend with a bullish relative strength as buy candidates.

Momentum (we use the classic MACD Moving Average Convergence Divergence Indicator) tells us where we are in the current phase of the trend. The MACD indicator represents the difference between two moving averages of 12 and 26 days. If this indicator is widening, it confirms the trend in prices is healthy and accelerating. A possible indication to reduce exposure in a stock that is in uptrend and outperforming is provided either by a short-term trend reversal toward the zero line of this indicator or by a negative divergence between prices and the MACD indicator. New highs in price that are not confirmed by new highs in the MACD, are leading indications that the pace of the trend is slowing down and a possible reversal is in the offing.

Finally we consider volume in our work in two forms: raw volume represented by a vertical histogram (red for negative trading sessions, blue for positive ones) and the OBV indicator. Raw volume can indicate the underlying structure of buying and selling in the short-term: we like higher price on higher volume and lower prices on lower volume, indicating a positive feedback in investors’ mentality. Spikes in volume are usually associated with climaxes and a short-term reversal is usually the norm. The OBV indicator tries to help to answer the question whether the stock is under accumulation or distribution. The OBV indicator follows prices 95% of the time: we add (subtract) the volume of the day if the close is positive (negative) to a running total. A stock that has been for 2-3 months in a tight trading range with an OBV indicator that is breaking higher (lower) provides a leading indication of accumulation (distribution) and helps the investor/trader to be prepare ahead of the breakout in prices.

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Aviate Global’s technical rating system has seven categories to differentiate short-, medium-, and long-term time horizons. If there is no rating listed for a stock, Aviate Global is neutral and has no opinion on the stock.

**Speculative Buy:** A short-term buying opportunity lasting up to one month with projected upside of 10% or more.
**Buy:** A medium-term buying opportunity lasting up to six months with projected upside of 25% or more.
**Strong Buy:** A long-term buying opportunity lasting more than one year with return potential of 50% or more.
**Sell Short:** A short-term selling opportunity lasting up to one month with projected downside of 10% or more.
**Take Profit:** Immediate closing out of existing position at a profit.
**Sell/Reduce:** Used for a stock with a deteriorating long-term technical outlook that is expected to have a very limited or negative return over the medium to long term.
**Stop Loss:** Immediate closing out of existing position at a loss.

Aviate Global’s technical ratings use specific return targets; returns are not guaranteed and are used for illustrative purposes only.

Chart sources: Bloomberg and Aviate Global LLP.