RELATIVE STRENGTH APPLIED TO SECTORS

AN ILLUSTRATION WITH THE DJ STOXX 600 INDEX

By Yann Cordier

AXA Investment Management

Abstract

Technical analysis can be of great interest to the equity fund manager even if his/her approach is mainly fundamental. While bottom-up approaches, purely based on a company's fundamentals, are often described as the Holy Grail to equity management, top-down methods can usefully complement them – mainly with regard to portfolio construction. Technical analysis – through relative strength concepts – can prove to be a very powerful tool to build an equity portfolio from a sector perspective.

The purpose of this paper is to discuss the advantages of analysing a large index's subsectors based on their relative strength from an equity portfolio manager's perspective. Based on our personal experience, we chose to illustrate this article with examples taken out from the pan-European DJ Stoxx 600 and S&P 500 indices.

After showing the additional information given by relative charts, we shall compare different methods and try to determine the most relevant combination of indicators; we will finally analyse the current (June 2014) shape of DJ Stoxx 600 subsectors in order to build a European equity portfolio based on a top-down approach.

1. Introduction to relative strength
2. Relative strength of a sector vs. a market
3. Chartist analysis of relative performance graphs: advantages and limits
4. Technical indicators applied to sector relative charts
5. Analyzing DJ Stoxx sectors and building a portfolio
6. Conclusion

1. Introduction to the relative strength concept

Without minimizing the importance of charts based on absolute performance, we must acknowledge they lack some key information.

Each market, whatever asset class, does not behave independently but is rather the result of multiple causes – hence the importance of inter-market analysis.

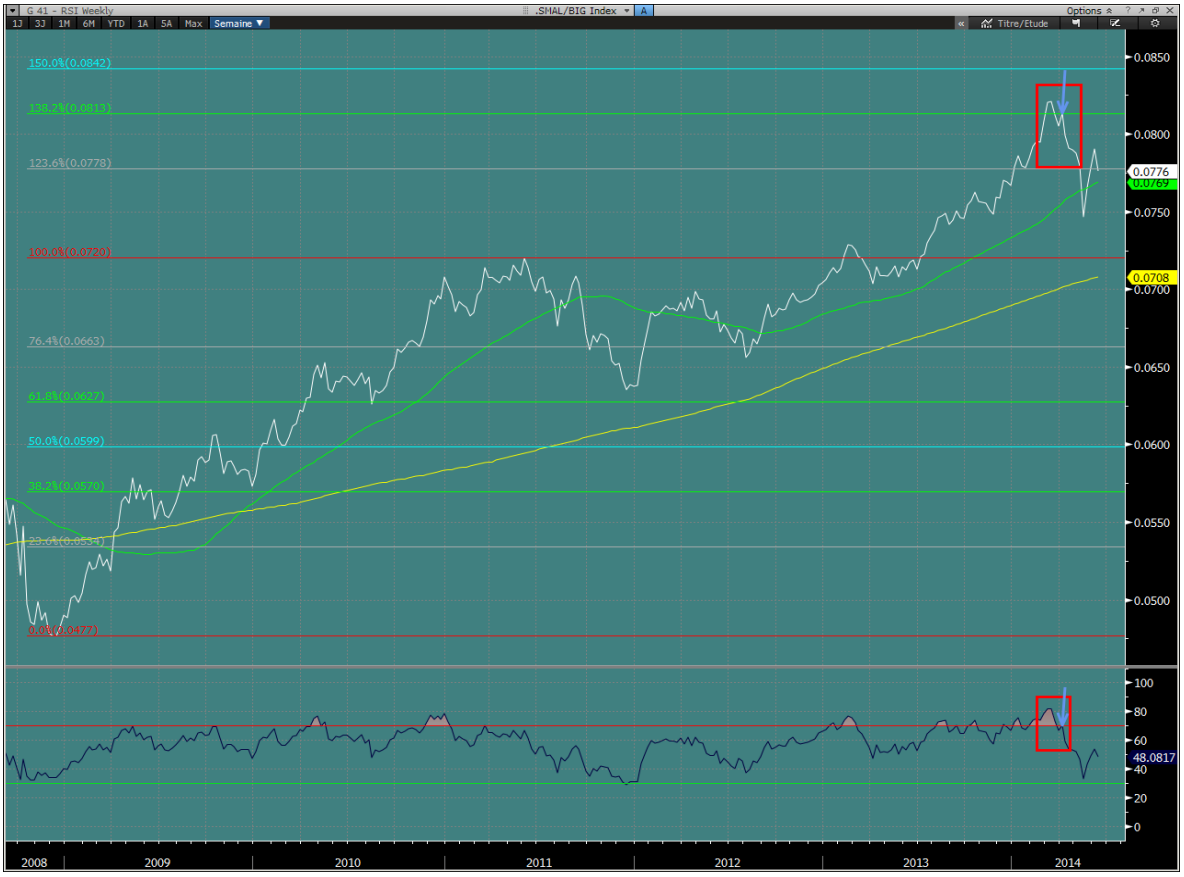
Correlations may vary over time but the fact remains that some markets act as forerunners for others: the most famous example is the DJ Transport Average which tends to break out before the DJ Industrial Average. In the example below, the Transport average *versus the Industrial Average* managed to break its down-sloping channel to the upside as early as April 2009. In a very usual way, the subsequent pullback gave a nice opportunity to buy the ratio (yellow arrow), or, put it more simply, added a clue pointing to the beginning of a bullish trend on the US stock market.

If you attach some importance to technical indicators, you would rather "work" with a single chart, i.e. a **ratio between two series**; after all, if the correlation between two assets is strong enough, it is highly probable that both chart patterns and oscillators will have the same profile at the same time. Drawing a relative strength chart thus enables to get additional timing information.

This approach is a great help in **pairs trading** – commonly used in event-driven, long-short equity, and, to a lesser extent, global macro funds. In the example of L/S equity, the potential dangers of

naked short-selling can be subdued by going long another stock – in that case, you simply play a performance differential.

The chart below shows the secular re-appreciating trend of European small caps versus European blue chips. The blue arrow points to an interesting stage when small caps were way overbought vis-à-vis their larger counterparts as illustrated by their relative RSI. As soon as the oscillator left the extreme zone, small caps retraced part of their rerating trend – in a rather violent way. This very interesting piece of information would have been missed to a large extent if both charts had been considered separately.



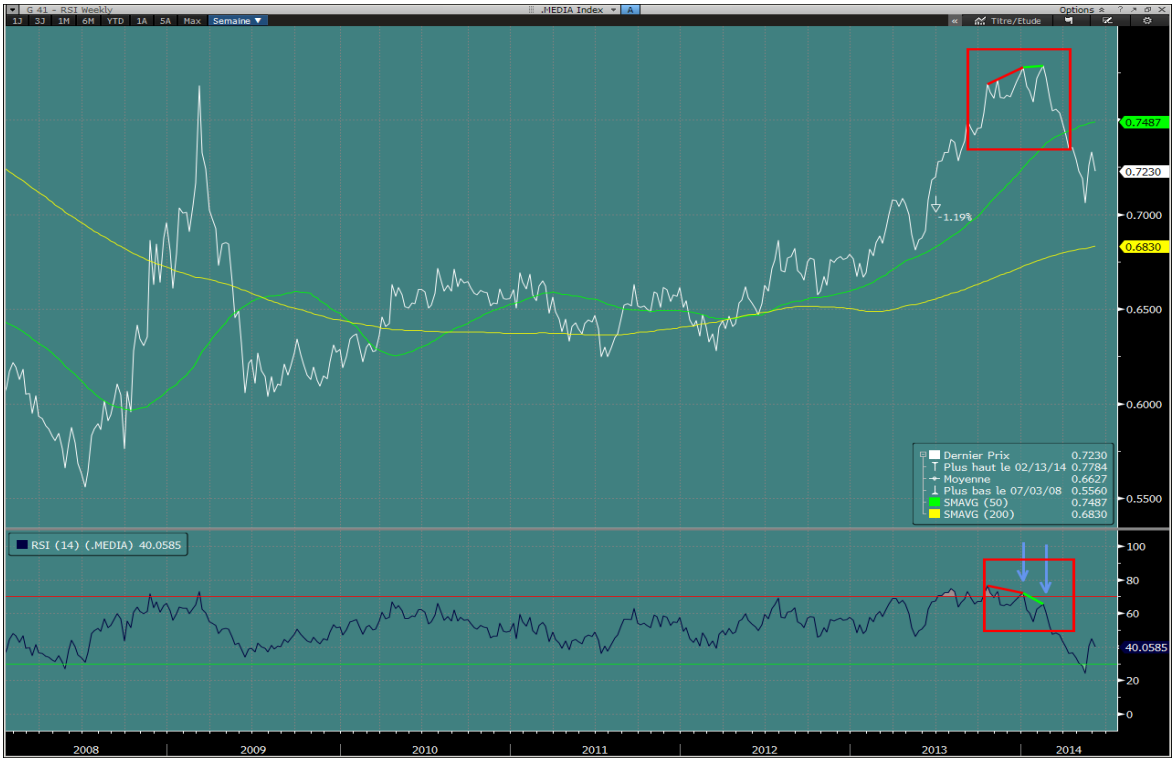
2. Relative strength of a sector vs. the market

Most long-only equity managers are stockpickers, i.e. the way they build their portfolios is essentially the result of a bottom-up approach. However, focusing on corporate stories carries the risk of ignoring the broader picture.

This reaction lag can be frequently observed as every change in sentiment on any particular sector does not translate into "adjusted" portfolios in the following weeks. May we just remind the reader of the 3-year massive underweight position on the banking sector in Europe or, more recently, on

utilities and oil stocks? When complacency or mistrust reaches extreme levels, the reward/risk profile on a sector becomes attractive.

Let's take European media stocks: Offering a good exposure to the rebound in European domestic consumption, the sector was well flagged as a place to be in by analysts and got massively overweight in European portfolios. By the end of 2013, though, relative overextension versus the whole market became clear and two bearish divergences in a row made by the RSI warned of serious impending weakness. The definitive sell signal was given when the indicator failed to reintegrate the overbought zone (second blue arrow).



As a reminder, the sector's overweight position in European equity portfolios had reached a new high (450 basis points) in December 2013…

The point we would like to make here is that the relative strength approach is a **less risky way to implement contrarian opinion principles**.

Finally, studying a sector's relative momentum allows a finer approach than a simple look at absolute charts. For instance, we all know utilities and telecoms sensitivity to interest rate changes, but are both sectors poised to similar outperformance versus the market if bonds perform well? Their differentiated behaviour in S2'13 enlightens the importance of studying intrinsic relative strength for each sector.

3. Chartist analysis of relative performance graphs: advantages and limits

A pure chartist approach is very useful to assess if a sector is in a trending mood vis-à-vis the market, all the more when you take a long-term view based on weekly charts.

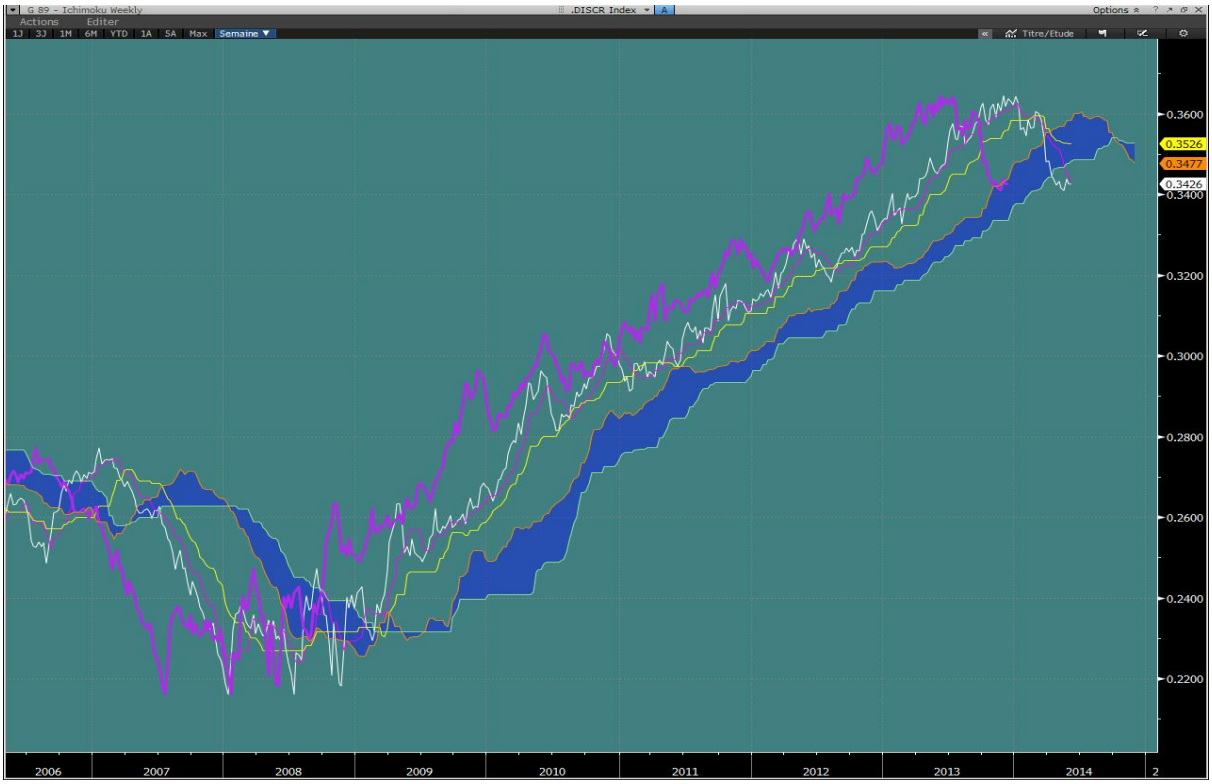
The simplest and most frequent way to successfully trade sectors on a relative basis is to watch out for **trendline breakouts**.

Usual chart patterns are not so common but their scarcity makes them particularly rewarding: head and shoulders following a strong trend are a huge reversal warning.

The example below shows the utilities sector in the second half of 2013. After years of relative underperformance, the ratio completed a triple bottom punctuated by two intermediate highs. It then managed to break out from this regular rectangle and the subsequent pullback (second blue arrow) gave another fine entry point. Needless to say utilities were the most hated sector among asset managers in early 2014…

Also worth mentioning is **Ichomoku** analysis. The riches of a system that gives several layers of signals is perfectly suited to relative charts, in particular on a long-term perspective. The behaviour of US Consumer Discretionary stocks relative to the S&P 500 index over the past few years gives a nearly perfect illustration thereof. Please note the ratio constantly remained far above a climbing cloud during five full years, and the base line acted as a very good support, being (briefly) violated only twice over the period. The sector outperformed the US market by more than 60% from 2008 to 2013. The bearish crossover between the conversion and base lines and their test as a new resistance area prompted the chart to sharply reverse. As a result, the ratio crossed a now thicker cloud from

above, and any – probable – failure to reintegrate it will confirm an early bear market. Also note the irregular head and shoulders patterns completed just before the penetration of the cloud.



As usual in our discipline, analysing the same ratio on **several time frames** is absolutely essential – in this case, with daily and weekly charts. Situations where the shorter periodicity chart is at odds with the weekly chart occur very often; although these situations carry of course a less attractive reward/risk profile than when both time horizons deliver the same message; we noted shorter-time signals were generally much more reliable on relative than on absolute price charts.

From our own experience, we feel the really distinctive feature of these studies come from the importance of catching turning points and not simply following the trend (which remains nevertheless important as shown by the previous example). But this exercise, complicated by nature, cannot be made altogether through a merely chartist approach. That is where technical indicators play a crucial part.

4. Technical indicators applied to sector relative charts

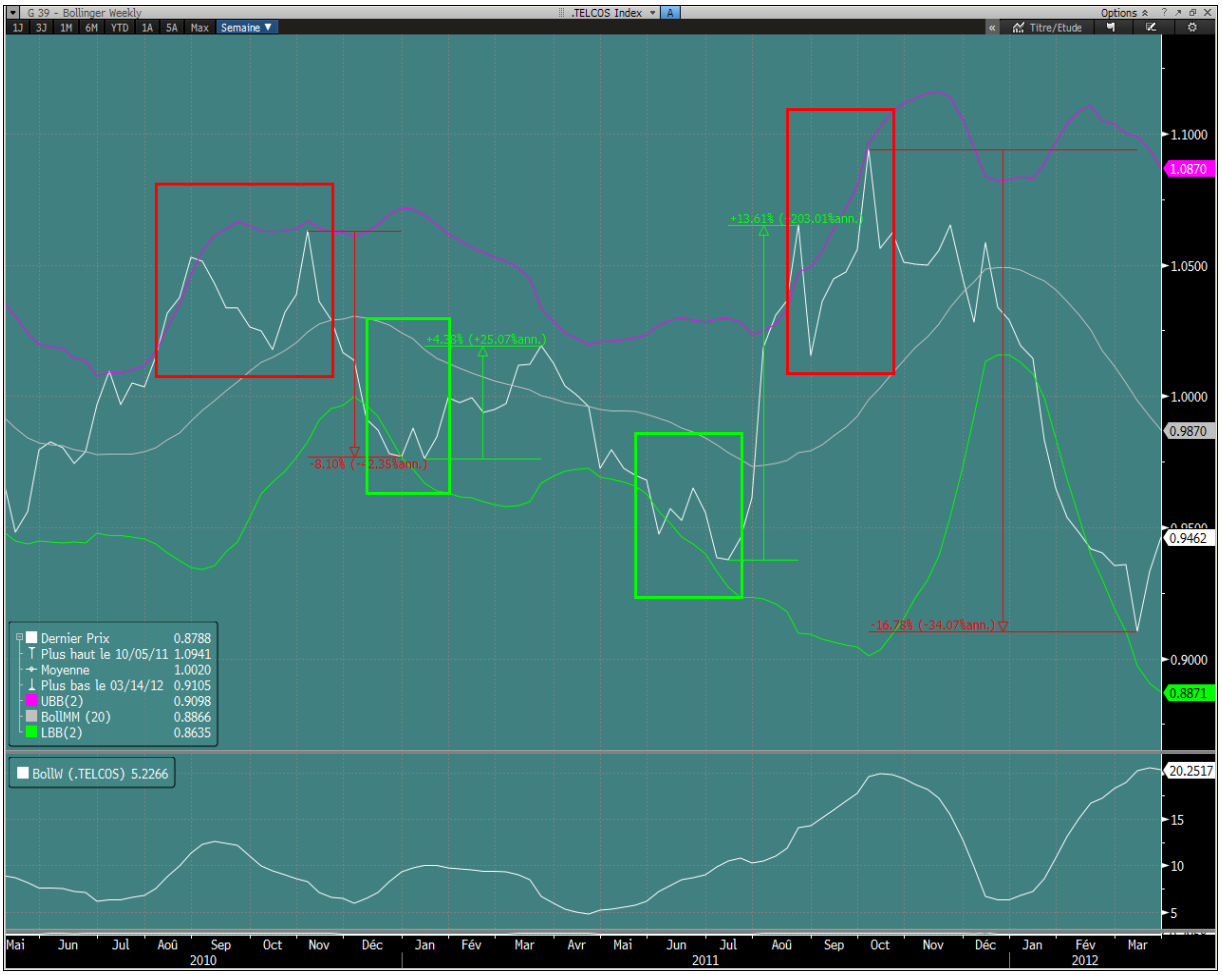
Trend indicators like the ADX/DMI system are always interesting but in the case of relative strength charts, their value-added versus chartist analysis is minor.

Tracking divergences between ratios and their derived oscillators is maybe the best method to identify turning points. **RSI** signals are of prime importance; while their validity when applied to absolute charts may sometimes be questionable – especially in trending markets –, they are extremely meaningful in relative strength analysis. The best possible pattern is a situation where the RSI forms a divergence versus the ratio line, with the second top/bottom failing to reach the overbought/oversold area again. Of course, the signal is generally considered as more reliable if the chart lies in a sideways situation; but even when a trend seems to prevail it should be seriously taken into account.

The graph below displays a strong bearish divergence between the US Metals & Mining sector relative to the S&P 500 index on the one hand, and its RSI on the other hand after a long bullish trend. The first peak made by the oscillator occurred in the overbought area whereas the second one failed to reintegrate this very zone. The subsequent derating proved to be spectacular: -50% the next year.

Range-bound **oscillators** such as RSI, the Commodity Channel Index or Stochastics happen to form chart patterns themselves: head and shoulders patterns in extreme areas are not rare and their identification may lead to powerful results.

Bollinger bands are perhaps the best suited tool to relative strength analysis. As usual upper, lower and mid bands provide good support and resistance levels, but in the case of relative charts, the best warnings of trend reversals are so-called "Bollinger signals". The latter occur when two peaks (or troughs) are reasonably spaced, with the first exceeding the upper (lower) band, and the second being made within the envelope – no matter which top (bottom) is the higher (lower). In essence, the first extreme represents the failure to accelerate while bandwidth could increase, thus giving a first warning. The second one translates a softer, aborted try to get out of the congestion area. The chart plotted below features the European telecom index relative to the DJ Stoxx 600. No less than four powerful signals appear: two double tops and two double bottoms – with nice accuracy and profit, especially for the two latest signals.



Bollinger signals are generally more reliable on weekly charts due to their relative scarcity.

5. Analysing DJ Stoxx sectors and building a portfolio accordingly

To be really useful this kind of analysis should be completed once a week. Visual chart study and indicator analysis can be used as well as automated screening systems.

Economic sectors can be easily traded in the United States with ETFs; in Europe, liquidity varies depending on the considered sub-index. The most liquid Stoxx sectors are Banks, Energy, and Healthcare.

As already mentioned it is important to lead a multi-timeframe analysis, since two identical signals on two different time horizons help draw a much more robust conclusion.

The table below shows the results of such analysis led on European sectors relative to the DJ Stoxx 600 index on the 3rd of June, 2014.

The rating scale goes from - - - to +++ .

Underlined sectors simply mean signals match on weekly and daily horizons. Asterisked sectors imply a change of recommendation versus the previous analysis.

	Weekly chart horizon	**Daily chart horizon**
Food & Beverage	**= -** (risk of dead cross, but reversal could quickly happen)	**+ +** (golden cross and support from the mid Bollinger band)
<u>Automotive</u>	**-** (broken support retested as a resistance → go short on bounces)	**- -** (as long as cloud holds as a resistance area)
Insurance	**=**	**- -** (dead cross)
Banks	**=** (support from cloud and lower Bollinger band)	**-**
Mining	**=** (strong support, watch out for increasing bandwidth)	**+** (leaving the oversold area, probable bullish Bollinger signal)
Industrials	**=** (strong support broken but possible	**=**

	bullish Bollinger signal)	
Retail *	**= +** (H&S on RSI, bullish divergence on MACD2)	**=**
Media *	**+ =** (bullish Bollinger signal, support from cloud; 8% upside potential)	**=** (could turn to + if cloud holds as a support)
Energy	**+** (buy any minor correction in the low range of the cloud)	**+ +** (bullish Bollinger signal, golden cross, RSI holding the 50 level, falling wedge)
Healthcare *	**= +** (buy dips)	**+ =** (back to nice momentum)
Telecommunications	**+** (very strong support, MACD bouncing on 0)	**+** (huge support: trendline, cloud)
Utilities	**+**	**+** (ongoing trend, buy any dip)

Conclusions are crystal-clear: **high-yielding sectors** (utilities, telecoms, energy, healthcare and, to a lesser extent, mining stocks) should have been overweighted at the time while financials, and **insurance** in particular (which is rather logical in a long-lasting low rate environment in the Eurozone) should have been avoided.

Three sectors have been experiencing a slow but convincing shift: media and retail to the upside – although it seems still premature to get really bullish – and automotive to the downside. We had been strong sellers on media and retail stocks for months.

Please note the apparent contradiction on the Food & Beverage sector between the weekly dead cross and the daily golden cross. The most probable outcome is the daily bullish configuration starting to gain traction, triggering an improvement in the long-term picture.

Portfolio construction remains dependent on each sector's absolute weight; we do not suggest to give the same weight to Basic Resources and Telecoms as the latter is twice as big as the former. We feel it makes much more sense to reason in terms of maximum/minimum

deviation from the sector's weighting in indices – of course in the case of long-only equity funds. On big sectors such as Banks, Healthcare or Industrials, a maximum +/- 7% deviation relative to benchmark weight may be accurate. In the example above, high-yielding sectors should weigh 50% to 60% of total assets.

With long/short funds, this kind of analysis can help elaborate equity pair trades but we think it is better suited to baskets (i.e. encapsulating one or several sectorial ETFs out/underperformance versus the whole market).

Based on a weekly work and systematically live-tested (as opposed to backtesting), these analyses have generated an approximate **75% win rate** over a 6-year period.

6. Conclusion

A top-down approach based on relative momentum is a very powerful tool to build an equity portfolio.

The fact that a sector may be over-loved or completely out of favour is not a sufficient indicator in itself as any trend-follower perfectly knows that exuberance may last for very long periods. It is no use trying to over-anticipate market shifts unless your pain threshold is particularly high; nonetheless, when you succeed in identifying early reversals the reward can be appreciable.

Successful analysis implies using multiple methods, either chartist (classical patterns, Ichimoku) or technical (RSI, Bollinger bands in particular), as well as several time horizons. A multi-timeframe study is probably one of the most efficient ways to suspect big sector rotations – but once again, analysis and action should be separated. Anyway, the natural inertia of sector rebalancing processes within equity portfolios provide excellent opportunities to get acceptable and lasting profits coupled with low risk.

Yann CORDIER, CFTe, MFTA

AXA Investment Managers