Stockmarket roundtable: Where next for equities?

Market breadth and technical models

IFTA conference roundup

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WELCOME

With fears growing of a possible slowdown in the US economy, the outlook for stocks in 2008 remains unclear and, to some, murky at best. Fundamental factors including the decline in banking stocks offers cause for concern although the bigger picture and technical factors are less clear cut. In this issue we bring together three analysts to debate the view on US and UK stocks next year.

We hope you enjoy this edition of the magazine

Matthew Clements, Editor.

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Interview
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+ Panel: New frontiers in BF

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David Harding has a perfectly clear picture of risk. As managing director and a founder of one of London’s most prominent hedge funds, with $6 billion under management, David relies on CME Group to adjust exposures and fine-tune a portfolio that includes everything from cattle futures to eurodollars. With complete price transparency, liquidity, and central counterparty clearing, CME Group guarantees the soundness of every trade. We’re committed to serving the needs of market users worldwide, allowing you to manage best what matters most.

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20TH ANNUAL IFTA CONFERENCE
SHARM EL SHEIKH, EGYPT, 8-11TH NOVEMBER 2007
by Paddy Osborn

"Middle East Energy, Commodities and the Globalisation of Financial Markets"

The annual conference of the International Federation of Technical Analysts (IFTA) gave the opportunity for delegates to meet many of the major names in the industry and to network in a friendly and informal atmosphere. Martin Pring, Robin Griffiths and Tom Dorsey were among the international speakers who presented their latest thoughts and techniques to delegates from around the world. Set amid the glorious setting of Sharm El Sheikh, the Domina Coral Bay Resort on the Red Sea, the conference included no less than 25 speakers and included a final day panel discussion featuring four of the major names.

Major Session Summaries

Walkabout - The event-opening "Walkabout" was an interactive session which gave delegates the ideal environment to get to know each other. The Walkabout involved a series of five separate round-table discussions in which delegates were encouraged to actively participate. Subjects for discussion included Commodities and Derivative Products (Options & ETF’s), as well as debates on which technical studies were most popular and why (Relative Strength Index came out top). Other discussions centred on the global role of IFTA and the correlation between emerging, developing and mature stock markets around the world.

Each topic was moderated by a noteworthy technician who directed the discussions and encouraged all delegates to join the debates. At the end, the moderators gave an overview to the conference on the views and issues raised on their particular topic during the sessions.
Martin Pring - Stock Sector Rotation Strategies
Martin explained how to execute profitable sector rotation by applying technical analysis to economic indicators. He also outlined how he uses inter-market analysis to identify industry groups or sectors that are predicted to outperform other sectors. He analysed the relative performance of bonds, stocks and commodities within the economic cycle and demonstrated his techniques for interpreting the relationships between these different asset classes. He split the economic cycle into six stages, showed how to recognise these stages and illustrated the performance of each asset class within each stage. Regarding sector rotation, he noted that stock sectors tended to lead their respective sectors of the economy, and showed how he uses ETFs to trade by sector or by industry group to avoid the hassle of having to trade a basket of individual stocks within a particular sector.

John Person - Rule-Based Trading Systems
John explained how he uses Pivot Points to construct his rule-based trading systems. He emphasised the value of the actual price to build his trading strategies, with slightly less emphasis on calculated studies. He explained how he uses pivot point moving averages to help identify the longer term trend (bullish or bearish mode) and then uses Price Pivot Points to develop his strategy to sell into short term rallies or buy short term dips. These Pivot Points are used to predict potential support and resistance target levels to help traders remain focussed on the bigger picture while entering the market at better levels.

Robin Griffiths - A Global Overview of Investment Markets
Robin gave another of his straight talking presentations on the global outlook, world demographics and the future expectation for global stock markets. He gave the audience a fascinating view of inter-market mapping through his analysis of medium term and long term cycles. He remains very bullish for some of the large emerging markets - particularly China - and while his approach is very long term and strategic, everyone benefitted from his view of how the big picture looks like unfolding.

Murray Gunn - Trading Regime Analysis
Murray began by explaining how human psychology causes market volatility in liquid markets to effectively revert to the mean. He explained that markets either trend directionally, trade sideways or "do a bit of both"; he calls this the "trading regime" and identifying (or even anticipating) the trading regime can ensure that traders use the most suitable technical studies at any particular moment in time. He outlined some recognized methods for indicating trading regimes (i.e. volatility, DMI/ADX, Bollinger Bands, etc.) and then introduced two new studies, the Trend Following Performance Indicator (TFPI) and the Trading Range Indicator (TRI). This Regime Analysis helps with asset allocation, risk management and position sizing, as well as helping investors decide what markets to trade and what studies to use.

Tom Dorsey - Point & Figure Methodology
Tom also focused on a tactical portfolio management through positive Relative Strength identification. Having selected, say 40 stocks, he calculates their relative strength against each other to create a large matrix of 40x40 stocks. He then uses Point-&-Figure charts of the relatively strongest stocks to create his stock rotation strategy. In the bigger picture he uses the same technique to calculate the relative strength between different asset classes to define asset allocation levels within his overall portfolio.

Rashpal Sohan - Using Quantitative Techniques to Reduce the Subjectivity in TA
Rashpal began his talk by explaining that seven of the top ten best performing funds use quantitative analysis and three of the top ten are purely quant-driven. He went on to explain how he identifies his "universe" of stocks and then ranks their absolute strength (long & medium term) and relative
strength. He then backtests these results over 1, 3, 6 & 12 month periods and builds his portfolio of stocks from those in the top quintile. For trade exit he explained that stocks shouldn't be sold simply on ranking (i.e. when they leave the top quintile), but fixed stops should be based on maximum draw-downs of 15-20% (for long term positions). Other analysis can be developed from this information such as comparing quintile rankings now with those 1 month ago and 3 months ago.

Rolf Wetzer + Manfred Huebner - Behavioral Treatment of Bond Markets
Rolf and Manfred base their sentiment analysis on the fact that investors display herding, anchoring and overconfidence characteristics in their trading styles. They spent some time analyzing the curvature, steepness and volatility of the yield curve. Herding effects are caught by trend following tools - this behavioural measure is price based. They explained how they apply simple moving average strategies to trade the steepness of the yield curve and then use leverage to improve returns (a 75% improvement in returns in 8 years). They explained how they evaluate investor expectations using 400 Sentix behavioural indices - into which more than 2500 investors give input. The result is a Neutrality Index which enables behavioural management of the bond markets.

Rick Bensignor - Interpretation of Cloud Charts
Rick explained the calculations behind the many lines within an Ichimoku chart, namely the Tenkan, Kijun, Chiku and Kumo lines. He explained how each line can be used to enhance trade execution timing, as well as providing zones to buy/sell on retracements in strong uptrends/downtrends. The Ichimoku lines and clouds also provide useful zones to add value to levels generated by Western analysis techniques.

Jeff Hochman - TA within a buy-side environment
Jeff Hochman gave an excellent presentation of his view of global markets from his position on the buy side. He believes that the growth of a number of external influences (i.e. ETF's, Sovereign Wealth Funds and Hedge Funds) is affecting global markets and will continue to do so. He doesn't think that US market groups should be reconstructed, but believes that the time has come for a new World Index to be created, based on demographic considerations. International demographics are expected to significantly alter investor strategies - since people in their 40's and 50's are much heavier "investors" than 20-29 year olds who have much less disposable income. Jeff uses the MY ratio (i.e. number of people aged 40-49 divided by number of people aged 20-29) as a basis for this new World Index. If such an Index was introduced, then there would be many changes from the established MSCI World Index which would prompt significant rebalancing of portfolios. Japanese stocks would be the major winners (with market share up 43% from their current slice of the MSCI Index pie) while US stocks would be the biggest loser (down 12%).

Panel Discussion, moderated by Ian Notley
Tom Dorsey, Connie Brown, Robin Griffiths & Martin Pring started by giving their predictions for major markets. The outlook was somewhat mixed but the overall view in the short term (i.e. next few months into Q1 2008) was bearish for developed markets.

Ian was particularly bearish, basing his argument on a comparison of historical Q4 crashes. Robin was bullish in the long term for China but expects huge volatility on the way. Connie spent some time giving her predicted support & resistance levels for major markets, based on her Gann analysis. The discussion covered the potential value of water, the future trends for grain commodities and metals. Robin was bullish for Uranium, seeing electricity as the power source driving modern life. Other fuels are used simply to generate electricity and nuclear power is the major source. Improved nuclear technology provides a huge bull story for Uranium-related stocks.

Julius de Kempenaer - A New Way to Visualize Relative Strength
Julius gave another fascinating talk about his unique approach to relative strength. He explained how he can observe his entire universe (by creating scatter charts of Relative Strength Ratio (x-axis) v Relative Strength Momentum (y-axis). He then rolls positions on a monthly basis as the RS ratio and momentum values change. The dots on the scatter diagram always move in a clockwise direction around a fixed benchmark point and since this technique can be employed on any time frame, it is particularly useful for prop traders with large universe of instruments to cover. Julius usually uses this technique as a sector rotation strategy, although it can also be applied to global stock indices, using the MSCI World Index as the benchmark.

Saleh Nasser - Moving Forward By Looking Back... Revisiting the Basics
Saleh based his strategy on Japanese Candlesticks and the assumption that the midpoint (including shadows) of "significant" candlesticks (i.e. candlesticks illustrating more than 1.5 times the range of recent candles) should provide significant support or resistance. He explained how this simple calculation creates horizontal levels at which to set stop losses around strong support/resistance areas. He explained another study based on the price crossing above and below the 9-event exponential moving average. These two studies are then combined to determine his position management, where to sell some or all of a position and when and where to re-establish new positions.
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I believe technical factors support a pause in crude oil’s advance and a pull back is likely as it has come very close to the psychologically important $100 price. While there are many reasons to see a continuation of the powerful move to new nominal highs, some significant technical challenges are present that could prevent crude from moving higher in the short term. As such, I expect crude to retreat into the $80 range.

Trading bands
Currently the top of its trading band is $97 and the mid point is $84. I find that assets in strong up trends tend to trade from the mid point of that band to the upper end, and conversely weak assets from the mid to the low end of the trading band. Furthermore, corrections in strong assets generally take them back to that mid point before gaining traction and pushing back to the former higher and possibly higher. On the other hand, marginal bounces in weak assets can very well give investors false signals, tripping them into thinking that their bottom fishing trades have been timed nicely only to have the trade run out of steam at the mid point on the band.

There is likely a deeper follow through to come in oil’s pull back after it reached the top of its band and reversed. The possibility of a move down to the $89 USD bottom is increasing, and if that support fails, the $84 - $85 range - and the mid point would be likely.

Overbought / oversold Indicator
Like trading bands, my overbought / oversold indicators can remain in a trend much longer than one might imagine. There is no rule that states that when an asset reaches a 100% overbought reading it is bound to reverse course right away. Oil has remained overbought since late August and, but for an extremely brief period in mid August and another short period in May, it has remained overbought since February. We are now at the most extreme overbought period - 96% of the year. Comparing that to the most recent oversold reading, back in late October 2006 when oil traded at $58, you can see the duration and extremes of this indicator.

Support lines / resistance lines
Crude’s bullish support line has been in place since September 2001 at $19 (Figure 1). The slight violation of that trend line in January of this year at $53 was short-lived. Since then it has generally stayed comfortably above the line and lately has accelerated, distancing itself further from that strong support. Right now the bullish line is at $75, so if oil trends down there is a large fall before reaching the line-in-the-sand support.

Bruce Zaro is technical analyst at Delta Global Advisors
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The FTSE 100 has pulled back into a zone of strong chart support, and so far, the sell off has been limited to a 6.3% decline from the recent high on October 12. The FTSE is in a clear corrective mode, having traced out a series of lower highs and lower lows. Our concerns about the FTSE and other global markets over the past couple of weeks were primarily sentiment driven, as there seemed to be a high degree of bullishness in the indicators we monitor based on the US stock market. However, we have seen a very quick turn in market sentiment back to the bearish side, and from a contrarian view, we think this is a positive.

It is possible that the initial low of the pull back is in, as the FTSE has already retraced about 50% of the rally from mid-August to October (Figure 1). The market found support fairly close to the top of the base or inverse head-and-shoulders formation that was traced out in August and September. The top of this reversal formation, or where prior demand was seen, starts at 6394 and runs all the way down to the August lows at 5859. Like the S&P 500, the base is wide and it is therefore difficult to be more precise where the index may find support.

On Thursday, the FTSE came very close to the low of 6305 on November 9. Many times after a pull back or correction, an index will bounce and then rollover and test the initial low. Often, intermediate-term lows are double bottoms, with the second bottom lower than the first. If the FTSE does take out its recent low, the next Fibonacci retracement of 61.8% comes in near the 6200 level. To confirm that the trend has reversed to the upside, we would like to see a close above the most recent high at 6432. That would complete a bullish, double bottom pattern, and we believe set the FTSE up for a run back to the October highs.

On the upside, there are a couple of key pieces of resistance that the market will eventually have to deal with. Chart resistance, from the lows in October and early November, comes in around the 6460 level. The 65-day exponential average sits up at 6466, and may also act as resistance.

Daily momentum is still heading lower and in a bearish configura-
Market Views

The 14-day RSI has not yet become oversold, having fallen to 36 during the current pullback. While an oversold condition is not a prerequisite of an intermediate-term low, we believe it creates a better set-up for a more durable rally. We also prefer to see at least one positive momentum divergence, but it is a bit too early for that yet.

Longer term, we are worried by the action of the weekly momentum indicators. The 14-week RSI has put in a series of lower highs since March 2006. In addition, the FTSE has not been overbought on a weekly basis since that momentum peak in early 2006. Long-term support, on the weekly chart, comes in at around the 6200 zone. This is where a long-term trendline sits, drawn off the lows in 2004 and 2007.

In addition, this is where the 80-week exponential average lies, and this support line has done a good job at creating a floor for the index during the bull market. Overall, we remain somewhat cautious until there is more evidence that a low is in.

The DAX Index had been pulling back in a very gradual manner until recently, when it lost 1.5% (Figure 2). In the process, the index broke down through a plethora of technical supports, but has still only dropped 4.7% from its mid-October low. So far, the index has not fallen nearly as much as many of the other global indexes. The intermediate- and long-term patterns are still bullish, in our view, and even though some short- to intermediate-term supports have been taken out, the longer term trend is still firmly bullish.

The index broke below trendline support, drawn off the lows since March, on Thursday, as well as the 80-day exponential average. This is the first break of the 80-day average since July. The DAX also broke the high from the base that was created during the summer bottoming process at the 7722 level. Chart support, from the base this summer, runs all the way down to the 7270 level, and we think the index will hold above the lows from August. With the loss today, the index has retraced about 50% of the mid-August to October rally. A 61.8% retracement of the rally targets the 7565 area. Another potential support, the 200-day exponential average, sits down at 7444.

Daily momentum continues to fall, but is not yet oversold. The 14-day RSI has dropped into the 40 area, and many times, falls down near 30 during intermediate-term pullbacks. The daily MACD is negative, having dropped below the zero line. This is the first time that the daily MACD has dipped below the zero line since the latter part of July.

On the weekly chart, potential support comes in at 7469 from the 40-week exponential average. This average has done a good job of providing support for the DAX during the bull market. If the lows from August get taken out, long-term trendline support, off the lows since 2004, sits in the 7200 area.

The weekly MACD has traced out a much lower high compared to the one in July, and has started to rollover once again. The indicator is still above zero, and for the most part, has stayed in positive territory during the bull market. The 14-day RSI is in a downtrend but remains firmly above pull market support in the 40 area. With the index making lower lows and lower highs, we would remain cautious.

Mark Arbeter, CMT is Chief Technical Strategist at Standard and Poors

Figure 2.
OUTLOOK FOR US AND UK STOCKS

With the impact of the credit crisis still being felt and the future direction of the US economy uncertain, we discuss the short and longer term outlook for US and UK stock indices and consider the possibility of a new bear market for equities in 2008.

Chair: Matthew Clements
Editor
The Technical Analyst

Roger Cursley
Strategist
Investec

David Fuller
Global Strategist
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Sandy Jadeja
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Do you subscribe to the view that we are in a long-term secular bear market for stocks?

SJ: I’m purely technical although the fundamentals must be considered. Recession talk has been around since 2001. We can have a short dip but the charts suggest that the bull market is not over, or rather we are still in an upwards correction within a secular bear market. I think there has been a radical shift in the markets in recent years as private traders now have much greater access to the markets, due mostly to the advances in technology. This has contributed to the growth and volatility of the market. There is also a lot more people now with great wealth looking for somewhere to put their money.

DF: I approach technical analysis from a behavioural perspective. Looking at the sell off in the banking sector, you can see that this is fear and panic. The charts show me where the liquidity is going; either into the market or out of it. Crowd psychology determines how the markets move. Sentiment can change very quickly which has been demonstrated recently with the VIX moving up to around 30 or so. On the fundamental side, global economic growth will come from Asia, India and Latin America while the US slows down.

There is still a strong disinflation impact from China and India etc. which will continue to compensate for higher commodity prices and a weaker dollar. Moreover, the competitive pressures of globalisation will continue to keep wage pressures under control. If there is an inflationary risk then I think it comes from the excessive liquidity that the Fed has injected into the economy.

I don’t go along with the view that we are somehow “overdue” for a market fall or a recession. Things really are different this time because of the rise of the Asian economies. Bull markets don’t just die of old age; there is a major event that brings things down. You might argue that the banking crisis is that event but what impact will that have in China for example? Not much. With emerging economies now accounting for 52% and rising of global GDP, a localised banking problem in the US or UK isn’t enough to dip the
global economy into recession.

**RC:** I think that statement underestimates the amount of linkage between the US and Chinese economies. Economic and financial events in the US will effect the Chinese economy and visa versa. I’m not a technical analyst but I know if we are in a bull or bear market. We are now coming out of a low inflation global environment especially with rising commodity prices. This will mean that central banks have a problem in that there is a limit to how aggressively they will be able to cut rates given greater inflationary pressures in the future.

What other factors need to be considered in assessing the upside and downside risks for stocks next year?

**DF:** Bond yields are an area that needs to be considered as a potential threat to higher stock prices. The last secular bull market in US government bonds ended in 2003. Although there has been a period of consolidation recently, a move in the 10-year Treasury to 6% and higher could potentially cause a secular bear market in stocks.

**RC:** I’m looking at 12 month time scales. Although I’m fairly bearish over the next year, it’s a lot more difficult to say what will happen over the next few months. While tech stocks are holding up very well, the banking, housing and retail sectors in the UK especially are not performing well. The importance of these sectors should not be underestimated; moreover, it is possible that worse is to come in terms of the credit crunch and the decline in the UK housing market.

**Does the sharp fall in bank stocks now present a good buying opportunity?**

**SJ:** From a technical perspective - Fibonacci levels and patterns - it all looks oversold. However, I need to see some consolidation and then a breakout above that or a break above a recent high. I don’t necessarily have to catch the bottom of the move but we are definitely looking out for buy signals now rather than expecting more entrenched declines.

**DF:** If we’re looking for straws in the wind - US banking stocks have been up for the last three days in a row. You have to go back a long time to find the same pattern in daily price moves. This suggests to me that it’s better to be a buyer than a seller at the moment but I’m also happy to sit and wait a bit longer. My guess is that further falls in bank stocks will provoke more action from the Fed coupled with a short covering spike. This is the time to become more optimistic.

**RC:** This is a good point. Banks are making the losses from sub-prime but hedge funds are doing great business by shorting the bank stocks. You only have to look at a chart of banking S&P to see what’s been happening. Again, opportunities...
are being presented here although the actual banking fundamentals remain uncertain with regards book value and earnings etc.

Is there any great difference between the banking sector indices in the US and UK from a trading point of view?

SJ: Looking at the daily charts for the FTSE banks looks like a very good buying opportunity. From a purely technical point of view I can see a multiple Fibonacci confluence and any break to upside would be a buy. The S&P is similar but perhaps presents less obvious buying signals than the FSTE. With the S&P it’s a matter of waiting a bit longer.

DF: I would think that the UK banks are not in quite as bad a shape as the US banks which would support Sandy’s immediate FTSE outlook. There isn’t the same hysteria in the UK as there in the US.

What will be the best sectors to buy next year?

RC: When do you buy cyclical sectors? The full impact of the banking crisis probably won’t be known until the beginning of next year but we are also seeing a slowdown in the housing market. If you look at the stocks of the major house builders they are all off, quite significantly, from earlier in the year. But I don’t think we have reached a buy for these sectors as yet.

SJ: An interesting factor is that if you look back over a 15 to 18 year period, November has been one of the best buying opportunities, even if you only hold until January. Banks are also way off their 200-day moving average. Years ending in "7" tend to be underperforming years whilst those ending in "8" do tend to perform better.

Are there any obvious technical signals in the FTSE 100 at the moment?

SJ: The FTSE has recently failed to surpass its previous high at 6750. The resulting pattern looks very much like a double top which is obviously bearish. To say the market is in a downtrend for sure we need to see lower highs and lower lows. It’s just too early to call a bear market right now.

DF: Many of the European indices are very heavily weighted with banks which makes them especially vulnerable. These include Sweden, Ireland and Switzerland where you do see a downtrend in the major index. The FSTE is more diversified and so is a different story as it acts as a sort of clearance house for all these fabulous listed companies such as the Rios and BHPs of this world.

Do you see the rising oil price acting as a damper on equity prices?

RC: Let’s not forget that the markets have gone up despite rising oil prices so the market apparently doesn’t see higher prices as a threat to economic or corporate growth yet. I think much of the rise in oil prices is a symptom of the weak dollar. If you look at the oil price in euros the rise has been much more restrained. The same goes for other commodities such as copper.

SJ: The correlation between oil and stocks, whatever that was, doesn’t exists anymore. If we saw oil prices fall significantly do you think stocks would rally? I doubt it.
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The Donchian Channel was created by Richard Donchian in the 1950’s as a technical indicator. It's comprised of an upper and lower band - the upper band indicates an issue's highest level over a given number of periods, and the lower band indicates the issue's lowest level over the same number of periods.

Some software packages use the highest and lowest closes, but my preference is to use the highest and lowest level, and since the bands automatically adjust for new highs or lows, by definition, the underlying issue cannot break-out from the bands. It will instead always be contained by them. In this article, I’m going to show you a very simple yet powerful technique I use for day trading the S&P 500 e-mini futures contract (ES). But first let’s back up because a technique is useless unless you know its frame of reference.

In my opinion, the big money is made riding the bigger intraday moves, so when I day trade the ES, my first goal is to figure out whether it's a "trend day" or "chop day." Unfortunately there are more chop days than trend days, and Donchian Channels shouldn't be used during chop days. But when you get a trend day, Donchian Channels will help you add to your position and stay in the market for a good portion of a move.

Here's how I use a Donchian Channel to help define a trend.

When trending, the ES will constantly press against one of the bands, and although moves to the opposite band are common, the ES will not press too far on the opposite band. Figure 1 shows an example. It's the 3-min. ES chart with a 20-period Donchian Channel.

Notice the ES presses on the lower band - pushing lower in workman-like fashion all day - and although the issue bounced and touched the upper band (red arrows), it never pressed the upper band to a higher level (meaning it never made a new 20-period high all day).

How I trade this is simple.

1) The down-trending channel defines a downtrend, and that's exactly what I want to ride. As long as the lower channel line continues to get pressed down and the upper channel follows along, I want to stay in my short position. The big money is made riding the big trends, so when you get a solid trend, you must sit tight, resist taking profits too soon, and ride it for everything its worth. The Donchian Channel will help you stay in your position.

2) I want to sell every move to the upper channel. You've probably heard the adage about selling a dead cat bounce within a downtrend or buying a pullback within an uptrend. Well, the Donchian Channel helps define what a dead cat bounce and pullback are.

That's it. Any good strategy is simple, and this is no different. Let Donchian Channels tell you what the trend is, enter positions in the direction of the

Figure 1.
trend when the issue moves to the opposite channel line, and try to hold as long as possible. More active traders can take partial profits during the day and re-enter, but you don’t want to be entirely out of the market. You want to maintain some exposure and ride the move for all it’s worth.

Entering your initial position will be the hardest part because within a given day, the ES may chop around for half the day and then trend the second half. You may enter a position based on another strategy and then use Donchian Channels to define the trend, add to your position and stay in your position.

Figure 2 shows such a situation. It’s the 3-min ES chart with 20-period Donchian Channel along with the 3,10,1 MACD.

The first hour produced a lot of selling pressure, but if you used the positive divergence from the 3,10,1 MACD at around 10:35 to enter a long position with a stop below the low, you can then shift to your Donchian strategy that defines the uptrend and says to stay long while the ES continues to press on the upper channel. And if you didn’t enter on the divergence you got a chance to enter just after 13:00 when the ES pulled back to the lower band.

Solid trend days (Figure 1) do occur, but learning an entry technique and then using Donchian Channels to add to your position and stay in your position (Figure 2) is a skill that needs to be learned because the set up appears much more often.

Jason Leavitt is CEO of Leavitt Brothers, a US based stock market research house.
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MARKET BREADTH AND TECHNICAL MODELS

by Gregory L. Morris
A fter more than 30 years of experimenting, creating, modeling, and trying every conceivable technical indicator and system imaginable, I have settled on the simplicity of trend analysis. I would never insinuate that trying to pick tops and bottoms is not possible, but would argue strongly that it is more prediction than analysis. The only thing I am certain of with regard to making predictions is to make a lot of them and often. There is actually one other thing I am quite certain of, and that is the necessity to use a disciplined approach in all aspects of investing.

At PMFM, Inc., we use a “weight of the evidence” approach to trend following. The “weight of the evidence” method combines the input from a number of technical indicators, with each one assigned a weight for its contribution to the overall model. From this, a picture of the total weights can be derived and different levels of risk can then be assigned. Further, each risk level uses different buy, sell, and trade up rules. This is a rules-based approach to active money management using a weighted trend following indicator. Some specifics to follow.

The technical indicators that make up our trend model consist of price, breadth, interest rate, and relative strength measures. Let’s talk about breadth first (one of my favorite subjects). Market breadth or market internals as they are often called, provide the analyst/manager with an unbiased view of the market, void of capitalization, sector, or style domination. Basically, all issues on an exchange participate in breadth analysis equally, which makes breadth the best measure of the market’s liquidity. There are six primary breadth numbers: advancing issues, declining issues, up volume, down volume, new highs, and new lows. For the price-based indicators we use the Nasdaq Composite Index. Of late the Nasdaq has blossomed into a good overall blend index; it has a little (or a lot) of everything - large cap, mid cap, small cap, technology, etc. For years, we also used the NYSE Index, but after long analysis realized that the Nasdaq is much better for its trend following contribution. One of the reasons might be that the NYSE, in the last 5-7 years, almost ruthlessly allowed anything and everything to be listed with them. I do know that the breadth data from the NYSE is not nearly as reliable as it used to be. When the Nasdaq does well, most other markets do well. A simple measure of long-term interest rates is used. Long-term rates are controlled by the marketplace and not the FED. Relative strength measures are used in their own composite indicator, which includes small cap vs. large cap, growth vs. value, and large cap vs. very large cap.

About the charts
In most of the charts that follow, the bottom plot is the Nasdaq Composite Index with a binary indicator overlaid on it. A binary is just a visual indication showing the indicator in the top plot when it crosses the zero line, therefore changing its signal. When the binary is up, it means the indicator is above its signal line and when the binary is down, it means the indicator is below its signal line.

Price-based measures
We use a number of price indicators, but the medium term one that we give considerable weight to is a modified MACD that is then normalized with the longer-term average as shown in Figure 1. While it does not pick tops and bottoms, it does react quickly when there is an appreciable change in the trend of the market. We use other price-based indicators but the purpose of this article is to introduce the concept, not provide complete model details.

Breadth-based measures
The advance decline indicator we prefer is a modified McClellan Summation Index as shown in Figure 2. We use the ratio-adjusted version in which the advance decline difference is divided by the advance decline sum. This ratio technique allows it to compensate for the increase in the number of issues on an exchange over long periods of time. Further modifications are enacting the Miekka contribution to the McClellan Summation Index. Jim Miekka developed this to keep the values (levels) of the summation index consistent no matter when you started the data calculation. This makes the levels of this breadth measure useful since they are consistent across any time frame. As you know, summation indicators generally do not utilize or reference their numerical values, for example the advance decline line. The numbers that make up the advance decline line are essentially worthless because they are always different if different starting points are used; with the advance decline line, one is concerned with direction, rate of change, and its relationship with its price-based counterpart. The McClellan Summation Index when incorporating the Miekka adjustment has important levels; which we view as important measures of risk. The final difference that we use, and one that Tom McClellan also talks about, is using the zero line as the crossing reference instead of the traditional +1000. Tom says that when his parents created this in the 1960s, they added 1000 to it in order to avoid using negative numbers as much as possible since the calculations were done with a mechanical adding machine.

Our new high low measure uses a calculation similar to what is used in the McClellan Summation Index, however, with shorter periods used in the smoothing of the difference between new highs and new lows. We do not use a ratio-adjusted version, as it does not seem to come into play as much with new highs and new lows. Many forget that new highs and new lows are a very different “animal” than advances and declines. Advences and declines, as is up volume and down volume, are based upon daily price action. New highs and new lows are based upon the price action over the last 52 weeks. These breadth parameters are very very different. We also utilize a Miekka calculation using appropriate multipli-
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ers, even though we are mainly monitoring its direction and not its level. Finally, signals are given based upon the new high new low line crossing its own moving average (red line) as shown in Figure 3.

Another breadth-based indicator used in our "weight of the evidence" approach to trend following is one that incorporates up volume and down volume. And, once again, we utilize a ratio-adjusted McClellan Summation with a Miekka adjustment for this indicator. Volume will tend to move higher faster, and of course, it will move lower faster. Stated differently, volume will accelerate the measure in both directions. Volume has always been an important supplement to classical technical analysis and is no less important when used with breadth analysis. In Figure 4, you can notice that the indicator is still below its signal line at +400. This is because the volume since the August 16th low has not been impressive except on a few days.

The last breadth-based measure I will cover in this article is what we refer to as our combination indicator. I was always frustrated using breadth measures on days when the overall trading volume was quite low. For example, in the US, the day after Thanksgiving is usually only a partial day and accompanied with extremely low volume. However, the breadth measures still use all of the issues on the exchange, no matter what the volume, and when used in a ratio format, imply just as much importance. Instead of using exchange volume, it was decided to use up and down volume as the breadth qualifier. In other words, the advances and declines are qualified by the amount of up or down volume, respectively, above the respective volumes' short-term simple average. Days in which the up volume or down volume is above their average, the advance or decline components are given additional weight. This means that when volume is supporting the move, it moves faster, and vice versa. Figure 5 shows the combination indicator and it, like the up volume down volume indicator.
The indicator is still below its signal line. In fact, you can see that the most recent days are rolling over because of the lack of sufficient up volume.

**Trend capturing measures**

We utilize a different type of "weight of the evidence" indicator that is a combination of three indicators, one is price-based, and two are breadth-based. These are intentionally set with quicker parameters and, in concert, yield a signal when any two of them are giving a positive signal. Figure 6 below shows our trend-capturing binary indicator in the top plot overlaid on the Nasdaq Composite index. The three components of the trend-capturing indicator are then shown below, in order from top to bottom (starting with the second plot from the top): up volume down volume, advance decline, and price. You can see the signals from the individual binary lines and when any two are giving a signal in the same direction the binary in the topmost plot gives a signal in that direction also. You can see in Figure 6 that the bottom component just gave a signal so that it along with the other component made the binary for the trend capturing to give a positive signal.

**Relative strength measures**

We use a compound relative strength indicator that is probably overly complicated. However, it seems to do the job and tests quite well back into the late 1970s. It uses three relative strength components for growth vs. value, small cap vs. large cap, and large cap vs. very large cap.

For growth vs. value, we use the Russell 2000 small cap growth and value indices, which provide a good picture of small cap speculation. When investors are speculating in small caps it is a more optimistic period. This reminds me of the old Speculation Index we used back in the 1970s. It was a relative strength measure of the American Stock Exchange (AMEX) volume and the New York Exchange (NYSE) volume. Whenever the AMEX increased to a high percentage (still small relatively), we deemed it as overbought. In fact, it was really telling us that investors were being more speculative and was bullish for the overall market.

The small cap vs. large cap gives us a bull phase measure that again shows speculation as represented by the small caps and safety as measured by the large caps. The bear phase relative strength measure is looking for big large cap leadership at market low turning points. An example of these two components could be the S&P 100 vs. S&P 500. These two phases are only actionable if the Russell 2000 growth value relationship is positive.

**Weight of the evidence**

All of our "weight of the evidence" indicators are assigned an individual weighting value so that the grand total is 100. If all indicators were giving positive signals, the weight of the evidence would be 100, if they were all giving negative signals, the weight of the evidence would be zero. And of course, there can be any value in between. Each indicator's weight is assigned based upon its performance in all market environments. From this weight of the evidence measure, we assign different levels of risk. As an example, →
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one could say that if the weight of the evidence is between 0 and 25, we would deem it as too much risk to be invested. Alternatively, at the other end, if the weight of the evidence was between 75 and 100, we would want to be fully invested with active trade up rules and fairly loose stops. When our model is giving the all clear signal we want to ensure we have maximum flexibility, both in trading up, and allowing more volatile holdings some room to work themselves higher.

Once risk levels are determined, then a full set of buy, sell, and trade up rules can be developed for each level. One should keep the stops at the least risky level fairly loose and encourage aggressive trading up of any holding that is not performing as expected. The weight of the evidence measure can be broken into as many levels as meets your trading needs. At PMFM, we utilize four levels since we not only actively manage two listed mutual funds using ETFs and similarly managed separate accounts, but we also manage mutual fund retirement accounts using open-end mutual funds and ETFs.

We have gone so far as to color code the different levels; red for the lowest, green for the highest, and orange and yellow for the two levels in between. Figure 7 below shows the Nasdaq Composite index color-coded to represent the level of the blue line, which is the weight of the evidence line. As you can see the weight of the evidence, line does a good job of picking up the up trends and staying away from the down trends. In addition, keep in mind that any selling is done based upon a set of stop loss rules tied to the weight of the evidence level; the lower the level the tighter the stops. Why? Because we do not own the model, we own the holdings.

Breadth plays an important role in our rules-based technical model, as it will generally be a little early at tops and coincident at bottoms. Breadth along with price measures and any other good trend capturing indicators can be put together into a “weight of the evidence” approach to trend analysis. Remember, one big advantage to this approach is that there is no single point of failure, like there is with many indicator systems. Finally, remember that discipline is the most important component of any technical model. We adhere to our rules without exception. There is only one thing worse than being wrong, and that is staying wrong.

Gregory L. Morris is the senior portfolio manager for PMFM, Inc. Prior to this role, Greg served as a Trustee and Advisor to the MurphyMorris ETF Fund and as Treasurer and Chief Executive Officer of MurphyMorris Money Management Co. and MurphyMorris.com. Greg has been a technical market analyst for over 30 years ranging from analysis software development to website analysis and education, to money management. He has written two books, "Candlestick Charting Explained," "The Complete Guide to Market Breadth Indicators," and is writing his third book for McGraw-Hill on "Technical Analysis for Money Managers." He was a Navy fighter pilot, is a graduate of the Navy Fighter Weapons "Top Gun" School, and holds a degree in Aerospace Engineering from the University of Texas. © 2007, Gregory L. Morris
SELECTING STOCKS FOR LONG-TERM INVESTMENT USING NON-FINANCIAL CRITERIA

by Tony Czarnecki

There is a growing tendency to use non-financial criteria to assess potential targets for investment, especially long-term investment in equities. Typical examples of such non-financial criteria are: customer retention, proportion of multi-skilled staff, availability of share options for employees, length of MD contract, diversity of suppliers for a given product line, staff turnover, etc. The origins of this trend go back to the early 80’s when organisations such as Ethical Investment Research Services (EIRIS), set-up to identify “ethical” assets for investment for churches and charities. A decade later, the budding Corporate Social Responsibility (CSR) movement had started to influence some pension funds, such as University Superannuation Scheme (USS) in the UK, to select assets on the basis of adherence to certain social and environmental criteria. Today, every 8th dollar in the USA (about $2.2 trillion) is invested in CSR or Socially Responsible Investment (SRI) funds. The biggest investor is the California Public Employees’ Retirement System (CalPERS) with funds of $250 billion. In Europe this type of investment in 2006 amounted to at least €38 billion in core SRI investment, with a further €64 billion using simple negative ethical screening and €594 billion integrating some ethical criteria in their asset selection process. (Source: European SRI Study 2006).

Nearly all of these CSR/SRI criteria are non-financial and most of them could be used for selecting any long-term equity, not only those with a CSR or SRI tag. But today relatively few investors use such criteria for their long-term investment. It is even more surprising that about 50% of UK funds (25% life insurance and 25% pensions) are by their very nature long-term investments. The question is why does the financial sector continue to rely so heavily on quantitative analysis?

The main reason is most probably the fact that the majority of investors have rather a short-term investment horizon. Non-financial criteria-based asset selection can only be meaningfully applied to long-term investment because any impact of these criteria can usually only be noticed over a longer period.

Secondly most investors are not convinced about the correlation between financial and non-financial performance. It is true that despite various claims, so far there has been no comprehensive and convincing study on the correlation between the overall impact of non-financial data and the financial results. This has led to some mistrust of such criteria. However, there have been several studies on the correlation between certain parts of a company’s strategy, policies or business operations on financial results. For example, according to a Governance Metrics International 2003 survey, good corporate governance boosted growth by 20% over three years in the best European companies. Another aspect is the correlation between the CEO skills and the share value. For example, it was widely assumed by financial analysts that a sudden departure of Jack Welch from GE could lower G E’s market capitalization by about 30% (a loss of about $100bn at that time). As such, asset scoring based purely on non-financial criteria is possible since we can at least draw correlations from a broader long-term comparison of companies that succeed long-term and those that do not. By identifying key non-financial aspects in growth management applied by the companies that succeed, we can infer indirect correlations between the selected criteria and long-term financial growth.

Thirdly, although there are a number of competing approaches mainly created for CSR and SRI asset selection, it is difficult to rely on them without understanding what type of criteria they use, how objective is their assessment or whether the compiled data can be used by for any other form of stock selection other than that based on a CSR or SRI remit. That is certainly true. There are now quite a few CSR asset selection methods but very few that could be applied for generic long-term asset selection. So, how can we deal with these objections?

Competing methods

Table 1 can perhaps shed some light on what is important for such asset selection methods. It compares the methodology of the various non-financial criteria based assessments. Such assessments are usually carried out as part of evaluating a company’s CSR or SRI performance. Since they all use non-financial criteria they are the closest method to long-term financial growth equity selection.

The results show that from the range of compared methods, broader asset selection (beyond CSR/SRI screening) based on non-financial criteria is provided by two organizations -

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Symbiosa and partially SAM (Swiss Asset Management). EIRIS, which has about 60% of the UK CSR market, has the largest number of assessed companies. However, since it relies on self-assessment (with some verification only) and its “negative” asset screening (rejecting companies for investment altogether if they do not fulfill certain CSR criteria, rather than applying a relative lower score), it would be difficult to use it for broader asset selection.

The difference in the analyzed approaches is also seen in the number of criteria, on which the assets are assessed. BITC (Business in the Community) assesses companies based on self-assessment in just six broad criteria groups: Community Management, Environmental Management, Marketplace Management, Workplace Management, Environmental Impact and Social Impact. The results provide valuable insight into how well companies manage their social and environmental areas but cannot be used for broader asset selection purposes because it excludes the most important economic domain.

A more interesting approach is offered by Symbiosa. It uses 116 criteria grouped into 14 areas covering entire business operations such as Strategy and Values, Leadership, Corporate Governance, Management of Economic Growth, Human Capital Management, Stakeholder Relationships, Company Longevity and Risk and all typical CSR/SRI criteria. But more importantly, apart from broad asset selection, it can be used for a wide range of investment objectives such as M&A, finding intrinsic value or for long-term strategy evaluation, giving comparisons between individual companies or sectors. There are now other such approaches appearing on the market, mainly from the US, such as Innovest. This is followed by setting up brand new funds, which use their own proprietary method in-house for selecting assets using non-financial criteria, such as the Generation Fund.

A fund manager that would like to use non-financial criteria for asset selection in addition to their standard financial criteria, would also want maximum objectivity of the data gathering and assessment process. That can only be achieved by carrying out such assess-ments by professional assessors. Among the compared methods only Symbiosa does this. EIRIS and SAM do that to some extent through a data verification process. Other assessing organizations, such as Innovest, do not use questionnaires at all but conduct interviews by professional assessors.

There are various ways of distributing the assessment results. Most methods above produce reports either for all companies assessed or for individual companies. Apart from that, the data can be accessed on the Internet on a subscription basis or in a form of an index, like the Dow Jones Sustainability Index maintained by SAM.

Table 1. Source: Euro Business Management Ltd

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<th>EIRIS</th>
<th>SAM (DJSI)</th>
<th>Symbiosa</th>
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**Conclusion**

Most investment funds consider some non-financial elements as part of their overall asset selection process. However, such embedded non-financial analysis blurs the impact of non-financial criteria on business growth. That makes consistent comparison with other potential investment targets nearly impossible. On the other hand, asset selection for long-term investment based exclusively on non-financial criteria, carried out separately and in addition to a standard quantitative analysis, can be of great value to investment funds. It is a well-known fact that non-financial criteria of long-term growth tell us much more about the future strengths and weaknesses of a company and its likely performance than the financial ones, which tell us about past growth. Therefore, such additional separate non-financial criteria based asset selection can play an important role in counterbalancing the assessment of the company’s long-term financial performance.

Tony Czarnecki, MSc, FRSA, is co-founder and Managing Partner of Symbiosa Ltd. (www.symbiosa.co.uk) and Managing Partner of Extel Business Management Ltd. Email tony.czarnecki@ebm1.co.uk.
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Carl-Gustav Gyllenram

Carl-Gustav Gyllenram works at Ability Asset Management (AAM) in Goteborg, Sweden, a firm set up in 2003 by his colleague Tony Ugrina to manage private client funds. Previously he was a fund manager at SEB Enskilda Banken, and in 1984 he founded the Swedish Technical Analyst's Society. He is also the author of "Trading with Crowd Psychology" (Wiley).

TA: What is your role at AAM?

C-GG: My colleague Tony Ugrina and I are involved in discretionary wealth management for individual clients rather than running a fund. Our main market area of interest is Nordic equities with a particular focus on the Swedish market, and we generally trade over a fairly short time horizon, usually intra-day to a couple of weeks.

TA: What technical strategies, if any, do you use in your day to day trading?

C-GG: We use a lot of technical analysis including pattern recognition and proprietary indicators. My colleague, Tony, is really the expert on TA and has refined and developed many technical indicators that perform well, or outperform the original on which they were based. TA is a very natural trading approach for us regardless of which technique we may use. We look at the fundamentals as well of course but we never make a decision based purely on the fundamentals.

TA: You are a devotee of trading psychology and have written a book on the subject. What is the difference between trading psychology and behavioural finance?

C-GG: They are quite different approaches: Behavioural finance is like crowd psychology which examines why people, and the markets, act as they do. Trade psychology is something quite different in that it describes the psychology of individual investors and the mental traps they fall into.
such a greed, prestige and ego. In this sense it is about identifying your own mental weaknesses when it comes to trading. The subject then attempts to explain what attributes you need to be a good trader: Like behavioural finance, the challenge is to work out how to make money from the subject knowing what you know. Analysing the psychology of the market as a whole is another subject.

TA: How do you use your knowledge of trading psychology to make money?

C-GG: This question highlights the difference between being a good analyst and a good trader. Technical analysis incorporates many elements of behavioural finance and crowd psychology. However, being a good technical analyst does not make you a good trader necessarily. It’s not just a matter of predicting where the market is going. The most important aspect of trading psychology is discipline, or the lack of it. You may be able to forecast the market but trading in a disciplined way is something else altogether and represents the real challenge in making money from the markets. Just knowing the entry and exit points is not enough.

TA: So it really comes down to risk and money management?

C-GG: That is one element of trading psychology but it is not everything. You still need a method that works but then you need the mental discipline in order to exercise it effectively. We all know trading is about buying low and selling high but one’s own emotions interfere with this and inhibit one’s performance. Trading psychology has very little to do with technical analysis and trading patterns etc. It’s more about knowing yourself and developing a plan and proper method of trading taking this into account - buying and selling when you should, not when you want to. This is much easier said than done.

TA: Has the challenge for behavioural finance been in bridging the gap between the theoretical and practical sides of the subject?

C-GG: I went to a behavioural finance conference in London some time ago which had some good speakers but concentrated very much on why markets are not rational and so on such as criticising the Random Walk theory etc. What was not covered however was a talk on how to use this knowledge to make money. I believe that studying the charts is one of the best ways of understanding the crowd psychology behind the markets. Panics and bubbles are obvious examples along with market behaviour at the end of a long positive or negative trend. When I worked for SEB I wrote technical research but I called it market psychology instead as this better described what is was about.

TA: What do you see is happening in the market at the moment, especially global stocks? Is the sub-prime crisis impacting on Scandi banking stocks?

C-GG: I am cautious for next year, let’s put it that way. Although I have no exposure to US and UK stocks, I watch them because of the impact on the Scandi indices. The Scandi banking sector is down as you would expect although it is hard to understand why they should be suffering when they have relatively little exposure to the sub-prime sector (although there is some via Eastern Europe). There is some concern about a possible devaluation of the currency but there haven’t been any resignations at the major banks, at least not yet!
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My first contact with TradeCommander was in the spring of this year. Saxo were nearing the end of their initial development cycle with the product and they wanted a third party opinion on the capabilities of the product, together with input on its future development as well as help in identifying some of the support challenges they might face following release.

Before seeing TradeCommander, I have to admit that I was highly sceptical. My experience of banks producing products of this type in-house was not good. Only a few months before, I had a similar request for a pre-launch review from another bank who had invested nearly $10 million over a two year period only to produce what could best be described as a lemon. In the end, they recognised the risk to their reputation of releasing the product and thankfully consigned it to the recycle bin. Saxo's approach to the challenge however had clearly been quite different. What impressed me was that from my first contact with TradeCommander, I was immediately able to find my way around the system, and I was also able to construct a trading model within just a couple of hours - albeit, admittedly a very simple one. Unusually for somebody in my business, I don’t have a programming background, so products I use really do have to tick the “user friendly” box or I simply won’t use them.

As I learned more about Saxo as an organisation I started to understand why. Although they are a bank, their outlook is in many ways similar to a good innovative software development house. This is far from accidental. Saxo started as a telephone broker of FX for their domestic Danish market, but with the arrival of electronic trading, founders Lars Christensen and Kim Fornais quickly realised that to build an organisation there were a number of dependencies. Near the top of the list they had identified the need to give their clients better trading tools than the competition. Christensen and Fornais still retain the majority of Saxo’s equity and manage the business as joint CEOs. This unusual structure means that at the senior management level. Saxo is not afraid to take some development risks, but the whims of either CEO are moderated by the other.
The TradeCommander product was first conceived in 2004 and development started in 2005. The Bank had correctly recognised that systematic trading was a high growth area and set out two key objectives from the project - to provide the Bank’s private clients with an institutional quality systematic trading tool, and to stay ahead of the technology curve in its offering to Saxo’s growing institutional client base. Within these two objectives, it was also recognised that for either a private client or a hedge fund wanting to automate a technical strategy there were a number of dependencies that Saxo could simplify. Firstly, developing a systematic strategy requires a backtesting capability; running backtests requires historical data, and that historical database needs be kept updated and cleaned. The designer is then likely to want to optimise the variables within the approach. Having settled on a strategy and setup, the signal generating engine then needs a live data feed to generate its signals and a liquidity pool to send the orders to. This in turn creates communication and infrastructure challenges as well as issues related to the monitoring of active trading systems, risk management and back office integration. Saxo’s approach was to combine all of the above into a single product, meaning that the process of creating trading rules, testing and optimising, and then deploying them for live execution would be greatly simplified.

### Programming

Saxo also identified that few traders have programming skills meaning that both hedge funds and proprietary trading banks end up employing armies of programmers and quants to systematise traders ideas for them. One of the key decisions taken early on in the development process was to make the creation of trading rules something that almost anybody would be able to achieve via TradeCommander’s innovative use of Condition and Action blocks being linked by Combination blocks (Figure 1). This enables users to easily build combinations of conditions consisting of bar and price values, earlier referenced values, functions, study values and composite expressions. For users who are more comfortable writing...
complex conditions as single statements, an advanced condition editor will be released later this year.

In order to allow users to make informed judgement calls on whether a trading strategy meets the traders risk/reward criteria, TradeCommander produces detailed statistics (Figure 2) both for backtests and for trading systems being run live, together with a graphical display of where trades have occurred and an equity curve for the strategy (Figure 3).

System Execution Monitor
Another useful tool for understanding how a trading system is behaving is System Execution Monitor. Using this tool it is very easy for users to step back to any given point in time to evaluate which elements of an overall condition have been satisfied, on a virtual tick by tick basis together with values of any studies or other calculations. In line with the design philosophy of making the system as visually informative as possible, conditions are marked with either a green or red square depending on whether they have been satisfied or not.

From a risk management perspective, the designers understood that traders would want the capability to prevent some strategies from trading under certain market conditions and so incorporated some very useful capabilities for a user to pre-define the conditions under which a trading system would automatically stop.

In terms of tradeable instruments, TradeCommander currently only allows users to automate trading strategies on 160 FX pairs - a small subset of Saxo’s 20,000 instrument universe. In the coming months they plan to extend system trading to other asset classes including stocks, futures and CFDs.

In summary, I feel the concept of incorporating advanced condition writing capabilities, backtesting, optimisation, and execution across multiple asset classes, all within a single fully integrated package that any competent trader will be able to use, is a very powerful offering.

Those interested in learning more about TradeCommander and Saxo Bank’s institutional offerings can contact John Howard on +44 20 7151 2083.
there is currently no shortage of stock market doomsayers predicting sharp falls in US and UK stocks over the coming years. Very often the analysis is based on the assumption that the bear market started in 2000/2001 and will continue until 2010 and beyond. If stocks have rallied over the past few years that is because we are enjoying an upward correction that will shortly end. Moreover, because of this upward move, stocks will have further to fall when the bear market gets fully underway with some forecasts predicting an 80% decline in the Dow. Using historical data, this type of analysis is reasonably sound but fundamentals do matter; there is little to suggest at the moment that we are entering any type of economic recession. Stocks tend to lead the economy and the credit crisis aside, there is little evidence in stock prices to suggest a forthcoming downturn. But maybe it is still too early.

Russell Napier is a consultant for CLSA in Asia and he has written a book that thoroughly examines the history of the last four major market bottoms in US stocks. Napier’s arguments are essentially based on cyclical analysis: rising inflation has historically reduced the relative attractiveness of equities versus bonds and we are now coming out of, or have come out of, a long period of low inflation. An environment of rising inflation and robust valuations has not tended to bode well for the stockmarket. To demonstrate this Napier looks at the four previous market bottoms in US stocks: 1921, 1932, 1949 and 1982. The rise in prices since 2002 is probably something of a false dawn he argues. Consequently, the market will probably bottom sometime between 2009 and 2014.

Napier loosely defines a bear market as a fall of 10% or more in the index. Given recent market volatility some would argue that this is an insufficient definition. Furthermore, the role that central banks now play is not given enough weight in the book. Even since 1982, the role of the Fed in reacting to market downturns has changed radically. Inflation is simply not allowed to get out of control anymore and the Fed is prepared to do whatever it has to in order to prevent an economic or market downturn. For this reason alone, it is hard to accept the worst of the market prophecies for the years ahead.

Napier’s book is comprehensive overview of US stock market history although his coverage of the four major market bottoms in individual chapters tends to get repetitive and can be heavy going. However, he highlights some important factors that have driven particular bull and bear markets over the last century or so and from this there is much to learn, even if you don’t agree with his conclusions for the decade ahead. Overall, the book provides a valuable insight into what drives stocks over the medium and longer term.
INTERVIEW: STANLEY DASH, TRADESTATION

In your experience of training TradeStation clients, what makes a trader decide to build an automated system?

As more and more markets have gone electronic, people are attracted to three things about automation: discipline, speed, and, somewhat related to the second point, being able to trade multiple strategies on multiple markets. In other words, being able to stick to the rules regardless and transact a strategy quickly is throwing up all sorts of new opportunities.

What kind of strategies are most often built into a successful system?

Strategies come and go in fashion. One of the things we stress to our clients is to give some consideration to what they want to achieve. Apart from profitability, that means how much capital they want to commit, how frequently they want to trade, and what markets are their markets of interest. Some people come in as dedicated futures traders, others are equities traders, and others are interested in options and combined strategies. There is something of a trader know thyself required. People who are willing to build structures around what they’re comfortable with are more likely to succeed than those who change according to what is given prominence in the financial press, whether its pairs trading or the use of moving averages or whatever.

One of the things we suggest our clients look for is an assessment of whether they have built something that just reflects what worked in the past or if they have created a system that reflects current market tendencies. It’s not my position, however, to say which strategies work and which don’t. I wouldn’t rule anything out without thorough backtesting first. Having said that, there are certain principles that should they be skipped are a recipe for disaster. There are yellow lights; warning signs.

Such as...?

Clearly the most obvious one is risk control. That’s the place where people fall down the most. A strategy has to be designed for an expectation of profit, i.e. a probability of profit. One of the key things that I think people overlook is position size. There are many different formulas and theories for approaching position size. But sometimes success is dependent on knowing when to lean on the position a little harder and when to lean a little lighter. What kind of signal can we use for this and how do I quantify the signal? I think this is an important key - when trading is done on flat position sizes, it’s not that it can’t succeed, it’s not even what generates the signal, it’s can I qualify whether this signal has a higher probability of success and therefore take a larger position. I think you’ll find that most successful strategies have some kind of position sizing nuance.

To what extent is the importance of exits underestimated?

We always have a debate in our classrooms about which is more important - the entries or the exits. It’s one of those philosophical debates that never gets answered. One airline pilot in the class reminded us that take-off is optional but landing is mandatory. May be it’s the contrarian nature of traders, but
many will say exits are more important. But I don't know if I've ever met anyone who starts building a strategy by building the exits. It's a difficult thing to do obviously - if I haven't gotten in, why am I building an exit? I did test a few random entry / specified exit approaches and that approach just didn't work for me.

On the subject of exits, I think people are too dependent on what we sometimes call strict money management exits for their primary exit, i.e. some people will use a trailing stop or profit target for an exit. There's nothing wrong with that, but if your reason to get in is based on technical analysis then your reason to get out should also be based on technical analysis. It shouldn't just be it went this way against me. Of course, I'm not saying there shouldn't be some failsafe monetary-based stop-loss in case of disaster, but I'm talking about the primary exit strategy.

When does optimising become curve fitting? Could you, for example, advocate optimising strategies for specific shares?

It's always worth testing something unknown. The key would be in how it was tested. There are many studies in sociology which seem to find cause and effect when really its coincidence. So if I can pick a year, for example 2003, and I find a number jumping out at me, the key would be did it work in 2004 and 2005. That's the idea of a historical forward test, i.e. can it be applied forward rather than just discussed historically.

Is technical analysis at the heart of all models built in TradeStation or can fundamentals also play a significant part?

Fundamental analysis is now available in TradeStation. It's fairly new on our platform. We supply not only the data, but also tools that incorporate the data. And the data and tools can be accessed through EasyLanguage, the programming language for TradeStation, such that model developers and our clients can incorporate it into their systems. I think over the next year or so we'll see more of our user community employing it and then we're really see how it pans out. But what is clear is that a genuine model that comprises both technical and fundamental data is now possible in TradeStation.

Why use EasyLanguage as opposed to any other programming language?

TradeStation and EasyLanguage go hand-in-hand. The user doesn't have to see or get involved in the formulas if they don't want to, but everything is written in EasyLanguage and all our formulas are open so they can see how they're written and experiment with modifications. As such, EasyLanguage can be used for simple changes as well as creating complete systems.

TradeStation is an open platform that's been around for about 20 years and there are many third party users who develop on it and customise it. Some will provide their own finished product for sale. Because it's such an open platform, almost like an open source, it makes for an excellent community whereby codes are freely exchanged. Furthermore, EasyLanguage can use DLLs which means that it can communicate with another source. A number of developers do the formulas in another language and just have TradeStation doing the calculations.

Is TradeStation an appropriate choice for a large institution who may want to explore higher frequency trading?

I meet with many institutions who manage a large amount of money who use a TradeStation platform to crunch the numbers. It may that the analysis is done in TradeStation but execution is done elsewhere as there may be issues with APIs or in getting DMA for certain markets. But the concept of having historical data and carrying out back-tests, which applies to any trader - institutional or private - can be done on TradeStation.

It's worth remembering that TradeStation is a complete trading solution. In other words, it offers both a trading research & analysis platform and a DMA execution platform, albeit DMA is currently restricted to the US markets (although this should soon change). From a trader's perspective I think the speed is remarkable.

Going back to your teaching work, what studies or indicators are particularly popular with your clients?

We keep a distance from endorsing any particular approach. We focus on giving people a realistic methodology for creating and testing a trading strategy. From there, they can create and test almost anything they want, and there is a tremendous amount of information. In our platform, we do provide basic signals and basic buy and sell rules. We also have a freeware library of contributed information - I mentioned the community before - and people can download them, open the EasyLanguage, modify the language or work with it as it is and integrate it - but we hopefully will be giving them a framework for discovering what's going to work for them and really helping them do a little self-analysis as well as market analysis. For example, if they plan to day trade then that's fine but they should create rules that are meant to fit that kind of methodology - i.e. what are the risks, what are the number of trades each day, and what are the probabilities.

What training courses do you offer your clients?

We run several live training courses ranging from client orientation where clients become familiar with the platform to our EasyLanguage training which is a hands on course for learning the programming language. There's also an intermediate level course which involves using the platform for strategy testing and development without fully digging into the formulas per se. These courses are done live, usually a day long or several days long.
Strategy Testing Example

Market & Data
GBPUSD
Time period: 6 months, 2 January - 29 June 2007
Data interval: 30-minute bars

Defining the Strategy
The strategy we are looking to test is a simple one designed to follow trends in GBPUSD:

1. When in an Up Trend, take long positions following a Key Reversal Up. (Key Reversal Up is a bar with a low less than the low of the previous bar and a close greater than the close of the previous bar. Up Trend is defined as "n consecutive closes" above the 20-bar Moving Average).

2. When in a down trend, take short positions following a Key Reversal Down. (Key Reversal Down is a bar with a high greater than the high of the previous bar and a close less than the close of the previous bar. Down Trend is defined as "n consecutive closes" below the 20-bar Moving Average).

The initial value for "n consecutive closes" above or below the Moving Average is 5. Commissions were estimated at $2.50 per side for testing purposes.

Optimization
Figure 1 is an excerpt from the TradeStation Strategy Performance Report for the historical simulation of the strategy.

At this point, we might choose to test other values for "n consecutive closes." This Optimization test is made for all integer values from 1 to 15.

Figure 2 is a graph of the results of the Optimization, as generated by TradeStation’s Strategy Optimization Report. Notice the optimal value in this test is 9, with favorable values also at points to the left and right of 9.

To be prudent, we also add a protective stop set at $200 per position.

Figure 3 is an excerpt from the Strategy Performance Report updated to include the protective stop and using a value for "n consecutive closes" of 9 bars instead of 5.

We might then take a look at one last amendment to the strategy: varying the trade size from 1 contract (100,000) to 2 contracts based on a new market condition. The condition will be the position of the 20-bar Moving Average compared to the 50-bar Moving Average. When positioned in the direction of our "Up Trend" or "Down Trend" we will take the larger position.

Figure 4 is an excerpt from the final Strategy Performance Report, including all the tests and amendments to this point. Remember that this last version may well be more risky as it is taking larger positions at least some of the time. We
have training facilities in our offices in Florida and Chicago, and in other places we rent space as needed. We usually post a calendar on our website going out about 3 months and people can register through the website. If someone's not a client, they can still come, but generally it tends to be existing clients.

We do offer web-based training - each an hour long. Topics range in difficulty. They're offered live and then they're archived. So we now have more than 30 hours of training available on our website. A basic online course might be about some of the drawing tools; advanced ones might involve the use of EasyLanguage.

For further information about TradeStation and TradeStation training, contact TradeStation Europe Limited, www.tradestation.co.uk.

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Autoregressive (AR) integrated moving average (MA) models have been used as statistical forecasters for more than three decades (Box-Jenkins, 1970) e.g. in modeling of stationary and non-stationary time series in econometric analysis. The principle of parsimony should be respected in modeling time series by ARIMA, which means using models with as few adjustable parameters as possible. ARIMA models are either univariate (they use only data from modeled time series) or they can accommodate other variables (e.g. traded volumes in combination with OHLC).

ARIMA models combine moving average smoothers incl. EWMA (exponentially weighted moving average) with autoregression, which means individual terms of time series are dependent upon the preceding values via a regression relationship. The above principle has been adopted for an automated trading system in a simplified and empirical way combining AR and MA. We do not generate numerical estimates accompanied with limits of forecast uncertainty like rigorous ARIMA nor optimize the ARIMA models computing sum of squares of deviations or carry out set of statistical tests. The only criteria of our trading performance is profit factor, Pf (ratio between gross profit and gross loss) and the probability of reaching “take profit” limit (W%).

**Basic setup**
The trading system consists of a medium term trend indicator (4hr time series of close prices are used) combined with a short term forecaster (1 or 5 min time series of close prices). Instead of classic EWMA computed recurrently as

\[ p_0 = C_1 p_n + \varepsilon_0 \]

The linear autoregression can be combined with Eq.(1) to obtain a modified EWMA,

\[ EWMA(p,\lambda,C_1,n) = \lambda(C_1 p_n + \varepsilon_0) + (1-\lambda) EWMA(p,\lambda,C_1,n) \]

where \( n = 1-15 \) (in our study). The modified EWMA (Eq.2) was used as a medium term up-trend indicator:

\[ EWMA(p,\lambda_1,C_1,n) > EWMA(p,\lambda_2,C_1,n) \]

We can take the above condition as a simplified ARMA model since we use moving averages combined with an autoregression. When an up-trend is indicated the system can open a long position (BUY trade) via a short term forecaster. This is enabled by crossing \( EWMA(p,\mu_1,C_2,m) \) and \( EWMA(p,\mu_2,C_2,m) \), which means that the following conditions Eq. (3-5) are to be met simultaneously;

\[ EWMA(p,\mu_1,C_2,m) > EWMA(p,\mu_2,C_2,m) \]

\[ EWMA(p,\mu_1,C_2,m) < EWMA(p,\mu_2,C_2,m) \]

The crossing of two EWMA lines (Eq. 3 and 4) triggers opening a long position over a short term up-trend (Eq. 5).

Integrating MA (smoothing) with a simple autoregression resembles the statistical forecasting models described by Box and Jenkins. However in our case the performance of the whole algorithm is evaluated by means of a simple “random walk” test. The random walk, which takes place as equidistant...
time steps randomly changing price up and down (Δpi = εi), has a starting point (trade opening in our case) and two limits for terminating the random process:

- "take profit" as the upper limit and
- "stop loss" as the opposite one.

In our study both limits are placed symmetrically to the starting point, e.g. +/- 50 pips for FX trading. If the tested algorithm is capable of forecasting then: W% > 50 and Pf > 1.

This holds for an optimized combination of adjustable parameters (λ1, λ2, n, µ1, µ2, m). An analogical code has been written for triggering short positions (SELL trades) to examine if both algorithms mirror each other (symmetry of conditions and adjustable parameters).

Implementation & Backtesting

The ARMA trading system has been written in C programming language (modification known as MQL4) for a trading platform MetaTrader4 (see www.metaquotes.com). First, an EWMA indicator has been prepared both for the forecaster (trade trigger over 1 or 5min time series of closing prices) and the trend detection (4hr time series of closing prices).

It should be stressed that the tested trading system enables the user to keep open several trades simultaneously (1 up to 10). To avoid opening of clustered trades immediately following time intervals, the minimum time for opening next trade can be adjusted (10-30 min in our case). It is necessary to utilize as much as possible trade triggers.

If no simultaneous trades are allowed, than the trading may resemble a Markov process, which means that the final outcome depends upon the starting point or gives too small a number of trades to be used for estimation of W% or profit factor, Pf. We are however aware of the problems with shortening the testing interval (e.g. less than one week) or using an excessive number of simultaneously opened trades.

Results

Bi-monthly and monthly series of EURUSD (January - October, 2007) have been used to study the trading performance. Trading frequency has been about 20-30 trades per week. The optimum set of parameters estimated in bi-monthly runs (January - October 2007) are in the following ranges for 5 and 240 min closing prices; take profit = 50 and stop loss = 50: n=1-4; m=2-9; C1=-0.2 to -0.4; C2=-0.4 to -0.6; λ1 =0.5 - 0.8; λ2 =0.8 - 1; µ1 =0.8 - 1; µ2 =0.4 - 0.6.

A simple variant of the system with only EWMA terms (without autoregression) has been used as a benchmark. Examples are given in following Table 1.

W% along with the profit factors, Pf, has been computed as a performance indicator using the "strategy tester" of the MetaTrader4 trading platform. A statistically significant improvement of W% and Pf due to autoregression was confirmed by a paired t-test (95% confidence level) for monthly runs (January, October 2007).

Finally, to avoid drawn-out optimization over 8 adjustable parameters, we have alternately optimized the "long term trend indicator" and "trade trigger" (several iterations only).

The following conclusions are drawn:

A) ARMA trading algorithm combining moving averages (MA) with autoregression (AR) offers an efficient building block for automated trading systems significantly over-performing benchmark combinations of simple EWMA.

B) For EURUSD, 1 or 5min and 4hr OHLC data, only mediocre results are obtained for long time series (e.g. 10 months); adjustable parameters have to be optimized monthly.

C) The algorithm has been tested only for a "random walk" regime with no money management (e.g. trailing stop). A built-in counter of winning and losing trades (feedback) can make an improvement.

D) If the analogical algorithm is used for short trade (SELL) backtesting over the same data series, both systems are symmetrical neither in respect to the trading frequency and performance nor with respect to setup of parameters optimized (predominantly short and predominantly long markets have obviously different data patterns).

Lubomír Nondek is a Prague based statistician
Principal Trainer

Trevor Neil

Trevor Neil became a commodities trader at Merrill Lynch in the mid 1970’s before going on to work at LIFFE giving technical analysis support to floor traders.

In 2000 he became head of technical analysis at Bloomberg where he was responsible for training and technical analysis software development.

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