September 2018 Research Notes – Is Trend-Following Broken?

Recent CTA Performance and Markets Summary

Inspection of the Societe Generale Trend Index shows it remains around 15% below its peak in April 2015[1]. Things had begun to look up through the second half of last year as equity markets, especially in the US, trended strongly higher. But in February months of gains were wiped out within a few days as the inverse-volatility complex blew up and the S&P dropped over 5% in a day. While that shock to markets was in part technical (related to leverage and hedging within the ETP complex[2]) since then there have been more obviously fundamentally-driven periods of stress in markets. In August markets were roiled by escalating stress between Turkey and the US and fears of contagion to the broader EM world. The MSCI EM Index future was already down 13% YTD by the 15th August[3]. In September fears over Italian fiscal laxity began appearing. Across equity markets worldwide a striking divergence has appeared. By the end of September US markets had largely recovered from February's shock and were making new highs, while Asian, EM and European markets have either trodden water or in some cases (Asia in particular) continued to fall.

Consistent with these widening regional divergences, markets have been driven by fluctuating news and expectations largely associated with macroeconomic themes: tariffs and trade, rate hikes, QE withdrawal and fiscal policy. At the time of writing the World Trade Organisation has just lowered its forecast for world trade growth having seen confirming evidence of risks they had earlier warned on beginning to materialize[4]. At the same time, inflation risks appear to be sticky. US break-even inflation rates have remained firm all year and by the end of September are close to the highs they have seen since 2014[5]. Expectations about the size and pace of US rate increases have steadily risen over the year.

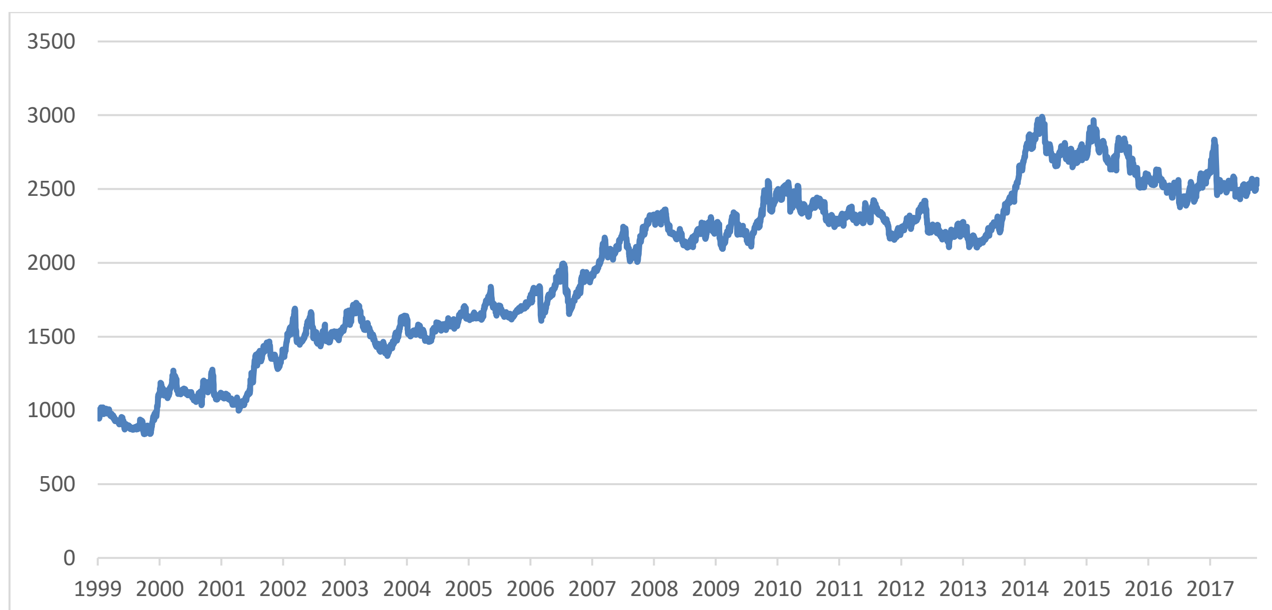

Chart 1. The Societe Generale Trend Index 31 December 1999 to 3 October 2018. Source Soc Gen and Neuron Advisers LLP.

One remark about CTA portfolio positioning. Towards the end of September Mario Draghi talked about a "relatively vigorous" pickup in core inflation and a "strengthening and broadening" of domestic price pressures[6]. As volatility jumped and rates rose our research model portfolio (systematically) reduced its long Schatz bond future positions by 2/3rds within a few days. This marks a shift towards a more bearish bond positioning in Europe for the portfolio, a position adjustment we would expect large and slow-moving funds to be working through over the next days and weeks. In our July H1 review we discussed some of the concerns around deleveraging in the European bond markets, in particular the potential for feedback and amplification effects due to automated hedging behaviour by insurance companies and others. We watch this space closely. In a recent research note we looked back at a similar Draghi-led inflation scare, and we explored how much of the market movements we saw then may have been amplification effects.

1 Source, and for chart: Source: https://cib.societegenerale.com/en/our-offering/global-markets/prime-services/prime-services-indices/ I downloaded the historical returns on the 5 October 2018
2 See the Sushko and Turner March 2018 BIS article
3 Source: Bloomberg (MES Index)
4 Source: https://www.wto.org/english/news_e/pres18_e/pr822_e.htm
5 Source: FRED Economic Data. St Louis Fed. 10 Year breakevens on 25th September are 2.16, the recent high was 2.18 in April. https://fred.stlouisfed.org/series/T10YIE
6 https://www.bloomberg.com/news/articles/2018-09-24/ecb-s-draghi-sees-vigorous-pickup-in-core-euro-area-inflation

Is Trend Broken? – Some Personal Reflections from Robert

With industry indices like the SG one in Chart 1 still firmly underwater we find ourselves asking the question of whether trend-following as a strategy is broken. In fact, it isn't just trend-following, I have found it hard to find hardly any systematic or discretionary driven strategies within the broader risk-premia or liquid alternative space that have done well this year.

Déjà vu

My first comment is that this is not the first time I have been here. In late 2013 (in a different firm) I found myself facing the exact same questions, both externally and from my own introspection. Using the SG Trend Index as a proxy[7], by early 2014 this index had been in drawdown since late 2010 to the tune of around 18%. The same questions arose back then as now: is the sector too crowded? Have markets changed? Are politicians and policy makers causing too many shocks and reversals? Should we blame algos and high-frequency trading?

These doubts and questions are entirely natural, but one of the coping mechanisms I employ is reminding myself what happened next in 2014[8]. Over the space of the next twelve months the SG Trend index increased an impressive 42% taking it well out of drawdown. Unfortunately, at the end of 2013, I had decided to take some time out to pursue some new research ideas and so missed out entirely! So much for market timing. There was also considerable dispersion across funds dependent on design differentials. My sense, for which I have no proof, is that firms who had adapted their models so that they would back-test better over the recent past ended up underperforming those who had stuck to their knitting. For example, simulations of machine learning experiments we can run today with the benefit of hindsight might infer that crude oil markets should have been traded by anything but trend by mid-2014, given the nauseatingly lurching motion they had presented for the previous three years. But this prolonged period of choppy and costly trading was terminated by a spectacular break lower from \$115 to below \$50 in less than six months[9], a move I believe many funds profited from[10].

A more general observation is that we went from a period in which people were pointing out that CTAs were broken to one where they suddenly posted the strongest year-long gain since 2003. It is also worth noting that while there were some stronger run-ups in the first few years of the SG Indices (1999-2003) the Index itself was much more volatile then so the 42% gain is probably even more impressive historically in a risk-adjusted sense. I am not arguing that after every drought there is a rainstorm[11], and certainly not claiming that you can or should try and time investing in trend or any other strategy. But I think it does no harm to morale to note that while the last couple of trend drawdowns have been longer than those experienced in the past, at the same time the most recent exit from drawdown was also one of the most impressive on record. I remember extremely well speaking with one of the larger investment consultants in 2015 who expressed the view they wished they had advised clients to add to CTAs in the drawdown rather than exit. As per the usual industry caveat, past performance is not necessarily indicative of future results and I discuss the above merely to observe the episodic nature of these types of strategies rather than to make any predictive claims.

Some stories about trend

There is another story we can tell about trend. The story is based on the idea of an evolutionary battle between different types of traders and strategies in the market. Our readers know we have a strong bias towards this type of thinking - it underpins our entire philosophy. There is a rich history of economic models that have tried to develop these ideas, some of them are surveyed in Robert's recent presentation 'Financial Market Simulation rebooted'. In these models trading strategies wax and wane in popularity and influence as a function of their relative success. In the earlier models (beginning in late 80s) the rotation of influence was driven by traders actively switching between strategies. In these models one year a trader is a trend-follower, the next they might be a contrarian. More recently researchers have modelled the end-investor layer as well. This is much truer to the institutional reality of today's markets. Investor capital moves between funds that individually are much slower to adapt their strategies[12]. Advances in understanding investor behaviour (the rise of behavioural finance) and the appearance of fund flow data sets have encouraged this shift in methodology[13].

While market prices self-evidently move around as news and expectations influence traders' views on what fair prices should be, sometimes prices adjust slowly. For many years people have justified trend following as a strategy because prices tend to adjust slowly for a variety of reasons such as frictions, differing reaction speeds across traders, or the slow dissemination of news or confirmation of views[14]. In the evolutionary story trend-followers detect and then amplify these natural trends as they profit from them. This in turn draws more capital into the strategy, diverting it away from fundamentally driven traders. But this process does not go on forever. For a start there is a limited pool of investor capital and markets themselves have capacity constraints. Over time active traders are encouraged to enter the market to bet against trend followers as prices move further from their senses of fair value. In these stories the first traders to bet against trend are sometimes described as 'smart'. They have worked

7 Source for calculations here is https://cib.societegenerale.com/en/our-offering/global-markets/prime-services/prime-services-indices/
8 Another therapeutic device I will be soon be experimenting with (as suggested, I suspect not entirely selflessly by my wife) involves the addition of a dog to the family
9 The front contract Brent Crude (CO1) price dropped from \$115.06 to \$47.82 between July 2014 and January 2015. Source Bloomberg.
10 For a contemporary account of CTA performance at the time see http://www.lyxor.com/uploads/tx_bilyxornews/Lyxor_Weekly_Brief_-_8_December_14.pdf
11 The title of a Chapter in the seminal book on managed futures by Burghardt and Walls, Managed Futures for Institutional Investors, Bloomberg 2011. The death of trend following has been called many times before.
12 See Braun-Munziger et al (2016)
13 See for example Goldstein et al (2017) and Greenwood et al (2018)
14 See the AHL piece 'Is Momentum Behavioural?'

out that trend followers are increasing the amplitude of swings in prices, but eventually there will not be a marginal buyer (or seller in a down market), at which point the risks are skewed to a reversion back towards (and probably beyond) fair prices. Over time the action of these contrarians acts to sharpen market reversals, shortening the duration of trends. In this story money now flows away from trend-followers towards these contrarian and fundamental traders. But like the biological predator-prey models many of these models are inspired by, the entire process never settles down, but instead it creates irregular cycles of investor behaviour with different styles waxing and waning over time.

I have thought a lot myself about whether this is what we are seeing today. It seems consistent with views expressed by some people, most notably David Harding of Winton who has long suggested the strategy is crowded[15]. While it may be crowded in another sense, I am not convinced by a story that rests on trend followers being driven out by smarter active traders. If this story was true I expect we should be seeing a rise in the fame and fortune of active fundamental and contrarian traders. I can't see much evidence of this, if anything it is quite the reverse. One of the biggest stories in the market today is one in which investors are turning away from so-called smart traders and relying instead on passive index trackers[16]. There also seems to be a dearth of 'star' macro traders as opposed to just a few years ago. If anything, I read about veteran traders bailing out, and blaming algos and other factors for spoiling the party[17].

There is an alternative possible story. In this one it is not smarter traders who outwit trend followers, but rather as risk-management and portfolio management processes become automated and institutionalised, market dynamics subtly change that can, temporarily at least, work to the detriment of trend followers.

One example might be the rebalancing of constant-mix portfolios (like 60/40). Similar systematic portfolio rebalancing occurs within target-date funds and other liability linked products. These strategies are by their nature contrarian. As equity markets fall relative to bonds, rebalancers need to buy equities, thus trading against trend followers who are hoping market falls will extend. Maybe these natural stabilisers are acting to dampen trends. But then again, even this story doesn't square well with the evidence. For a start it is mainly equities and bonds that are involved in these stabilising strategies, but trend followers trade a much wider range of markets. And I see complaints about the difficulty of trading across other asset classes, foreign exchange and commodities. I also believe many procyclical strategies made profits from trading equities during 2017 when equity markets rose strongly. Judging by our own portfolio performance, and simulations we run of alternative trading strategies, it was whipsawing price behaviour in other sectors like FX and bonds that offset gains in equities last year.

But even if it were true that there has been a rise of contrarian trading that has damaged trend following, our research suggests that while it could lead to prolonged spells of whipsawing and longer drawdowns, it also creates the potential for bigger adjustments.

Our research suggests that we might expect to see more short-term smaller mean-reverting moves in markets (lower average volatility), interrupted by occasional larger trend adjustments. In terms of return distributions, we think we may see more clustering around the middle of the distribution, balanced by a widening of the tails. In this story, when market moves do happen they can be very large. Arguably this is what we observed in 2014 when some markets broke out of ranges and led to one of the most profitable periods for CTAs in recent history[18].

The broader debate on the shift to passive investing

Another mechanism which might support this story is the shift from active to passive index trading. I am sympathetic with some[19] who get riled by those who argue it is a 'parasitic' development[20]. And I can easily convince myself that the optically compelling shift from active to passive[21] is really nothing more than a labelling illusion, because most capital employed in active strategies was in fact passive all the time. After all the idea that active traders were adding little to (or underperforming) a passive exposure to the benchmark is the main reason people have encouraged the shift to passive in the first place! Others might argue the shift is to be encouraged because it makes the market more efficient by reducing the number of noise traders, ones who think they are skilful but are not[22]. I also believe it is important to remember, or learn, that we have been here before. Take this quote about the demise of active traders:

"Unable to beat the S&P 500 index, they have lost their celebrity glow. Where once we saw wizards, artists, financial Michelangelos, now all we see are charlatans. Underlying this is a growing disaffection, bordering on scorn, for the whole undertaking. Who believes in mutual funds anymore? What used to be the fund industry's dirty little secret--the failure, year in and year out, of most actively managed funds to outperform the S&P 500--is no secret now."

Could have been written yesterday. But this was written in 1999[23].

15 See https://www.risk.net/asset-management/5788876/wintons-david-harding-on-turning-away-from-trend-following
16 See https://www.ft.com/content/9b4d79bc-8a8a-11e8-affd-da9960227309
17 See for example https://www.bloomberg.com/news/articles/2017-12-15/john-griffin-to-close-blue-ridge-stock-hedge-fund-after-21-years
18 As evidenced by the SG Trend Index as discussed earlier
19 I am mainly thinking of Cliff Asness, whose stamina for pushing back on the scare-mongers appears limitless
20 See for example Jim Rickard's (2018) recent piece
21 The well worked chart here (as seen in Rickard's piece) is one that shows an apparently exponentially increasing line showing the amount of capital growing in passive mutual funds, reflected around the x-axis by a line showing the fall in active capital
22 See for example https://www.economist.com/finance-and-economics/2018/07/05/the-growth-of-index-investing-has-not-made-markets-less-efficient
23 Whitford, D. (1999) 'Where have all the geniuses gone?'

But I'm also sympathetic to the idea that it is the end investor who is now assuming the role of the 'smart' trader. This marks something of a shift in the principal-agent relationship between end-investors and purveyors of investing products (like fund managers or ETF providers). In recent years, by adopting apparently sensible portfolio construction based on allocation to factors (e.g. the entire smart beta culture), the balance in the ownership of risk (or blame when things go wrong) has subtly been transferred from fund manager to the end investor. If an investor's portfolio is underperforming, well that's just 'value' underperforming. And the investor was fully engaged (and thereby partly responsible) for allocating to value in the first place.

Switching to passive suggests the investor believes passive is better than remaining in active or sitting in cash. But this is not an irreversible decision. One of the fears the scare-mongers focus on is what happens when (not if) markets go through a more sustained correction? The investor holding the index passively may not sit back and watch their wealth decline. At some point they may redeem and allocate to cash. Now of course they could do the same with active funds, and to be fair the little evidence I have seen suggests that in past periods of stress (2008 in particular) passive funds experienced inflows while their active counterparts suffered outflows[24]. But to the extent active funds may hold both long and short positions it is feasible the impact on the index level may be less than redemptions from a fully long-only strategy. This would be the opposite, or undoing, of what we have observed in recent years. By this argument the shift from active to passive reflects return-chasing on an industrial scale. In this story we have only so far witnessed the amplification of market movements to the upside as investors chase returns to passive investing. We have yet to see what might happen on the downside.

I am not someone claiming the shift from active to passive is damaging to the long-term health of markets. But neither am I satisfied that it is of no consequence. I hear critics of the shift to passive mocked on the basis that the absolute dollar amounts shifting from active to passive are miniscule compared to measures of overall market cap or normal market liquidity. But I think there has been little serious work done on how we might expect these newly converted passive end-investors to behave in less benign market situations than they have become used to. And I see little work on how market liquidity might behave in a world in which risk management is automated and investor attitudes to active trading have shifted. For me the jury is still out and warrants deeper research.

I also note that increasing numbers of pension funds and other liability driven investors are looking at trend following as offering a form of insurance against potentially longer and deeper equity market drawdowns. I admit it is extremely hard to know how much capital is deployed across these strategies, especially in insurance related products like variable annuities. But like 1987, we are in a world in which US equities markets keep rising while at the same time investors are quietly allocating to procyclical defensive strategies[25]. In 1987 the strategy was called portfolio insurance. Today it is called risk-mitigation, crisis-risk offset or crisis-alpha. Retail investors see the US market making new highs and bouncing back from any temporary mishaps. They do not necessarily observe that large and (at least relatively) well-informed institutional investors appear to be increasingly seeking protection in ways that might accelerate a downturn[26]. In my view the continuing lack of real understanding of these strategies was revealed by the number of headlines (and subsequent apparent redemption orders) expressing shock about the losses some CTAs suffered in February. As we explained at the time any investor, or manager, who was shocked by the drop in CTA performance during February should probably not be invested.

My approach to the question of whether 'trend' is broken or not depends not on focusing on recent performance numbers (though not to ignore them either!), but more on understanding whether there are cyclical or structural reasons to justify an argument that price dynamics are no longer such that a rule-based strategy like trend following can capture profits. My own study of market dynamics is grounded in modelling the microstructure and institutional realities of the market. The latter includes shifts in attitudes to different investor styles, changing risk management practices (especially reflecting the role of automation and technology), and the changing nature of regulation. My tentative current view leans me towards thinking that we might expect to see longer periods of lower volatility and choppy markets, interspersed with larger dislocations in prices. If so, we should be prepared to adapt our rules-of-thumb of what to reasonably expect in terms of strategy performance.

Elsewhere

We continue to develop our Algometrica Platform and its suite of risk and analytical tools as well as to publish our regular research whitepapers (these can be found on our website at www.neuronadvisers.com). From a practical perspective we think pension funds and others need to consider the potential endogenous dynamics we discussed above. We would be happy to discuss our research with you and provide an in-person or virtual demo of our software. Please reach out to us any time if further conversations would be of interest.

Regards

Robert and the Neuron Team

24 See Anadu et al (2018) and Sushko & Turner (2018)
25 For example see P&I article 'European plans warming up to derivates strategies', 11 June 2018
26 See my (2017) note on 'Crisis Protection or Crisis Propulsion'

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