

The Quant Corner

November 2018 Page | 1

The Penultimate One

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TrackMacro [™] is a software tool providing equity risk signals in 40 countries

Download TrackMacro for PC from the company website Download TrackMacro for iPad from the App Store The eight-hour interview series with French Philosopher Gilles Deleuze in 1994 and 1995 is a conversation with a departed spirit. The philosopher had previously accepted to record a final philosophical conversation, titled 'Gilles Deleuze from A to Z'. His sole condition was that it would be published only after his death.

The interview starts with A as in "Animal", followed by B as in "Boire" (to drink). In this section, Deleuze, speaking from experience, explains what alcoholism is about.

Every glass the alcoholic drinks in a day is a repetition of the first one, Deleuze argued. The process always converges towards one final objective. The alcoholic knows that he will collapse after the last drink. As he approaches the climax, each glass increases in value. The alcoholic's objective is therefore not the ultimate glass, but the one before last, i.e. the penultimate one. If he manages to stop drinking at the penultimate glass, he remains in control, wins the challenge, and can start again the day after. Crucially, he also enjoys the glass with the most added value, without ever experiencing the downfall of the 'one drink too many'. On the other hand, if the alcoholic fails repeatedly to restrain himself, he knows he will have to radically change his life eventually. In other words, the alcoholic is a risk manager with a proprietary definition of risk, highly skewed by his addiction.

Analagously, financial markets are global risk arbitragers. The arbitrage condition argues that the probability of a market collapse is compensated by an expected excess return at any point in time. As financial markets move closer and closer to their climax, holding risk increases in expected value. This is the reason why left and right tail events are so highly correlated (in the region of 70%). The goal of a skilled risk manager is to turn defensive on the penultimate day of a market rally; this is extremely challenging, given the level of left to right tail correlation. Traders, on the other hand, love the thrill of playing with fire.

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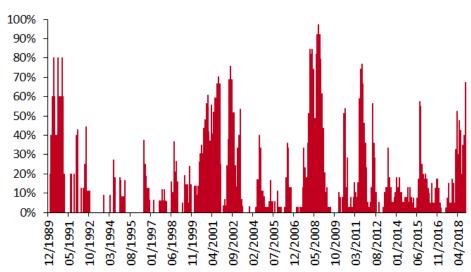
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The Quant Corner

November 2018 Page | 2

Track Macro Finishes The Night On Water

On October 30th, TrackMacro turned 100% defensive. The AI model had observed an increase in contradictory macro forces for some months before. Firstly, it spotted a clear deterioration in the inflation/growth mix around the world. When this happens, and inflation picks up while real growth slows, the "Four Quadrants" rule of TrackMacro flashes deep red. The graph below is a diffusion index of the percentage of countries flashing red among the forty countries TrackMacro follows.



Graph 1. "Four Quadrants" Diffusion Index

Secondly, this deterioration of local macro conditions was reinforced by a global shortage of USD, as evidenced by the "World USD base" TrackMacro rule having been in negative territory for a full year. This lack of USD liquidity mainly originated in the Fed's decision to contract its balance sheet, and in the increase of oil price earlier in the year.

On the other hand, World Trade was predicted to continue its strong growth. This was likely due to a double-stocking effect ahead of the recent tariff increases. However, World Trade was the only positive factor in the model balancing out local pain. This was due to the weight which TrackMacro assigned it (for more information on this please read <u>The Oxymoron of World Trade</u>, published at the beginning of September on www.gavekal-intelligence-software.com). Finally, in October, the advanced indicators of world trade turned negative, collapsing the last pillar holding up TrackMacro's risk asset appetite. The algorithm turned 100% risk off.

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The Quant Corner

November 2018 Page | 3

What Are The Odds Of A Market Collapse?

A similar situation has happened 31 times since 31/12/1990; that is, 9% of the time. This is not particularly rare. The following table shows the distortion of the probability density function when Trackmacro is 100% risk off.

Table 1. Next month's expected return when TrackMacro is 100% risk off

MSCI World TR in USD Following Month's Return	Probability Unconditional	Probability When TrackMacro is 100% Risk Off	Multiplication Factor
<0	36,8%	51,6%	1,4
<-5%	8,4%	29,0%	3,5
<-10%	1,5%	12,9%	8,6
>=0	63,2%	48,4%	0,8
>5%	12,6%	19,4%	1,5
>10%	0,6%	3,2%	5,4

Source: Bloomberg data from 31/12/1990 to 31/10/2018. Gavekal Intelligence Software

The chance of a negative MSCI World return in November is close to 50%; we'd have the same probability of predicting such a return by flipping a coin. However, looking deeper into the statistics, the full risk-off signal gives us considerably more information. Tail risks jump by significant multiplication factors, with a skew towards the left tail. Furthermore, 4 out of the worst 5 months of the MSCI World return since 1991 were preceded by such a warning signal, as was 1 out of the best 5 months. TrackMacro remains reliant on the high dependency between left and right tails, but is very skilled in its role in anticipating major risks and avoiding destructive capital misallocation.

TrackMacro is a risk manager; sometimes overly cautious in issuing warning signals, but rarely missing the penultimate target.

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