(HEDGENORDIC



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Topics Discussed:







New Technologies



New Markets



Low Vol & Low Rates

Right now, the biggest challenge for us as an industry is the leverage required to extract the volatility levels that have been 'promised' to clients or targeted based on long-term dynamics.

Editor's Note:

At HedgeNordic, it has become a much treasured tradition to close the year with a round table discussion among systematic macro and CTA managers spiced up with some local allocators. This year, for the first time, we invited our guests not to Stockholm, but to Finland's capitol, Helsinki. The city was preparing for the climax to the celebrations for the centenary of Finland's independence, on December 6th (from Sweden, as people did not get tired of stressing).

So, on November 28, 2017, HedgeNordic hosted a roundtable discussion in Helsinki on systematic hedge fund strategies. Joining the discussion were managers from some of the world's leading CTAs and systematic macro funds along with up-and-coming managers bringing the perspective of smaller hedge funds to the table. Local allocators were invited to share their views and experiences.

2017, again, turned out to be a challenging year for the CTA and Macro industry struggling to generate returns to investors.

The Barclay CTA Index is showing a modest increase of 0.6% for 2018 while the Nordic Hedge Index CTA Subindex (NHX CTA) is painting an even grimmer picture, indicating a YTD loss of 2.4% of NAV by the end of 2017.

The biggest part of capital in this space is managed by medium to long-term systematic trend-followers who rely on sustained trends across multiple asset classes. The bread and butter of their investment processes is momentum

trading, mainly buying on strength and selling into weakness in the futures and forwards markets.

Historically, riding trends in multiple time horizons and trading on momentum has produced returns with low correlations to traditional portfolios, of long-only stock and bond investments. Managed-futures funds have used these models since the 1970s in major asset classes such as equities, bonds, currencies, and commodities.

The culprit most frequently accused of being responsible for this drought of returns is volatility, or the lack there of. CTA's are much more than a pure tail hedge play, or for delivering crisis alpha, but rather demonstrate as a reminder that crisis periods are only one way these types of strategies find returns. Sometimes, too they can grind out impressive returns when markets are just chugging along.

Not surprisingly then, the discussions were centred around 5 themes; performance, drawdowns, diversification and new markets, the impact of artificial intelligence, and distribution models and fees.

Enjoy reading this summary of the discussion. Very best wishes for a prosperous, healthy and peaceful year ahead.



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Participants:

Contact Details and Short Biographies

The Round Table Discussion took place in

Helsinki, Finland November 28th 2017



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Martin Estlander is the founder of Estlander & Partners.

Prior to that he founded Servisen Arctos, a company acting as options market maker on several European exchanges. Martin holds a MSc in Industrial Management and Computer Sciences from the Aalto



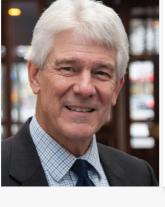
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Mr. Jaffarian is the Founder, President and Chief Executive Officer of Efficient Capital Management, LLC (Efficient).

He graduated from the University of Oregon in 1974 with a B.A. in History. He holds a Series 3 license, is a Chartered Alternative Investment Analyst Designee (CAIASM), and is a veteran of over 30 years within the alternative investment industry in the areas of trading, portfolio construction, and risk management



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Razvan joined Aspect Capital in 2010 and is Head of the Investment Solutions team. The team is integral in the product development and research process at Aspect, and also provides quantitative expertise to Aspect's clients on its vestment process and the development of new product ideas.

Part of the team's mission is to provide high level of client transparency keeping investors updated with research developments and performance analysis.



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Prior to joining IPM in 2015 Stefan spent 9 years with the Brummer Group, first as portfolio manager at the Nektar fund, later as a founding partner of Archipel Asset Management where he held the combined position as Managing Director

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Gernot is responsible for the Portfolio Management activities and Client Relations of SMN. He started his career in banking at the equity trading desk of an Austrian bank, changed into asset management as an equity fund manager. In 1998, Heitzinger became CIO of an Austrian Pension Fund until he took over a management role at INVESCO, US based asset management company. In 2004 he joined the management board of SMN.



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Graduate of the University Paris Dauphine and ENSAE, Raphaël Gelrubin began his career as a quantitative researcher focused on risk within a subsidiary of Man Investments specializ-

company focused on systematic trading vith Robert Baguenault de Viéville. In 2009, he co-founded the investment



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Jukka is portfolio manager at Elite Asset Management, Jukka is managing risk parity portfolio, that invests to equities, fixed income, commodities and alternative investments. Jukka is also involved with managing equity factor

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Mikko Niskanen has overall responsibility for the company's investment activities. He has a long experience as an economist

Mikko has a Licenciate Degree in Economics from the University of Helsinki and is a CFA charterholder. Mikko Niskanen is one of the founding partners



Dr Graham Robertson

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Graham is Partner and Head of Client Portfolio Management at Man AHL ('AHL') with principal responsibility for client

Prior to joining AHL, he developed capital structure arbitrage strategies at KBC Alternative Investment Management and equity derivative relative value models for

Graham holds a DPhil from Oxford University in Seismology and a BSc in Geophysics from Edinburgh University.



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Filip is partner and Head of Business Development at Lynx Asset Management He started in the hedge fund industry in 2002 and before joining Lynx he was responsible for UK and US institutional clients for Brummer & Partners

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Jonathan is an editor and hedge fund analyst at HedgeNordic. Having a background allocating institutional portfolios of systematic strategies at RPM Risk & Portfolio Management, he has over 10 years of working experience evaluating and constructing CTA portfolios

Jonathan editorial focus areas include systematic macro and CTAs.





























ROUND TABLE DISCUSSION

MANAGED FUTURES & SYSTEMATIC MACRO

MODERATED BY: JONATHAN FURELID - CONTRIBUTING EDITOR AND HEDGEFUND ANALYST AT HEDGENORDIC - HELSINKI, NOVEMBER 28TH 2017



Jonathan Furelid: Finnish institutions are widely known for being active hedge fund and CTA allocators. Who are the players active here and what have been the developments since the first investments were made in the early 2000s?

Martin Estlander: The first investment that we are aware of was made in 2000 by one of the major pension funds.

Finnish institutions have been pretty active, on an international scale. The allocations are sizable and these pension funds are well funded. So, allocations are pretty attractive. What we see as a trend is that initially the pensions made some direct allocations themselves. Soon the consultants came in and have since then played an important role. As of late, pensions and insurance companies have gradually

gone in the direction of building out internal alpha teams. Not all of them, but I think the ambition is clear for most, they want to go in that direction. When it comes to CTAs, I think most of them do have CTA allocations but it's not like you feel that they roll out the red carpet when you come along, to put it mildly. But they do have sizable allocations to CTAs.

Mikko Niskanen: That pretty much summarizes the situation. It was these investment companies who were the initial investors and that have been so over the years. It has also been very much a consultant-driven type of investment philosophy, as many allocators have relied on consultants. For example, when I started investing in hedge funds in my earlier job in early 2000s, we were probably among the first to use consultants. So Finland has probably been an important market for consultants. Which means, perhaps, that there's a certain commonality in the way investments have been carried out. But maybe Finnish investors are relying less on consultants these days. So it's good that there is more own judgment involved. For us as an Investor it helps to be more in charge of things.

Outside of equities, we have seen very few markets showing meaningful directional moves.

Jonathan Furelid: It has been a challenging environment in recent years for most CTAs. What are the reasons behind that and how have clients reacted?

Filip Borgeström: It has been a fairly challenging period. I think we've all been impacted by the reduced market volatility and central bank actions. Outside of equities, we have seen very few markets showing meaningful directional moves. For most of us around the table who are trend followers, with a few exceptions, that's been tough. It has





























had little impact on client activity though. Most clients are aware of when this strategy is supposed to work and when it doesn't. We've been fairly stable in our asset base.

With regards to performance, patience tends to wear out. It would be good for our industry if the economy would cool off from here, creating more stress in the markets, more volatility and larger price moves.

Raphaël, Gelrubin: Outside of stock indices, where there have been good trends, we have experienced difficulties in bonds, short term rates and currencies. In terms of performance, 2017 looks like 2013, there have been big gains in equities while everything else is losing, including the commodities.

Graham Robertson: We talked about volatility being low but we have seen great trends in equities this year. We're seeing the VIX below 10, but it's not just about volatility, it is the trends that are really there.



Jonathan Furelid: Martin, you mentioned that your programs are on the shorter side of the time frame. Are you seeing shorter term systems working better or worse in these environments?

Martin Estlander: Systems trading in the up to five days time frame have been quite okay this year actually. Our short term program is doing ok and is our best performer this year. The most challenging time frame has been the short- to medium term space. We have one program in that space which is not having a very good year. The longer term space seems to be doing a little bit better. Our flagship fund is marginally down for the year, whereas our fixed fee product is up 5,5%. It's a mixed bag definitely.

Ernest Jaffarian: There is huge dispersion among managers and strategies. The general theme is that commodity traders have struggled and are down meaningfully this year. In answer to the other part of your question. Our clients are almost all institutions. We have experienced significant growth this year. And I think that the reason for that because the level of sophistication in terms of understanding the role of CTAs in a portfolio has grown tremendously over the last several years. Most of our growth has been in the direction of strategic asset allocation.

Cost of accessing this space has become a big issue, and there is a lot of creativity around that. But it is nice if you can make a little money during the challenging periods because everybody knows the good periods are going to come. We're in a fortunate place, where all the products we have, which covers various multiple types of styles of trading, are all modestly positive on the year. The environment is tough but if bad looks like this, that is not so bad, right? Clients tell us that we are in their portfolios for a purpose, are currently not hurting them and they expect that we will be a significant help when the need comes. So it's a positive mood out there despite what's happening in the marketplace.

Stefan Nydahl: As one of the few non-trend followers in the room I can add that we see the same thing. To an increasing extent we see investors come to us not to find a systematic manager or systematic macro manager but rather they want a manager that can deliver independent returns. In our case that also includes diversification vs. trend following CTAs since our strategy excludes momentum and is forward looking.

Jonathan Furelid: What is not working for you these days, in terms of models?

Stefan Nydahl: Well, we've been quite fortunate. We were up 7.4 percent last year and we are showing good numbers this year. The big challenge has been the political events. We're fundamentally based and things like Brexit or the US election often initially pushes things away from the fundamentals as markets participants get excited and anticipate big changes. More often than not however, outcomes will be more closely tied to the underlying fundamentals prevailing at any point in time. Naturally as fundamental data change our strategy's view will evolve. That's a core belief behind our strategy: fundamentals will prevail in the long run. But it might certainly require some patience after events like Brexit or Trump getting elected.

Gernot Heitzinger: Despite the recent difficult environment for CTAs, investors still look for returns that are different. You gain attention with investors is when you show them something that is decorrelated. Using a long-term trend following model we do get that nice decorrelation and new markets allow us to use the system on a larger universe adding to the opportunity set and diversification.



Martin Estlander: Some of the best moves this year have been seen in more odd markets like emission rights and certain milk products. The more odd markets do add interesting diversification to the traditional, highly liquid instruments. We have an increasing focus on diversifying markets and synthetical spreads.

Filip Borgeström: To add to Martin's initial commentary about time frames: For us as managers, we always have this struggle: on one hand you want to deliver the highest absolute return, which moves you into more longer term space for trend models where there are lower transaction costs and less noise. On the other hand, what really helps the clients diversifying their portfolio are more reactive trend models, which typically have a positive skew and positive correlation to volatility. What has been frustrating in recent years is that these reactive models have struggled the most, although we know that over time they provide portfolio protection and diversification. The challenge is staying the course and educating clients about differences in characteristics from different trend systems.

Jonathan Furelid: Are the last several years of suppressed volatility and lack of sustained trends reflective of a "new normal"? What might be pointing to a shift?

Razvan Remsing: From our point of view, markets are always changing. And yet, they've got signatures or features that are sort of persistent through time. We can always kid ourselves that there's something special about this current environment. But each environment has its own challenges associated with it, so right now, the biggest challenge for us as an industry is the leverage required to extract the volatility levels that have been 'promised' to clients or targeted based on long-term dynamics. But the fabric or nature of markets hasn't really changed. From a trading point of view, what is important is how to access the markets. By thinking what drives markets... if we build models that look at who is behind those moves, what is the aggregate investor behavior, then we have to decide whether we, as human traders, or more broadly as humans, have changed sufficiently over the last five years that a new environment has been created wherein our models are not going to work.

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When we look at the environment, we care about recency, in terms of how we access markets. We care about where the liquidity is, whether we trade efficiently. But we don't try to build our models or look for things that solve for the last three or five-year period. So in a way, not much has changed, whilst everything is changing the whole time. What we do is alter how we trade the markets. That matters. What we don't alter is, how we form our views on these markets. In terms of our signals, identifying which markets, which trends, which models, which effects we are capturing, those are the same hypotheses but we've tried to build a better mousetrap. It's the trade execution that really needs to be particular to a trading venue or a trading a particular market.

Ernest Jaffarian: I've been in this business for a long time now. I have seen the CTA space "die" at least three times. Every time I hear people say, the market has changed, the space is dead, or something like that, I just chuckle inside. It's just not the case. The real risk is people thinking they've got to adopt to a whole new world, to a whole



























new environment because they fear that the world and trading have dramatically changed. If people that do that, I think, they are going to be left behind. I can tell you the institutional investors that utilize our services, they would all abandon u If they thought somehow we are going to change our approach and now try to capture convergence trading strategies (for example). That's not why we are in their portfolios. So I quietly and firmly reject any suggestion that there have been massive fundamental changes in the markets.



Martin Estlander: I can't agree more. It's just one of those phases. You can think of it in terms of a classical chart pattern where you have big consolidation before a break out that initiates a bigger trend. It does feel like one of those moments now, and one would not be surprised if 2018 turns out to be a year of larger price moves and dislocations in several assets. And why would you believe that? Well, we see that volatility obviously is compressed to extremes. I think somebody mentioned that volatility, depending on how you measure it, is down to levels last seen in 1965. But if you look at equities, the volatility of individual equities is not all that low, despite the index volatility being very low. The index components, to some extent, balance each other out. We also have the impact of the ETFs and index funds, which according to some analysis contribute to bringing down volatility. Their impact on the markets obviously keep growing.

If you look at volatility time frames, you can already see a shift happening: the shorter end it is already expanding, over the longer, so there is something happening under the surface already.

If somebody says, "I trade today the same way I traded 30 years ago", that's not necessarily such a good statement. But if somebody says, "well, the markets have changed, hence I have changed all the things I'm doing", that's not a good statement either.

Ernest Jaffarian: I feel there is need to qualify. And that's to say that, it's a more competitive marketplace. Simple trend following systems that used to be almost seamlessly producing 0.5 or 0.6 information ratio or Sharpe, now may produce 0.2 or 0.3. It doesn't mean that fundamentals have changed or that opportunities have changed. It means it's a much more competitive marketplace. You need to be better at execution, have much more control of your execution, have stronger, more thoughtful systems. But the opportunities are still there. It's an interesting balance, right? You need people that have a firm view of what the potential in the market is, that are always on the cutting edge from a research perspective, learning how to optimize and capitalize on the opportunities when they come. If somebody says, "I trade today the same way I traded 30 years ago", that's not necessarily such a good statement. But if somebody says, "well, the markets have changed, hence I have changed all the things I'm doing", that's not a good statement either. One needs to recognize the fundamental opportunities that are in the market, but also recognize the pressures to succeed in this market and bring that modern sophistication to the timeless opportunity set.

volatility environment. It's part of the risk management systems that do all the risk budgeting based on volatility levels. It doesn't need a lot to happen to change this situation completely. That could happen next year, in two years, or maybe five years, but at some point this environment will change.

Filip Borgeström: I agree. It doesn't take that much to change the market dynamics that we are currently seeing. If you look at what the central banks achieved is that they have forced investors into strategies or direct investments where they are direct or indirectly short volatility. When things reverse, people need to get out of the door pretty quickly. It doesn't need to be a nuclear war or a global crisis this time around to trigger this. It might just be investors starting to scale back on their short volatility exposures.

Jonathan Furelid: How are allocators looking at CTA allocations in the current environment? Are you tempted to increase when CTA are starting to perform? Is it viewed as a strategic indication that is fixed or is it something else that you work around?

Mikko Niskanen: It is more of a strategic allocation definitely. There is no question that CTA continue to have a place in portfolios. There are two fundamental reasons, why these strategies still have a place: firstly because of the behavioral biases existing in the marketplace that can continue to be exploited. I think that algorithms or artificial intelligence will not arbitrage away those biases. The second reason, which has often been offered is that there are so many non-profit oriented investors in the marketplace,

when interventions were smaller in scale, it was easier to take benefit than in recent years when interventions have been so massive.

Ernest Jaffarian: As you approach the end of the year, you both reflect, look back, and think about the next year. Three of our largest investors have already indicated that they're going to increase their exposure first quarter of next year. Two by allocating more cash, and one by adjusting their leverage with the same amount of cash. That's a very small data set. But for us, a very important data set. They are some of our largest investors. I think reflects the fact that people believe they ought to get a little more opportunity for yield in their portfolio and some more protection if things don't go in a different direction. And that's not a year from now, we're talking first quarter.

Jukka Ukkonen: We have investments in different investment strategies and we have been on top of CTA strategies as well lately. CTAs are offering diversification to your portfolio and that has been one thing that we have been looking for.

Razvan Remsing: We are starting to have really meaningful conversations with allocators who feel that they have missed past CTA rallies and who want some true diversifiers in the portfolio. And they're coming to us. For other hedge fund sectors a two-year drawdown would be decimating. But it's not the case for CTAs because people know what it does, and that's starting to come through in allocations now, which given performance is very, very encouraging. People are seemingly buying for the right reasons.











Gernot Heitzinger: Leverage utilization is a key word I think. The portion of CTAs which is currently invested in equities in nominal terms is enormous because of the low

such as the central banks in recent years. Clearly, they have been a non-profit oriented investor that have confused the price formation in the market. Maybe previously,

Mikko Niskanen: Discretionary macro is in a similar situation. It hasn't been performing that spectacular over recent years. And there is the question, if it still has a role in





























the portfolio or not, given the nature of dislocations we are currently facing.

Jonathan Furelid: In regard to dislocations. Could the fact that there are divergences in interest rate policies around the world create more opportunities for CTAs going forward?

Ernest Jaffarian: I was very concerned when all the Central Banks were all doing the same thing, all at the same time. But they're acting independently now. The fact that they are acting independently creates dislocations across economic sectors, and creates opportunity. While they're maybe all raising rates, they are making independent decisions now. And that's an important difference.

Filip Borgeström: A lot of investors have seen CTAs make money being long fixed income, riding that nice trend, over the last 15 years. They're worried about what's going to happen when interest rates rise. Is it going to be a challenge for CTAs? It is important to explain to them that central banks raise rates now in a careful way, which can probably create some decent trends. The other portion is the term structure. In a rising rate environment, curves tend to be more flat so it doesn't necessarily cost you that much being short rates either. One shouldn't exaggerate the difficulty for CTAs in an environment when rates are going up. You have different paces and different countries doing different things, which could be good for currencies, could create inflation helping commodities and so forth.

Gernot Heitzinger: I also can't see the point why raising interest rates should be bad for CTAs. Ok, fixed income is one source of return. Rising interest rates are bad for almost every other asset class, so actually it will be a competitive advantage for CTAs if we ever see a rising interest rate environment, because CTAs have the ability to benefit from a downtrend in rate futures as well. For some managers, the fixed income portion has become a large part or even the biggest part of the allocation. This could potentially generate losses if rates were to rise quickly in a short time period.

Raphaël, Gelrubin: First, CTAs focused on bonds for the last 10-20 years because trends were in bonds but if we now see trends in currencies due to rate changes, or if we see trends on equities or commodities CTAs should be able to profit from these. The second thing is that we are able to split the carry component from the yield, so even with a negative carry, we still have some trends to profit



from. . So yes, a rate increase may incur some shocks at the beginning like we had this year. But then if we reach a new normal situation with less synchronization in central banks interventions, it should be more comfortable for CTAs. Being short bonds is probably a little bit more complicated than being long, but profits are also possible.

Martin Estlander: I think we do need to be honest and state that it's clearly more difficult for a long term system to make money on the short side than on the long side in fixed income markets, given the yield and carry. Shorter term models with shorter holding periods are less affected. But the other side of the coin is the effect of higher interest rates have on other assets. Higher interest rates, particularly with higher inflation, means higher uncertainty of the future, which means normally means larger price moves. All in all, I don't think higher interst rates will make the prospects for trend following worse. On the contrary, it could become a lot more attractive.

Razvan Remsing: In our case, we consider the spot and the term structure effects separately, and view them together, being part of the futures total return component. It's the combination of term structure and spot moves that makes a trend. It's really the equilibrium in the two that dictates which part of the system drives the direction. There is nothing in the rising interest rate environment that forbids you from participating. You could even be long fixed income, in a gently rising yield environment and make money. It is more a question of how the yield curve moves.

Ernest Jaffarian: On the interest rate question, I have two observations. One is, the CTA industry goes back far enough to have an answer to the question, "what happened when rates were going up"? And the answer is,

CTAs did just fine, thank you very much. In 1986 I was on the floor and we traded the five year Bonds at a 10-3/8 yield! It's sometimes easy to forget how high interest rates can go. But the second thing I would say is, our largest portfolio is extremely diverse, and probably if you boil it all down, the average duration in the portfolio is in the 10-day range. And we've already seen it on a long yield two or three times this year. So even with a modest move that portfolio, which I think is indicative for the broad CTA space, has already reacted to those rates very quickly. If we got a meaningful move, a sustainable move in raising interest rates, there's no question in my mind the portfolio would adapt to that pretty quickly.

Jonathan Furelid: What about the interest earned on cash not used for collateral. Does that exaggerate the strong historic performance of CTAs? Could the fact that this part of the performance is now non-existent play into the weaker performance picture? Is there creativity around cash management?



Ernest Jaffarian: I hear that argument. In all of our analysis we strip all interest income out, over all time frames. So when we look at data, it's interest free.

Stefan Nydahl: Naturally the interest rate level will affect the absolute return over time but the crucial point, as Ernest just said, is to look at the alpha, which should be consistent. I would also like to make one comment with regards to the question on creative solutions for cash management. We strive to be efficient in terms of cash management but investors do not come to us for creative solutions to cash management. Some of us will have in vivid memory what happened in the early 2000s with a lot of creative cash management tools on offer. Then in 2008

it turned out that many of these so called risk-free alternatives were anything but that.



Drawdowns are a feature of the strategy and part of the trend education alongside with patience – worth repeating to clients and prospects.

Jonathan Furelid: How are CTAs coping with drawdowns, how much effort to minimize drawdowns is put in on a research level?

Razvan Remsing: Drawdowns are an inherent part of a CTA strategy. You have to stay true to a certain style in investing to get positive skewness in longer time frames. You have to give up something in the short term. In other words, you're converting negatively skewed distributions to positively skewed returns. That transformation happens over longer time frames. The key is to maintain the style so that investors that came to us five years ago, 10 years ago, to access a particular utility in their portfolio, should still get that from us. That doesn't mean that we don't research better ways to extract trends.

So we're focusing on increasing markets, enhancing trade execution, improving the way that we understand information that is required to identify trends. But we're not looking to just improve our Sharpe ratio at the cost of giving up all the upside and the positive skewness that people need from a trend follower. It is that balance that has to be visited. Throughout many of these periods, our house view has always been focused on understanding what's happening in the portfolio, improve its moving parts, but don't change the nature of the beast. Drawdowns are a feature of the strategy and part of the trend education alongside with patience - worth repeating to clients and prospects. Investors that actually have been through one or two of these cycles understand that. It's converting the newer clients, that's the challenge. But that's a challenge that's worth taking because it keeps the strategy aligned with the needs of past and future investors.

Ernest Jaffarian: I'll give two quick rules of thumb here. If you see a manager that has more than 52, 53, 54 percent of the day's positive, start looking for short gamma. If you see a CTA who somehow controls the downside so that a drawdown of one times the volatility is uncommon, and





























Performance & Drawdonws



Stefan Nydahl

"The groundwork for handling drawdowns is the work you do before the drawdown actually happens. That's when you can create the comfort and the understanding of the strategy and for us to understand the expectations investors have on our strategy."

Martin Estlander

"It does feel like one of those moments now, and one would not be surprised if 2018 turns out to be a year of larger price moves and dislocations in several assets. And why would you believe that? Well, we see that volatility obviously is compressed to extremes."



Performance



Filip Borgeström

"With regards to performance, patience tends to wear out. It would be good for our industry if the economy would cool off from here, creating more stress in the markets, more volatility and larger price moves."



Razvan Remsing

"We're not looking to just improve our Sharpe ratio at the cost of giving up all the upside and the positive skewness that people need from a trend follower. It is that balance that has to be visited. Throughout many of these periods, our house view has always been focused on understanding what's happening in the portfolio, improve its moving parts, but don't change the nature of the beast."

Trends



Raphael, Gelrubin

"Adding markets, is probably more complicated for us as a boutique, but probably a little bit more efficient as these markets have less capacity and are probably more complicated to trade with 10 billion than with below 1 billion AUM."

Graham Robertson

"We have separated value drivers into three: fiddling with existing models, coming up with new models and thirdly, coming up with new markets. We found that, fiddling, has no value, whatsoever. Adding new models has provided some value but the big driver for us has been adding new markets."



Artificial Intelligence / Big Data / Machine Learning



Mikko Niskanen

"There are two fundamental reasons, why CTA's still have a place: firstly because of the behavioral biases existing in the marketplace that can continue to be exploited. I think that algorithms or artificial intelligence will not arbitrage away those biases."



Ernest Jaffarian

"Right now, I would say, most of our investment team would strongly move away from anybody that indicated that they were utilizing artificial intelligence for making trading decisions."



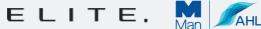
Gernot Heitzinger

"We would not like to see our systems evolving by themselves. At one point in time, you will not understand how your system behaves. I believe this is the biggest problem with these techniques therefore, we'd be very, very careful about really stepping into that."



























two times of volatility is impossible – well, you can be certain it is gamma! As was just said, drawdowns are part of the strategy style. Every CTA I've talked to who develops systems to control their downside does it as just a business management tool. Because as a standalone investment, it's a losing strategy.



Stefan Nydahl: Again, that's true for systematic macro as well. I think what was said about education is really the key. We put in a lot of effort into education and transparency towards both potential investors and then, with existing investors. We have a separate team for this, our investment strategy team, that basically serve as "the voice of the machine". These are people with long experience who know the strategy very well and can explain it to investors. The groundwork for handling drawdowns is the work you do before the drawdown actually happens. That's when you can create the comfort and the understanding of the strategy and for us to understand the expectations investors have on our strategy.

Ernest Jaffarian: At the risk of upsetting some CTAs at the table, drawdowns are really a good buying opportunity. But not if you just step in and buy the draw down. Instead, you go to a CTA and say, I'll give you an allocation of X, and I'd like you to honor that investment at your current drawdown load. And then it becomes an exceptional buying opportunity.

Jonathan Furelid: The CME is now introducing Bitcoin as a listed futures contract. Is this something that you would consider buying into or never even look at? Is it too much of a hyped thing?

Razvan Remsing: Never, is a long time, but at the moment

there are so many other liquid markets that we are expanding into and looking at, that are more established. We don't need to take on the risk of this market, until we completely understand it. Bitcoin is not something we are entertaining. We are looking at markets that are sufficiently different but established, liquid and add diversification to the existing markets we already have. And again, it's a functional liquidity. There are thousands of futures markets in the world. You get to a point where adding more things is just for capacity reasons, not so much for increasing your alpha capture. We're not at the moment, searching for capacity. We still have plenty of room to go before we would need to make far more interesting compromises to our program. The key still remains, be very liquid, and know what you are buying. And I think the 'what are you buying' part is what is missing at this point in time still with Bitcoin.

Martin Estlander: From our perspective, we have very clear set of rules as to when they take on an instrument for various purposes. And I doubt that Bitcoin will qualify for client portfolios from the start. But I expect that we'll be open-minded and start test trading bitcoin at least for experimental purposes early on.

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Filip Borgeström: Liquidity is one issue; the stability of the underlying market is another one; and then the third, which we often look at is what kind of profile you get from applying a trend system on these markets. When trading for example equities or bonds, we are fairly confident that our return profile will resemble something that our clients are comfortable with. But if you apply trend signals on Bitcoin, or another example would be the VIX future, the output will be different than trading more established markets. So then it's a question of how will this new market fit into our portfolio and our overall investment objectives. I'm not sure Bitcoin will qualify from that perspective either.

Ernest Jaffarian: There's concern that that could actually bring the industry down. You're talking about something that has moves of 30 percent inside of a day. What is your margin going to be? Better be at least 50, but probably

more like 70, 80 percent. So at that point, you're just trading as a cash instrument. But if you don't establish the proper margin level and if there's significant interest, especially on the retail level that creates a massively sized contract, and then there's a 70 percent drop in a day, which some think can never happen. Of course it could. What's the integrity of the system at that point? If you look at it from a regulatory standpoint, it's a deeply concerning issue. It's a serious issue.

Jonathan Furelid: What is the activity overall when it comes to adding markets? Is the overall trend in the room that markets are being added? If so, what are you adding and why?

Gernot Heitzinger: The main reason to add new markets is of course diversification. You have different sources of revenue, you have different return drivers. And we think that's the most powerful thing that you can add. Adding different or additional systems doesn't make as big a difference but adding new markets. Ideally something which is totally different...

Graham Robertson: Can I give a somewhat holistic answer? We have looked at our own research and from that concluded what is adding the most value. We have separated value drivers into three: fiddling with existing models, coming up with new models and thirdly, coming up with new markets. We found that, fiddling, has no value, whatsoever. Adding new models has provided some value but the big driver for us has been adding new markets. Our flagship program is trading 450 markets currently.

Jonathan Furelid: Is it harder for smaller managers to find the research capacity to add new models and markets?

Raphaël, Gelrubin: I don't know exactly how complicated it is for a large company, but at KeyQuant, the founders and researchers who created the strategy are still working for the company and we think it really helps when it comes to enhance the model. From our side, we see two ways to increase returns: Adding markets, is probably more complicated for us as a boutique, but probably a little bit more efficient as these markets have less capacity and are probably more complicated to trade with 10 billion than with below 1 billion AUM.

So, we have this advantage, but we also need the taskforce to find, study and trade these markets. It may take some time to study the quality of the exchange or the counter-

party. Liquidity has also to be studied and monitored. The second way to increase the performance is enhancing the strategy. We think we have some room there. Better risk analysis, better trend capture or trading homemade synthetic markets that show more stable trends are areas of research where we are active.

Gernot Heitzinger: From an operational point of view it's more difficult to do all those due diligences on whatever you want to trade. This is surely a challenge for a smaller operation. Another disadvantage of being small is that you might not be able to access markets through OTCs because simply, a contract you want is not efficiently to be



done via OTC or you don't find a counterpart doing a small size OTC deal. On the other hand, for the listed markets, it's better to be small as capacity is limited anyhow. We do not really believe that OTC is a good solution as we're still talking about illiquid underlyings. Even though you could eventually do more on the OTC side, you're still limited in capacity because your counterpart faces the problem of illiquidity of the underlying. So OTC are not our main focus as we do not see the big benefits. In all, we see an advantage in being a smaller shop. Although these things trigger interest which leads to getting bigger. Getting bigger gives you other perspectives. Sooner or later you will have to think about maximum capacity of your strategy. That fact you have to face, sooner or later.

Ernest Jaffarian: I think that is a key point. We only have managed accounts. Generally speaking, as a manager gets bigger, two things happen. The duration of their average trade increases, and their market exposure decreases. And just to say that if one trades a market doesn't mean that



























it's been traded in a size to have a meaningful impact on the portfolio. To get the maximum amount of diversification, what we have found is that you have to go to smaller specialist managers to get the true diversification in a way that impacts the portfolio. A large manager just simply can't access those markets in sufficient size relative to the overall portfolio to have a balance impact on the portfolio.

Generally speaking, as a manager gets bigger, two things happen. The duration of their average trade increases, and their market exposure decreases.

Stefan Nydahl: We are quite restrictive in adding markets and it is closely related to our model development process. We are not focusing on re-cycling existing models on many new instruments. For us, it's currently around 40 markets globally, in futures and FX forwards, we feel we can use efficiently.

Martin Estlander: It's the same for every manager, liquidity is a big constraint. Liquidity is not just about being able to trade and get your execution done, but it's at what cost do you actually do get the required liquidity that matters. The actual liquidity you can obtain becomes even more important the more marginal the instrument is liquiditywise. It's clear that if you have a smaller portfolio, you can have a bigger impact back from less liquid markets.

Jonathan Furelid: Crowdsourced hedge funds are beginning to gather interest, Quantopian being the most recent example where skilled researchers feed a set framework with models, creating a beast of many individual alpha sources. Is that a threat/possibility to the CTA industry?

Raphaël, Gelrubin: I think it's really a great opportunity. I am likely to be the youngest founder of a CTA around this table and probably one of the last independent launches. Launching a CTA these days without having a large institution behind you is more or less impossible. We started in 2010, we see now all the regulatory and administrational work an asset manager must provide. Starting with six million Dollars as we did, I think today has become impossible. Crowdsourcing allows skilled people to get paid for their skill to build models without needing to launch their own CTA. It is also a possibility to source research talent to existing CTAs. Obviously there will have a lot of drawbacks

with people who try models that won't work but overall I see great potential. At the end, I hope it will be a way for newcomers to be able to launch strategies and keep a healthy competition in the CTA world.

Mikko Niskanen: We are more in favor of those who are more protective of their intellectual property than those who a more freely available on open source platforms. Especially if there's a trader who has an investment program or strategy that will add value. We believe it is not possible to add value on a sustainable basis in an open source.

Ernest Jaffarian: I know CTAs who bring other aspiring CTAs in as PMs and give them an allocation. I've never met a CTA that said that they liked crowdsourcing; if there are any, I've never heard of them. It's an intellectually fascinating concept. But I think selling it will be really, really, tough. How are you going to decide on what models to favor when 450 people give a signal every day?

Stefan Nydahl: I guess you could view crowdsourced hedge funds as sort of the next generation of big multi-strategy funds. But I really don't see it as a threat or replacement of how we work. It's more an alternative or a complement to having the critical mass in-house. We have built our business around a relatively small efficient team working closely together, developing strategies that are underpinned by economic ideas, not churning a large number of strategies.

resources to triage the research processes that has been delivered? That is what is alpha generating, it's more than ideas. Yes, data is important, but it's really what you do with the data and how you package it. The rest is, a bit of a random number generator in my view.

Jonathan Furelid: Artificial intelligence and new technologies are paving the way for potentially new profitable trading strategies. You hear buzz words like artificial intelligence, machine learning and neural networks. Are these techniques something that you actively look into, that you use and that you feel add value?

Gernot Heitzinger: Next to new markets and uncorrelated strategies this fancy stuff is the second big story investors like to hear and to talk about. If you had a really good marketing story about that, it might sell perfectly. In reality, I'm not sure about the whole topic and where it could lead to. On the one hand, progress in technology definitely helps and you can do better research due to progress in computing power and new modelling techniques. It is a similar story as these young guys we were talking about before who are putting together a hundred different models. We would not like to see our systems evolving by themselves. At one point in time, you will not understand how your system behaves. I believe this is the biggest problem with these techniques therefore, we'd be very, very careful about really stepping into that.



quite strict in regard to the features, or inputs, we feed the algorithms and how we guide the training. The evaluation is also something you have to adapt to machine learning models. But at the end of the day we use these models and techniques pretty much in the same fashion as we do with other statistical tools.

Ernest Jaffarian: Right now, I would sa,, most of our investment team would strongly move away from anybody that indicated that they were utilizing artificial intelligence for making trading decisions. But there's a whole spectrum right? I mean, artificial intelligence is different than machine learning, which is different than deep learning. Now,











I think both approaches can be successful but it's too early to say how well crowdsourced funds as a concept will do.

Razvan Remsing: It is not so much about ideas; I don't think that we struggle for ideas. It's more having the right infrastructure and techniques to test those ideas for their robustness. Among 10,000 traders, five percent (say) of those will have fantastic models on that particular data set, just at random. And the key is, do they have the right

Filip Borgeström: We discussed this topic during last year's round table discussion and our view has not really changed. We look at machine learning as another statistical tool in the toolbox. We have people from all different kinds of academic fields and machine learning is an area that we have explored and done work on for eight years or so now. We hired our first researcher with a background from machine learning in 2009. Of course, you have to be very careful when applying these techniques. We are

I can write volumes on what I don't understand about this, but, having said that, I would say that significant CTAs are studying this area, using it and experimenting. Some, I think, are even utilizing it and not admitting it. But some of the most sophisticated in the area, will tell you, yes, I'm using artificial intelligence. I will just draw this one conclusion. This topic is not going to go away. Five years from now, it will be a bigger factor in trading managers than today.





























Stefan Nydahl: I can't claim to have been around as long as Ernest, but I am old enough to have seen the first wave of Al tools coming into empirical finance research in the early and mid 90s. Al was a big trend for a number of years then it seemed to lose it luster in finance for ten years or so and now it's coming back. I think the challenge of taking advantage of these tools is the same now as it was back then. For us especially, modeling macro data, it's long cycles and you don't have that many data points. This makes it hard to take advantage of Al tools. However what I would say is different now is big data, another buzz word these days. While it's very hard to see how it would replace what we do at the core, it can add new tools to for instance, reduce time to market of the data. You can pick up trends faster and get new data points quicker. And that's where I can see machine learning and other tools, really come into use. Interpret satellite images, or online activity and whatnot, that might then be transformed to data points that we can use in our models.

Jonathan Furelid: The fact that you have access to more high frequency data these days, does that make you tempted to go shorter term in your way of thinking?

Stefan Nydahl: Not really. And it actually leads me back to one point on AI. We think to be efficient in modeling macro, using any kind of tool, you need to have a very strong prior. At IPM we find that prior in economic logic and ideas. That's at the very core of our philosophy, each strategy and indicator should have an underlying economic idea as a base. So, we first need that and then we go out and look if this is actually working in practice. We are not data mining and then trying to create an idea. Therefore, it's unlikely that we would look at this big data set and say, wow, let's try to do something with it.

Martin Estlander: We had our shot at neural networks in the 90's, and a few since. The problem we have faced with machine learning is that if you do not fully understand how the model arrives at a conclusion, it is hard to deploy it. At least in our case, we need full rationale for any strategy to use it. Machine learning can still be interesting as a source of ideas, ideas that one can research further and perhaps get an understanding of, and deploy after that. I think maschine learning is definetly interesting and has a role for the future.

Gernot Heitzinger: I have one suspicion still. As much as investors are interested in that topic, I am not sure if they would actually invest. People love to discuss self-driving

cars and mobility, but if you ask somebody to jump on a self-flying plane without any captain at the moment, they rather would not do that. So I'm not sure whether or not many clients would actually invest real money in such a self-driving CTA-model.



We've taken 30 years to educate people to see that we're not a black box. There is a risk if you go to the extreme, while not saying using machine learning is the extreme, Al with self-building systems tilts you again to becoming a black box.



Razvan Remsing: It comes down to classification problem. What are we trying to solve here? I think we all agree here that AI is not machine learning and it's not big data. But they are alternative ways to gain information. I would say classification problems of the physical world, such as looking at genome sequencing or melanoma detection, is a natural environment for machine learning and has led to massive medical research advances. All those things, are enhanced by techniques that help algorithms choose between a grey area probability-wise. Not between green and red. Flying an airplane is a physical world challenge. The laws of physics, gravity tends to react in identical ways every time. We do engage with the topic but we see machine learning as a tool. It's one of our many tools. It's not a tool that delivers signals. It's a tool that helps us maybe construct a better portfolio, choose another way to trade more quickly than something we have programmed before. Retrospectively, I think back to our earlier comments on reasons for education in the space. Part of the whole reason why our investors are so patient, and understand what we do is because, we are not a black box. We're systematic, we've taken 30 years to educate people to see that we're not a black box. There is a risk if you go to the extreme, while not saying using machine learning is the extreme, Al with self-building systems tilts you again to becoming a black box.

Jonathan Furelid: Finally, I wanted to touch on the distribution landscape that has changed quite a bit, especially on fees. There is enormous fee pressure from investors these days. You can definitely see that there are alternative ways of getting trend exposure today, compared to what it was five, 10 years ago. Is this a threat, and will fee pressure have an even bigger impact going forward?

Filip Borgeström: The market has obviously changed in the last few years. Low yields in general and poor industry performance has shifted the focus to fees. It is quite natural. The CTA industry has matured and in some respect started to look like the traditional asset management industry. For example, in equities investors can choose between investing in actively managed funds or passive index products. Today you have trend beta products, some traditional CTAs offering carve outs with lower fees as well as the more high-alpha, research-focused trend programs. For a manager it is really about choosing what types of product you want to offer and for investors what is the best fit to their portfolio or investment philosophy.



One positive thing about the fee pressure and the growth of trend beta is that new investors, that perhaps previously couldn't access CTAs, are coming to the space. More money is invested in trend strategies. I think there is room for different styles and business models. We have seen clients leave for flat fee options but also new clients that previously didn't have any trend exposure coming onboard. Some of them are mixing simple trend-beta products with more actively managed CTAs that invests in research and evolve over time. For managers, it is all about finding your niche and being able to deliver a product that can justify your fees. From that perspective nothing has really changed, but there are now new players out there to compete with.

Razvan Remsing: We have multiple products and multiple access points for investors. What has changed is the ability to deliver the right utility to the end investor. People that are in the market for lower fee offerings may have different constraints and it is a different type of client than the

traditional client that one might have had in the past. In a way, the market has gotten bigger. And key to that, is to create programs that have quality at every pricing point. There's a price to pay for innovation, there's a price to pay for access to difficult markets, there's a price to pay for research. And yet, as a firm, every single product you put your name behind needs to have the quality behind it. So yes, we have got a low cost trend offering, which is still research based. But it's limited to the most liquid markets. You want to make sure that it delivers what we researched over the decades and doesn't compromise capacity. There are investors who want your best effort, and they'll pay for it. And there'll always be people who favour the quality. And then people wanting a good product that are not constrained. The fee structure micro economy does not allow them to pay old hedge fund fees. We've had to adapt more in fee structures as well. So it's not so much that it is flat fee or the old two and 20 model. Creative fee solutions are coming up all the time and that allows us to be more aligned with our clients compared to what the traditional fee models would have allowed.

Gernot Heitzinger: Fee pressure is a reality and will not go away. One of the reasons is, that over a long period of time a concentrated portfolio invested in equities, bonds and the most liquid contracts, was the most successful portfolio you could have had. It will be upon us to proof that more sophisticated models, more sophisticated portfolios will outperform the plain-vanilla ones. And the plain-vanilla portfolios will be very, very cheap. At the moment you are able to charge more for the more sophisticated ones. It will be decided within the next years. If weas the industry fails to proof that the advanced strategies outperform, the plain-vanilla portfolios will succeed like the passive portfolios in the long only industry

Ernest Jaffarian: There is meaningful irrationality on the fee question. In our biggest portfolio, we're completely unconstrained. We can buy momentum from more traditional managers or we could buy it for 25 basis points. Our analysis so far suggests that the cheap data programs are not going to add more value than somewhat more expensive, fully diversified programs. We're not constrained, so we can buy either one. I see a lot of institutional investors buying whatever is the cheapest offering in the marketplace, without really looking at the cost underlying those offers. What do I think going forward? I believe that we'll go through a cycle where there could be some ongoing continued fee pressure. I don't think we'll ever see the fees in the industry we saw historically. But over a



























five-year cycle, people will learn how to better evaluate costs versus value and there will be good opportunity for people to provide meaningful value over cheap core beta momentum. I'd like to believe that core programs will outperform on a value basis the cheap trend offering. But the market needs some time to mature. Part of our job as a fiduciary is to do the best we can on behalf of investors. Anytime we do an analysis on trading programs, we do it net of cost. So you can have two managers who are really equally good, but if one has meaningfully better cost than the other, they're going to tip the scale. We're seeing a lot of interest in creative approaches to fees.

So as I mentioned earlier, we create multi-strat CTAs, where multiple CTAs trade as a single CTA. Institutions love that, because they get diversification but they're buying a single manager, not a traditional fund of funds with two layers of fees. But, in addition, we also have a financial engineering technology. It's actually patented and allows us and the managers to earn reasonable fees; but as one consultant said, it is the best source of structural alpha they have seen in the marketplace. So I think we're going to see a maturation and I think we're going to see more creativity. The only real downside that I see, and it is a significant downside, as was already referenced, is that the barriers to entry are just getting higher and higher. That's unfortunate, because you want to have a marketplace that enables aspiring managers to grow and mature. I think we're going to have to look to established managers to facilitate that. It's not going to be the case where you can just pull together two to five million dollars and open your door for business because the barriers to entry are just much higher than it used to be.

Martin Estlander: Stefan and I have had this discussion before, I know for sure. I don't think it's necessarily a bad thing. In the beginning it was a lot of talk about how fee pressure would hurt the industry, but now we see that we can even differentiate the product range, even within a firm. I think the key is that investors can differentiate between a more straight forward product. As long as that un-

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For other hedge fund sectors a twoyear drawdown would be decimating. But it's not the case for CTAs because people know what it does, and that's starting to come through in allocations now, which given performance is very, very encouraging. People are seemingly buying for the right reasons.



derstanding is there, I don't see a problem. In fact, I think it's good for the industry, because it creates increased understanding of where returns come from. When I started doing this, almost 20 years ago, you went for what we now call smart beta, you went to a hedge fund and paid the infamous 2 and 20. Of course, that was probably not a sound thing. But now investors can actually choose, and that is positive thing for the industry as a whole.

Jonathan Furelid: Gentlemen, I suggest we end on that positive note. Thank you all for a good discussion. Happy holidays and safe travels home.









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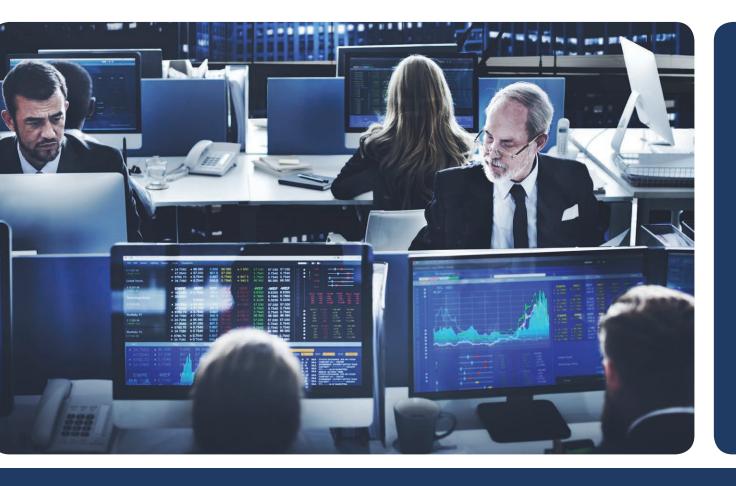












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