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Opalesque Roundtable Series '14

UK

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Editor's Note

Looking under the hood: Smart betas, factor-based indexing, risk premia and IBM's Watson

The academic literature of the last 30 years is filled with papers and research that support the existence of certain premia in various asset classes. Risk premia products are no longer a novelty; most bulge-bracket banks have successfully rolled out their suites of "risk premia" and "smart beta" indices, which has been of great interest to Nordic and US pension funds.

Risk premia such as value, momentum, carry, etc. provide very efficient portfolio building blocks, simply because the correlations among risk premia are generally low and relatively stable. Their use in portfolio construction can help achieve more efficient returns than those using the traditional geography or market cap building blocks that are commonly used in many portfolios.

Today, these new strategies are also called smart beta, smart systematic beta, factor-based indexing or systematic risk premia. *But when the quintessential mechanical engineers and astrophysics PhDs start kicking the tires and looking under the hood, deeper questions open up...*

Is it just a back test?

Obviously, risk parity seems to have worked in the past, so how different are the new products from, say, selling a back test? Moreover, when it comes to equity index beta, the beta that we have from, say, the S&P comes with a clear and uniform definition, and it's absolutely free. But, looking at other betas like say FX carry, what's the beta for that?

"What if you've got one and I have got one, and mine is different? It's not really a beta then. Maybe my beta is more beta than your beta. Maybe your beta has got more alpha in it than my beta...", asks Ewan Kirk. On top of that, there are costs associated with dynamic positions so, in a sense, it can't be beta. *So maybe a dynamic trading strategy can't be beta, maybe it's just a dynamic trading strategy*. However, it is undisputed that risk premia can provide portfolio managers with a greater number of low-correlation portfolio building blocks than the more typical geography and market cap building blocks.

It's not about your model – it's about your execution

Today, it's not a challenge anymore to write down a nice, simple trend model, which in gross terms looks great and appears statistically indistinguishable from the best CTAs in the world. However, that will be in gross terms. Owning a cap-weighted equity index is free because you don't have to trade. On the other hand, if the rebalancing costs of a portfolio is only 1 BP a day, that will be 2.5% per annum, dwarfing the cost of management fees. Therefore, huge efforts go into saving tiny fractions of a basis point and executing at "lag 0". Still, some offered risk parity strategies are quite stripped down in their substance and therefore appear to be inexpensive.

The Opalesque 2014 U.K. Roundtable was sponsored by Salus Alpha and Eurex and took place September 3rd 2014 at the London offices of Eurex with:

1. Oliver Prock, CEO Salus Alpha Group and CIO of Salus Alpha Capital
2. Ewan Kirk, CIO and Co-Founder, Cantab Capital Partners
3. Antoine Haddad, Founder and CIO, Bainbridge Partners
4. Stuart MacDonald, Managing Director, Aquila Capital
5. Nacho Morais, CFA, FRM, CAIA, Pragma Wealth Management
6. Akshay Krishnan, Head of Macro Strategies, Stenham Advisors
7. Renaud Huck, Senior Vice President, Eurex Group

The roundtable participants also discussed:

- Three years ago, IBM's Watson beat Jeopardy experts in real time. Will something like Watson beat Warren Buffett three years from now?
- Regulators unchained: How ESMA boycotted their own "Lamfalussy process"

- How have discretionary trading strategies been faring lately?
- How should investors be positioned once QE ends?
- How should investors analyze and rate quants? Sharpe Ratio versus Conditional Drawdown at Risk
- How do quants avoid the trap of concentration of risk? When do less liquid instruments get picked up by quants, and what is their process?
- Why and how is the new Eurex FX future different from the CME product? Will repo futures open a whole new path for the buyside? How can active futures traders reduce quarterly roll costs?
- How can investors benefit from the coming expansion in volatility
- Why do more firms stop allocating assets to external managers and hire portfolio managers to run certain strategies in-house
- Opportunities in real assets, agriculture and infrastructure

Enjoy!
Matthias Knab
Knab@Opalesque.com

Participant Profiles

(LEFT TO RIGHT)

Matthias Knab, Oliver Prock, Akshay Krishnan, Ewan Kirk, Antoine Haddad

Renaud Huck, Stuart MacDonald, Nacho Morais

Introduction

Renaud Huck
Eurex Group

My name is Renaud Huck. I am Senior Vice President at Eurex Group, which operates the largest derivatives exchange and clearing house in Europe.

As the head of the buy-side team, my role is to engage with the buy-side: hedge funds, asset managers, pension funds, sovereign wealth funds, central banks, and to develop our relationship with them. I am also in charge of promoting our exchange-listed products and our services.

Previously, I held a similar role at a North American exchange, and before that I worked for about 15 years as an investment banker and trader in the fixed income and equity derivatives space.

Antoine Haddad
Bainbridge Partners

My name is Antoine Haddad. I am the Founder and CIO of Bainbridge Partners, a wealth management company based in London. The firm was established in New York in 2001, and relocated to London in 2008. We currently manage close to $850m in assets, and have a total of 15 professionals on our staff.

Our advisory focus is on segregating alpha from beta in our clients' portfolios, and creating products that fit each of these two categories.

On the alpha front, we run a series of systematic proprietary trading strategies in house, and a pure-alpha fund of hedge funds.

On the beta front, we focus on creating "dynamic beta" portfolios; these are effectively systematic, single-asset class and cross-asset class portfolios, built using diversified baskets of risk premia – That is a departure from most beta portfolios that use geography and market capitalization as their main diversification tool.

Our firm's goal is to give large institutional and private clients access to a very "modern" portfolio construction approach.

On the personal front, I originally come from a scientific background. I earned my Masters Degree in Electrical Engineering from the University of Michigan in 1990. I then worked as a commodity trader for Louis Dreyfus in the early '90. From 1993 to 2001 I worked for Millburn, a CTA and quantitative trading firm based in New York.

Stuart MacDonald
Aquila Capital

I work at Aquila Capital as a Managing Director. Prior to this, I have worked with alternative investments in a variety of roles and on different sides of the fence, with both single and multi-manager firms. This started with Buchanan Partners in the mid-'90s, when we were the largest single manager group outside of the US. At that time, we felt enormous because we had something north of $800 million AUM. This gives an idea of how the industry has expanded since then.

Winding forward, I worked with Henderson Global Investors at a time when if you tried to get a single manager business off the ground within of a large traditionally based firm, no-one would take you seriously. The wheel has turned almost 180 degrees (or maybe 160) since then. After that, I enjoyed working with a multi-manager group fund of funds - Gems Advisors - both before and after the Crisis. The Crisis itself highlighted a whole series of issues within our space that were not previously prominent in many peoples' minds, whether relating to risk management, liquidity mismatches, lock-ups or doing what you had told investors you were going to do, "doing what it said on the tin".

I am now with Aquila Capital, a 7 Billion Euros broad-based alternatives group established in 2001. Distinctively for an alternatives firm, the company is headquartered in Germany, in Hamburg. Aquila was set up with the overarching idea of identifying mega trends, getting in front of them and translating these developments into sustainable alternative investment solutions (sustainable in both senses of the word). With 250 staff, the company has expanded successfully, with offices and operations all over the world.

Aquila Capital is the investment management arm of the Aquila Group. There are two parts to the business. The first part consists of liquid alternatives activity, which includes the longest established and arguably the most successful of the Risk Parity franchises that are managed from this side of the Atlantic. We also have some more "traditional" hedge fund management (and we recently launched the Aremus strategy as a UCITS - this is a mainly Europe-focused long/short equity fund with a strong event driven component, low net exposures but alpha shorts rather than matching pairs trades; we see a lot of potential in Aremus.

The other and equally important part of Aquila Capital involves real assets. These range from renewable energies (solar, wind, hydro) to agriculture/ farmland (where we are the industry leader in intensive pastoral dairy investment in Australia and New Zealand) to timber/ forestry. Recently, for example, we were successful in putting together a large and long term hydro power investment deal in which we are partnering with APG, the Dutch Pension Fund. We are looking for co-investors in this. We have also recently raised a large Australian Dairy Fund.

The Aquila Group also includes Alceda, the largest non-bank UCITS Platform in Luxembourg.

Akshay Krishnan
Stenham Advisors

This is Akshay Krishnan, I am the Head of Macro Strategies at Stenham Advisors. Stenham has been investing in hedge funds since the late '80s. We have got about $2 billion in assets under management split between commingled fund of funds and bespoke portfolios. I am the Portfolio Manager of Stenham Trading which is our flagship macro fund of fund that has been in running since 1993. Our multi-strategy fund has been in existence since 1992, so we have successfully navigated these products through a variety of market environments.

Before joining Stenham I was the head of relative value and macro strategies at SAIL Advisors, which is a fund of funds group based in Hong Kong, and before that I worked within ING's fund of funds group in New York.

Nacho Morais
Pragma Wealth Management

My name is Nacho Morais. I work for Pragma Wealth Management. The company could be defined as a Family Office, in what pertains to our investor base; although we are more akin to an institutional allocator in the way we approach our investment activity. Our objectives are to preserve and grow capital, and our core focus is on the hedge fund space and alternatives in general, although we operate under an open mandate. Personally I have been a hedge fund allocator since 2001, working mainly at Omega Capital, CM Capital Markets, and, since 2007 for Pragma Wealth Management.

During my trajectory, I have launched several projects at the different companies I have worked for; not only new products, but also new processes and related toolkits. This has allowed me to acquire expertise in areas beyond my core portfolio management and research skill-set into risk management, operations, technology, corporate governance, and investor relations.

Oliver Prock
Salus Alpha Capital

My name is Oliver Prock. I am CEO Salus Alpha Group and CIO of Salus Alpha Capital. We have a global presence with 35 people and operations in Singapore, Hong Kong, India, Switzerland, Austria, and Liechtenstein.

Salus Alpha was established in 2001 and was initially more active on the fund of funds side. Since 2003 we developed a live track record for our in-house quantitative strategies which we started to market more actively in 2010. Since 2011 we focus primarily on our in-house quantitative strategies. We are currently offering a managed futures strategy (DMX - Directional Markets), a Commodity Arbitrage Strategy (CAX) and an enhanced Risk Parity Strategy (GAX/ GRP). All strategies target to exploit clear inefficiencies in the market. I also have a disclaimer to make. It is important to mention that all explanations I just gave and will be giving are not in reference to our UCITS funds but in reference to our managed accounts as well as structured products.

Personally, I started in the CTA business in the early 90's working for a CTA in the Americas developing and implementing computerized trading models.

I think our in-house quantitative strategies are rather unique within the quant space in terms of approach and risk adjusted performance. Our Directional Markets Strategy is trading the 100 most liquid futures worldwide delivering a Sharpe Ratio above 1.2 with low or negative correlation to the Newedge CTA Index when other CTAs are in stress and positive correlation to the Newedge CTA Index when the CTA space makes a ton of money like 2008.

Our investor base is a mix of institutional clients such as pension funds, banks, Fund of Funds, high net worth individuals as well as foundations.

Ewan Kirk
Cantab Capital Partners

I am Ewan Kirk. I'm the CIO and co-founder of Cantab Capital Partners which is a systematic fund based in Cambridge in the UK. We are about 50 people, around 30 of whom are fully dedicated to research and development, so we are a very scientific and technology-driven firm.

We manage two products. One is a multi-strategy systematic fund with components from Momentum, Value, Short Term trading and Cash Equities. We also run a cost effective, global macro product called Core Macro, which was the most successful fund launch in Europe last year.

In terms of my background, originally I was an academic. I have a PhD in Astrophysics and after completing 11 years of tertiary education, I joined Goldman Sachs. I was the partner in charge of the Quantitative Strategies Group, which is a group in Europe of about 150 mathematicians, physicists, computer scientists who do all of Goldman Sachs' quantitative work, including programming and structuring. I retired from Goldman in 2005 and then we started Cantab in 2006.

Matthias Knab Some of you have already mentioned a number of new products that you have launched successfully, let's look at those and other new launches in greater detail. Please share with us what products you are are working on at the moment.

Oliver Prock: At Salus Alpha we are currently working on some new arbitrage models to add to our Commodity Arbitrage strategy. Besides that we constantly try to improve execution technology for all our models. We achieved fully automated execution with straight through processing capabilities that is able to add positive alpha and eliminate slippage entirely. I think the execution engine we developed is unique and gives us a significant competitive advantage.

Renaud Huck For us as an exchange 2014 was a very interesting year. As you will be well aware the past few years have been fairly busy in terms of regulation. The Dodd-Frank Act was introduced in the States, while European regulators decided to launch the EMIR regulation, and as a European clearing house we had to go through a process of being reauthorized by ESMA in order to become a qualified CCP.

Renaud Huck: When we did our preparations ahead of EMIR, we realized that a lot of the buy-side and sell-side players in the industry who were extremely active in the OTC space would as a consequence of regulation see the scope of activities drastically diminished or constrained. Some would even have to potentially exit the OTC space and move their business model towards a more exchange-listed and exchange-cleared model.

Consequently, we thought long and hard about what new products and services would be needed. Obviously our clearing house (Eurex Clearing) has been offering OTC IRS clearing for more than 2 years and, in terms of products, we recognised that in the fixed income space there would be a need for a swap futures and a repo futures product. We are delighted to be able to offer a complete suite of fixed incomes futures, covering the whole range of short and long-term money and bond markets with listed and OTC products.

As of 1st September 2014 Eurex launched swap futures and in mid-November we will launch repo futures. Earlier in July we launched FX futures, which for us was a whole new asset class that had not been targeted or offered before.

Subsequently, we are currently very busy promoting these products, but also engaging with the buy-side and sell-side in a broader approach; looking at how the new regulatory landscape will influence business in the future, the new rules of engagement for market participants and, taking all this into account, we offer them dual avenues to suit their needs - whether it be traditional exchange-listed products or OTC-cleared possibilities and services.

Ewan Kirk: I have a question. I have seen currency futures on the CME for many years, and they have not taken off. They are still illiquid, and the volume remains in the OTC market. How do you think yours will be different and why do you think they have not yet taken off?

Renaud Huck: **Within the incoming regulation we anticipate that the regulators will expect FX to become a more regulated market – after looking at fixed income and equity markets. I would not rule out a potential clearing mandate for OTC FX contracts, for instance, forwards or options.**
I am in a good position to answer your initial question on the difference between ours and the FX futures at CME, as I was the Head of Hedge Funds and Sovereign Wealth Funds at CME for almost nine years where I dealt with those products globally and answered those questions in front of buy-side and sell-side entities. It is true that the CME had a difficult position of being the first one to enter the space and perhaps was then not able to structure the products in the way that we at Eurex structured them.

The CME decided to structure them not from an FX spot protocol approach but from a U.S. market approach, whereas our Sterling-Dollar product is Sterling-Dollar as is the FX spot convention. Our products are within the protocol of the spot FX market, which significantly means that you are not in a situation where you have to face reversed quotes firstly but also for those who are more used to spot FX it is not such a big adaptation since you don't have to reverse the quote to see the equivalent with your FX spot price. We also decided to go for nominal values which are 100,000 of the base currency unit to avoid having amounts of 125,000 for example, which is far more practical.

Entering the market after the CME allowed us to refine the product offering. We observed that launching options on futures was not necessarily the best approach so our options are on spot.

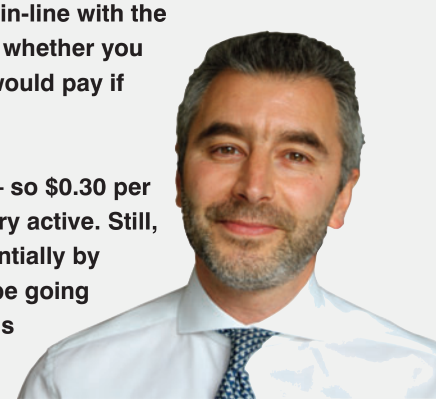
Renaud Huck

Those who choose to use our options will have a physically delivered currency at expiry - and not in the futures contract - (our currency futures are physically delivered); the major risk in currency is not necessarily the counterparty risk but rather the settlement risk, and all our currency futures contracts are CLS settled. CLS is the standard currency delivery system and processed within the FX space and that met our requirements. We wanted the market participants to have confidence in our product in the way they were structured but also in the delivery process if they wanted to go through delivery of those instruments.

So in a nutshell, our FX offering mimics the existing and dominant market structure as much as possible with the idea to offer a complementary transparent and efficient exchange-listed and centrally cleared FX segment.

Antoine Haddad: **Here is quick question for you regarding costs - do you have any particular features for long term holders of currencies so they can minimize their quarterly roll costs?**

Renaud Huck: **It's true and it is a very interesting question about the futures contract. If you are a portfolio manager or a small or large hedge fund, you are going to have to roll your position on a quarterly basis. It's true that it does add on the cost. We are conscious of that and that is why the pricing of our futures are in-line with the fixed income pricing that we have for other futures. So it's now really a question of whether you are or not member of the exchange and are paying a multiplier of what a member would pay if you are a non-member.**



So in this case it's $0.30, this information is in the public domain – on our website – so $0.30 per contract and you have the possibility to benefit from volume incentive if you are very active. Still, the question that you raised is something that we are thinking about breaking potentially by looking for example from that quarterly cycle of the rollover of the position to maybe going forward having yearly contracts. So we are conscious about it, but I think that this is something which is very much for the next generation of futures instruments.

Antoine Haddad Coming back to your question about new product launches, allow me to frame my answer within the two separate activities that we have – "Alpha" generation on one side, and "Beta" portfolio construction on the other.

Antoine Haddad: Before I speak about the new launches within our alpha portfolios, I will say a few words about the environment for alpha generation. It is no secret that the extremely low volatility environment of the recent past has not been extremely supportive for the "trading-skill" alpha that we tend to look for. Looking forward however, I cannot imagine volatility in equity markets or foreign exchange markets, for example, remaining near their 15 year lows at 12% and 5.5% respectively. The coming expansion in volatility will help two things: first it will help improve the return profile of short term directional traders, and second, it will increase the appetite of long-biased investors for strategies that are more defensive and neutral. Both points will be supportive for the strategic development of our "alpha" arm.

The new development on that front is that we are internalizing some of the alpha strategies that we used to access via allocations to third party funds. Instead of allocating the assets of our pure-alpha "Aperio Master AlphaStrategy" product to external managers, we are hiring portfolio managers to run those strategies in-house. We are doing this because institutional investors, in the current risk compliance climate, are requiring full transparency from us, down to the position level, something we weren't able to offer as a traditional fund of hedge funds. This has naturally led us to build our own internal systematic trading strategies and prop-trading teams, replacing some of the external managers with internal managers. That is one significant change in the structure of our alpha department. It is this constant effort to innovate on the multi-manager side of our business that has helped us post positive returns during the 2008 financial crisis.

On the beta front, we are launching two UCIT funds - the "Sequent GTAA – Cross Asset Risk Premia" and the "Sequent TAA – Equity Risk Premia" trading programs. Both programs will be long-biased, but will rely on risk premia building blocks to diversify their exposure to the various asset classes they are exposed to. Both launches will be done in partnership with CBP-Quilvest, an innovative Luxembourg based private bank that has clearly moved away from the simple product distribution model, and that focuses on finding optimal investment and management solutions for its clients.

These launches follow a strong interest from both practitioners and academics in the improved portfolio construction that can be achieved using risk premia (sometimes referred to as factor based indices, or smart betas). Our focus at Bainbridge has been two-fold: In a first step we have embarked to create systematically the various known risk premia (traditional, value, carry, momentum, etc.) for each asset class (equity, fixed income, foreign exchange, commodities), and in a second step, we have overlaid a tactical component allowing us to change the portfolio weight for each risk premium.

Antoine Haddad: Risk premia products are no longer a novelty; most bulge-bracket banks have successfully rolled out their suites of "risk premia" and "smart beta" indices, with great interest from Nordic and US pension funds. Risk premia such as value, momentum, carry (and many other premia that are well documented in academic research) provide very efficient portfolio building blocks, simply because the correlations among risk premia are generally low and relatively stable. Their use in portfolio construction can help achieve more efficient returns than those achievable using the traditional geography or market cap building blocks that are commonly used in many portfolios today.

Our two new products – the Cross Asset portfolio and the Equity Only portfolio, will use risk premia as their diversification engine. The differentiating aspect these products have is their reliance on a tactical module that uses various macroeconomic variables, allowing their exposure to the various risk premia to vary over time. Both will be managed using average and maximum VaR targets.

Ewan Kirk: There is a mathematical definition of beta and it is the undiversifiable market risk. When it comes to equity index beta, the beta that we have, say, from the S&P, we need to bear in mind that there is only one S&P and only one way of market cap weighting equities, and it's absolutely free.

But in terms of foreign exchange carry, what's your beta for that? What if you've got one and I have got one, and mine is different? It's not really a beta then. Maybe my beta is more beta than your beta. Maybe your beta has got more alpha in it than my beta. Additionally, there are costs associated with dynamic positions so, in a sense, it can't be beta.

If you have a dynamic trading strategy, it's not beta, it's just a dynamic trading strategy. Or to look at it another way, it's just a systematic trading strategy that happens to have worked in the past.

Risk parity happens to have worked in the past. Another way of looking at this is that it is quite close to selling a back test and I feel that some smart beta products are skirting that a little bit too closely.

We have a cost-effective trend and value product in the macro space. I am not saying that is beta, but just a cost-effective systematic trading strategy. That's all it is, but I think many people would call it a beta strategy.

Antoine Haddad: Correct, a lot of people name all these new strategies smart betas, factor-based indexing or risk premia. I agree with Ewan that, ultimately, these are simply systematic trading strategies. We like to categorize or sub-categorize these systematic trading strategies under various labels. Some systematic trading strategies can be as simple as adding a risk-parity module to a long-only portfolio, other systematic strategies can rely on filtering the instruments traded with a market capitalization filter, or a geography filter. In our program, we have chosen to use a well-documented category of systematic strategies – equity and cross-asset risk premia.

Our ultimate goal is to improve the efficiency of our portfolio with a basket of systematic strategies that fulfill the following requirements; they have to have a strong and well documented economic rationale, be very liquid, and can be easily modified to achieve a "long bias". Many cross-asset risk premia fit those requirements.

The academic literature of the last 30 years is filled with papers and research that support the existence of certain premia in various asset classes. The research we investigate is only a first step in the validation that we are looking for; it provides us with a rational fundamental premise for a strategy before inclusion in a portfolio. In a risk premium (such as carry, or value, or momentum, for example), investors are "paid" a premium for taking a risk away from other participants not willing to take that risk.

The true advantage of this approach derives from the fact that risk premia can provide portfolio managers with a greater number of low-correlation portfolio building blocks than the more typical geography and market cap building blocks.

Antoine Haddad This is the direction we have taken at our firm; we are creating, for example, products that will be replacing some of the "equity beta" clients are searching for with baskets of equity risk premia. We are also creating portfolios of "fixed income beta", with a tactical basket of fixed income risk premia. If clients are looking for commodity exposure, we will give them the option to participate more efficiently in the upside of commodities via well-known commodities risk premia.

The tactical aspect applied to risk premia is critical to the success of our approach. Most of these risk premia may suffer from down periods, should they become "overcrowded". We look to use our tactical approach to navigate the short term negative environments that these systematic risk premia will encounter, and take advantage of their well-documented long-term sustainability.

Ewan Kirk: I may be wrong, but I do believe there could be a small problem embedded in this approach. Let's take the size bias as a specific example. This is a well-known factor premium. If you can manage the risk and buy small companies rather than buying large companies, over time you outperform the index.

The trouble is we can't all do that, else eventually every company will have the same market cap. For example, a tiny Norwegian fish canning company would have the same market cap as Apple because if we all invest in small stocks they become big stocks and the premium goes away. So although it has been true in the past, if everyone does it, it goes away by definition.

Oliver Prock Sure, but not everybody is doing it. I gave up on trying to respond to potential investors "Why is not everybody doing that?" The short answer to this is, "because they don't". Of course there is a long answer as well...

Ewan Kirk: Right, but still, not everyone is doing it. So there is a first-mover advantage here and you need to get into small caps before everyone else.

We should realise that there is no getting away from market cap weightings for the market; everyone has to be market capital weighted on average. However, maybe some people are smarter and buy the small cap stocks, value stocks or low-beta stocks, or they buy the high yielding currencies and sell the low yielding currencies, but this is not a solution for the industry, it's only a solution for first movers.

Stuart MacDonald: Smart beta has become a very popular concept, particularly amongst some leading institutional consultants. And smart beta, like any other umbrella term, covers a whole variety of different things. There is smart beta going on in credit, for example. Others position risk parity as smart beta or as we do at Aquila, as smart systematic beta.

When I first came across the concepts of smart beta and risk parity, in common with many other people, I felt that you could apply it to almost any mix of anything, but actually you can't, particularly if liquidity plays a role in what you're doing.

Ewan Kirk: The aspect that is often overlooked in risk parity strategies or indeed any systematic strategy is the role of execution costs. To go back to cap-weighted equity indexes, this is free because you don't have to trade. However, if it just costs you one basis point a day to rebalance your position, which is not an awful lot of money, but that one basis point a day is 2.5% per annum. That is a lot of money and you are already paying that into the market just to get to your risk parity position.

The cost of trading dwarfs the cost of management fees - it's the cost of trading that you really need to worry about. That is why implementation of such strategies matter. We all know certain strategies work, but in the end it's all about how do you do it.

Stuart MacDonald

You need to look at the execution or general implementation costs, but the hard reality is that the manager has to make sure that they are kept down to a level sufficiently low so as not to make their charges uncompetitive.

There are Risk Parity strategies that are quite stripped down in their substance and therefore appear to be inexpensive. As with traditional hedge funds, the fee levels ought to reflect how much is actually being done over and beyond the basic, but nevertheless it's in everyone's interest that the costs are kept down. Something that we may go on to later in the conversation is the role not just of execution and implementation but also matters operational as a whole, which is increasingly being seen almost as a source of alpha.

Akshay Krishnan: We have talked a lot about betas, carry, risk parity and systematic trading in this discussion, however at Stenham today we have taken a slightly different approach. Within our macro fund of funds today we are purely focused on discretionary trading strategies. This is more a temporary rather than permanent change.

Around 12 or 18 months ago, we started to feel a bit uncomfortable regarding the potential impact of the end of QE on CTAs especially considering the level of leveraged long fixed income positioning. We also noticed systematic strategies had entered new markets to identify sources of carry, such as emerging market interest rates, credit derivatives; markets which we think are more prone to liquidity gap risks. I'm interested in your perspective on how you think systematic strategies will handle this potential inflection point as we perhaps embark on a tightening cycle led by the Fed as well as extending systematic strategies to newer markets?

And finally another question I have as an allocator for everyone here is that as Stuart pointed out a lot of things are being wrapped in risk parity or in smart betas, so sometimes I do worry the end investor isn't fully aware of what they are getting.

For example, we often hear about investors using certain systematic strategies and risk parity approaches as a diversifier to their pro risk allocations elsewhere in the portfolio but then also people can be unaware that these strategies can have a very long equity positioning right now, or short vol, or long carry in some ways. I am curious to get your thoughts on those issues.

Stuart MacDonald: I think the majority of risk parity managers out there are not jumping around wildly between different asset classes or whatever they may be exposed to. We certainly have clearly defined bands for our exposures, and therefore I am not quite sure where you are coming from on that.

And I really wonder why people question the concept itself. We are directly aware of nearly 20 different risk parity managers, some of whom are running more than one variation on their theme. Some are not correlated to the others at all, because they all have their different takes on what instruments to use, what mix of asset classes they use, what liquidity they want, what measures they are using in terms of backward looking risk to make adjustments to their exposures, if they make them at all.

I find most critiques of the risk parity concept slightly fatuous if one accepts the basic premise that effective diversification is the cornerstone of successful investment and if one believes, as many do, that this can be achieved only by selection at the level of broad asset classes rather than at the level of sectors or geographies, let alone individual securities.

Stuart MacDonald

If one accepts that as an industry, we face certain limitations in our ability to make sustainably effective predictions and if one compares the performance of such strategies against most others, then I don't really see how the critique holds. In any case, no one would sensibly suggest that everything is put into one strategic basket, however broad it may be.

Ewan Kirk: What we, or in fact all risk parity managers are saying, is that ex ante on a risk-adjusted basis, the Sharpe ratio of every asset class or every asset is identical.

That is of course coming from the fact that it's unknowable. Ex ante, I don't really know what the risk-adjusted returns of bonds are going to be next month.

So, if you don't know, then your best guess is they are all equal, on a risk-adjusted basis. That means the Sharpe ratio of every single one of my positions is the same. If you are saying that, then that is risk parity. In fact, that is all we are saying and it seems like a reasonable thing to say. There is a discussion about how you do it, but I think it's a great thing to do.

On systematic managers being long equities and long bonds, what would you like us to have done last year? Systematic macro is an uncorrelated asset class. If you are going to be uncorrelated to equities, sometimes you will be long and sometimes you will be short. We are not a hedge, so by definition there are going to be long periods of times where CTA managers will be long equities.

In fact, you would probably expect CTAs to be long more than you would expect them to be short, because on average it appears as if equities have gone up, and so have bonds. Therefore you would expect CTAs to be long equities more often.

Akshay Krishnan: Right, I totally get that about systematic managers, but the question for maybe Stuart and Ewan: from a forward looking perspective, how do you think about this potential rate rising scenario and what central banks might do next year? That is question one.

And secondly, maybe this doesn't apply to Cantab, but I have seen a lot of other CTA/systematic managers get into things like trading swaps in South Africa or swaps in Brazil or credit indices or power, and I do worry just about the liquidity impact of going into these markets, and will investors, who may think of these guys as a hedge, be surprised when we have an end of QE scenario?

Stuart MacDonald

Regarding QE, I cannot tell you how many investors and consultants over the last couple of years have been riding the consensus that emerged about imminent rate rises. The question has become, for how long does the consensus have to be wrong before you accept that it may be wrong? And one of the premises on which this is based is the difficulty of making forecasts with pinpoint accuracy.

Ewan Kirk

As Niels Bohr, the Danish physicist said: "prediction is hard, particularly about the future". The received wisdom for the past four years has been that rates just cannot go any lower, but they have. And some CTAs have made money when it's turned around. We in particular had a very difficult year last year when it turned around, but then it has come back again.

We are not pure trend followers. But if we talk about trend following here–

Oliver Prock

When I hear "predictions about the future" I need to add here that actually we do exactly that in our Directional Market Strategy. The model forecasts each market one day out, and I agree, it's hard!. Ewan, excuse me but can I ask what exactly you are into, if you're not a trend follower?

Ewan Kirk: We do momentum, value, risk premia, some short term trading, some cash equities, so we are systematic multi-strategy.

Now, if QE ends, then presumably your world view is that rates are going to go up and bonds are going to go down. If you really have that view, you don't need a manager, because you can just go short bonds. If you have a very clear view that rates are going up and bonds are going down, to express that view through complex, heterogeneous CTAs doesn't seem to be the most efficient way to do this.

Now, of course the reality is, if your view is true, then presumably rates will start to rise and bonds will start to go down, and presumably that will continue and that's called a trend. And then you would imagine that trend followers would become short bonds.

So yes, we have been long bonds and it worked out well. But that's not the same as being a long bond fund. It just means that the trend in bonds has been up.

CTAs will get short bonds, but they are not going to get short bonds tomorrow. It's going to have to cause some pain, but eventually, if it really is the case that rates are going back to say 6% next year, which is unlikely, but presumably the models will pick it up.

Akshay Krishnan And on the second question about, starting to invest in less liquid markets--

Stuart MacDonald I don't see that happening.

Oliver Prock Right, I don't see that happening either since CTAs do not just add a market for the purpose of adding a market. All these exotic markets are actually extremely illiquid and limited in terms of history.

Ewan Kirk: There are a few things to be said here. It sounds better to some investors to say we trade 250 contracts rather than we trade 70, but it's not really changing your profile very much. If you are a big CTA, most of your risk is in the 10 year bond, the Bund, the Euro STOXX, the e-mini S&P and the Euro.

If you are smaller, you can afford to go into smaller things, and that's ok. But if you are a large CTA, trading the rolled oats contract doesn't move the needle. I don't see a reason why CTAs shouldn't trade less liquid things as long as liquidity adjusted returns are not affected.

Oliver Prock Well, actually I prefer being called a quantitative manager than a CTA.

Stuart MacDonald I can give you a good alternative euphemism for the term, CTA...

Oliver Prock Okay, I am curious!

So, when CTAs get big, the commodity exposures will be lower, because that's typically the illiquid stuff, as Ewan pointed out.

I have a question for Akshay. In your multi manager macro fund, are you just investing in discretionary traders?

Akshay Krishnan: As a macro fund of funds we look at both systematic and discretionary strategies but we don't feel compelled to have fixed sub-strategy allocations between the two. We think of all our managers having the ability to add diversification to our portfolio.

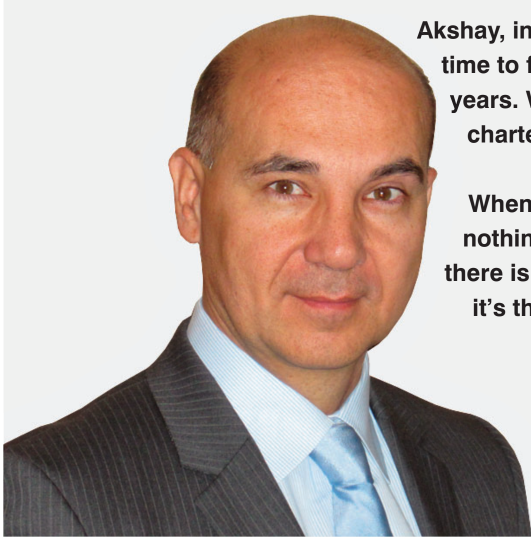
The decision to reduce our allocations to systematic trend following strategies is a view we have had for the last 18 months, and it's not something permanent. Further, it's important to clarify that in our case it was also a bit more specific to one or two managers where we were uncomfortable with their levered positioning, and this obviously varies by manager. We have been investing in macro strategies since the late 80s as a firm, so we are very familiar with the space, but we don't claim to foretell what the markets hold.

I think what I do worry about is when I talk to other allocators, a lot of people are using systematic trend followers as a hedge within their book, and I am just worried about how they are going to react when you have a replay or an inflection point like we had last May and June, because it's something that's going to affect the entire industry, including macro in general. So it was just to throw out the question from that perspective.

Oliver Prock: I think I can answer this from my perspective. We are a quantitative manager, and trading very sophisticated strategies. I gained experience in the CTA space since the early '90s, and I have done all the mistakes you can do.

The current environment is a conundrum. It is kind of very hard to understand for discretionary traders. Typically, I receive a couple of questions from allocators like "if bonds would start to fall, would you adapt your trading model?", and in our case the answer to them is: The model runs for 11 years untouched, so we think it is robust.

But in any case, discretionary traders either need to adapt as well or if they are not able to then they need to drop out. So why would it be bad to adapt a model? But as I said, in our case we believe we have a robust model for all market environments. So in fact we did not need to adapt the model, but what we had to change was the way we approach execution and slippage. We needed to make sure to not lose any alpha through execution.



Akshay, in your macro fund you invest in discretionary traders. I am having a hard time to find the ones that were really good, particularly during the last three or four years. With QE and all the central bank activity, the markets are in rather un-chartered waters.

When bonds go up, allocators want that we have bonds, right? So there is nothing wrong with making money in bonds when the price goes up, and I think there is nothing wrong to have a model that is robust and able to figure out when it's the right time to short bonds.

Having said that, our model forecast prices and measures the forecast quality. It will short bonds definitely at the right point of time. However, I think it might take another year or so, who knows what the future really holds?

As a side note, I thought it was interesting hearing Ewan talking about Sharpe ratio. I thought physicist always say that Sharpe ratio is a very stupid number.

Stuart MacDonald People have a requirement to categorize things, and Sharpe is part of it.

Ewan Kirk It's not a bad measure of risk-adjusted returns.

Stuart MacDonald It doesn't have to work totally to be usable; there simply needs to be a common understanding of what it covers effectively and what it doesn't.

Oliver Prock: We use a different measure of risk. It is called Conditional Drawdown at Risk and we optimize for that in one of our strategies. I actually think it is a good measure of risk, because it's just focusing on drawdowns.

We decided to focus on drawdowns since it is a number that actually matters for investors since nobody likes to lose money. If Sharpe is 0.7 or 1.1, this is secondary.

Coming back to the point whether models can adapt better to the environment or discretionary traders can. I have issues finding discretionary traders doing that. I think the best will always adapt, they will always be able to adapt, but the best are maybe 10% or less, not 90% of the discretionary trader bucket.

As I mentioned, in our case we did not need to adapt the model, but we needed to get smarter in execution. If you have ever done a backtest, then you would have found that the price you input in your model is gone already due to lag 1 execution i.e. on the next bar. But if you are able to get to lag 0 execution i.e. on the same bar, your backtest or your trading will always be better than with a lag 1 execution, irrespective of what the model is.

This is what we have basically done in our recent work. We have come as close to lag 0 as it is possible. And that really makes a difference in the current environment. We believe that execution is the part where some alpha is lost, which didn't matter pre-crisis, but it definitely matters post-crisis, especially when risk free rate is at 0%.

Nacho Morais: I wanted to elaborate on something which we touched upon before, the fact that factor-based strategies are basically the sale of a backtest. In this context, I wanted to focus on how over-reliance on some factors can be adverse, if you do not take into account other variables.

For instance, certain parts of the value school are partially based on the fact that during the last 30 years, we have been in a decreasing rates environment. In this sense, many people have made the strategy of investing in bond-alike equities into the cornerstone of their career. The secular down-trend in rates has provided a huge tailwind for these strategies. The fact is that, at this point, this is not replicable anymore, simply because we cannot have another 15-percentage-point reduction in bond yields. So if we extrapolated raw performance data for that strategy, we would not be right.

Also dealing with the data, another dimension to be taken into account is the market participants. If you are looking at something that worked for a prolonged period of time and try to draw a trading strategy based purely on the data, you have to take into account that the market is different now, and that the participants do not operate in the 2010s as they did in the 90s.

Back then in the 80s or 90s, systematic quantitative investing was about second-guessing how the fundamental investors were deploying money, but now you have a large portion of the market that is trying to apply

those kinds of techniques. So, there is a phenomenon similar to multicollinearity, as there is a larger proportion of participants trying to second-guess market behavior in a market which is already heavily participated by second-guessers, and that creates some kind of noise.

From a commercial standpoint, I think that one of the key issues here is replication, defined as whether an investor can replicate the activity of a manager in a cheaper way. On many occasions, we have seen some long/short equity managers behaving like the index or like a very simple mutation of the index. You can even see that phenomenon at the most simplistic end of the systematic strategies, like a trend-following manager that follows just a raw moving-average strategy. You probably do not need to pay somebody 2 and 20 or higher fees, for something that you can replicate with an index or with very simple code.

Ewan Kirk: That is true, but it's not all about the models – it's about the execution. We can all write down a nice, simple trend model, which in gross terms looks great and appears statistically indistinguishable from the best CTAs in the world, but that's in gross terms.

At Cantab, we execute 12 times a day with a lag of 0. The signal comes out and less than a second later we are starting to do execution at that price, and we are managing it, thinking about it and optimizing it to fractions of a basis point. A huge amount of effort goes into saving tiny fractions of a basis point. Again, it is all about the implementation.

The analogy that I use is that we all know how to make a table: it's one flat piece of wood with four legs, and that's all there is to a table. But neither you nor I can really make a table – there is a certain craftsmanship involved.

Just because a simple trend following model does well, it doesn't mean that trend following isn't worth money. It's worth quite a lot of money. If I go back to my statistic earlier, one basis point a day translates into 2.5% per annum. If we can reduce our trading costs by one basis point a day, that pays for the entire management fee, and you get an extra 50 basis points back.

Nacho Morais: What I mean is that replication sets a boundary on the minimum net returns that a manager needs to provide. If I can take a simple trend following model and a trading algorithm, and put it into an ETF, with very low costs, that would be the minimum benchmark that a manager that was to launch a trend-following fund has to beat.

Ewan Kirk: You probably assume that this ETF, with a simple trading algorithm, will cost you less than 1 basis point a day to trade. But more likely, it is not going to be 1 basis point a day. Simple trading algorithms don't cost you 1 basis point a day, not across a 100 different assets, with volatility weighting, execution at different times of the day, relative value execution - all of that is really hard to do.

This means that this ETF is probably going to lose money, because it's likely going to be paying around 5 basis points a day, which is 12.5%.

Nacho Morais: **I agree with you, but you are focusing on the reality of your own specific implementation of the strategy, with your own expertise, size and trading frequency. Talking from the buy side, I can tell you that I come across much simpler models with poor execution being marketed to us.**

For instance, and I am not talking about something happening in 2005, but this very week, I got a call from someone who is setting up a fund that implements a very simple – directly observable – strategy, rebalances it every week, and puts it in a fund format.

I guess the point I am trying to make is that either from a fundamental or systematic standpoint, managers who are applying very plain vanilla strategies, even if they make some money, can be beaten by something passive, either an index or a basic investment rule.

Ewan Kirk: **Yes, of course. Probably everyone around this table has been beaten by something passive -- by the S&P 500 last year. That was a nice, simple strategy.**

If you can get into a nice, passive strategy at the right time, then that's a free strategy that can make you 30% a year, with no management fee, no performance fee. But you have to be able to pick that.

Akshay Krishnan: **Can I ask a question regarding the regulatory environment? I would love to hear your views here. At Stenham, we are focusing on three new products that all have a theme related to the regulatory environment albeit in different ways. We launched a credit fund of funds last year, which is focusing more on just the bank deleveraging opportunity in Europe and invests in distressed managers who can take advantage of that.**

We are thinking of launching a UCITS macro fund of funds, where we will look at both systematic and discretionary strategies. We have that lined up for later this year, and this fund is also relating to regulation regarding offshore investing in Europe.

But perhaps most interestingly, we launched a healthcare equity fund of funds last year, so that one is based on regulation in a very different context. There is a lot going on in the healthcare space with Obamacare, changes in the approval process within the Food and Drug Administration in the U.S. and plenty of M&A deal activity as well. We are very excited about this healthcare focused fund of funds we launched last year.

Just shifting tack, maybe this is a question for Renaud, in the macro space when it comes to regulations, I am hearing a lot of about swaps clearing, and about dealers not having the appetite for repo financing and what this might mean for people who rely on that. You talked about the launch of a repo futures, is that right? I am just curious to hear more about that?

Renaud Huck

It is true that with 2008, the regulators globally, at the G-20 summit in Pittsburgh, decided to implement a new regulatory framework; first to come was the Dodd-Frank Act; in Europe it's EMIR. In doing so the regulators basically raised their hand and admitted that they didn't have a very strong oversight of the OTC market condition and situation.

The largest asset class is IR swaps, so they decided to mandate these products on both sides of the Atlantic. It has to be said though that, for example in Japan, they are mandated too; other Asian regulators are also looking at mandating interest rate swaps. But as far as Europe is concerned, the European regulator, ESMA, has decided to mandate via EMIR the post-trading element, i.e., the clearing of interest rate swaps.

Stuart MacDonald So did interest rate swaps close the process of innovation?

Renaud Huck No, it's purely CDS related but – well, CDO/CDSs - but it's true that because they didn't have the upper hand, then well they had to start from somewhere.

Stuart MacDonald We had CDOs before the Crisis; they were just a symptom rather than the cause of the underlying malaise.

Renaud Huck You are right, the real estate market with the subprime issues in the US was a factor and there were different elements at play as well.

Ewan Kirk The other thing is that if CDOs would have been centrally cleared, everyone still would have lost money.

Renaud Huck It is difficult to say so, considering that some of the products that were involved in these circumstances have never been cleared. It is impossible for us to know what the benefits could have been if they had been cleared. In retrospect it is hard to say.

Renaud Huck: The approach that the regulators seem to have taken is to focus on the large asset classes, where on a daily basis a high level of activity and transactions are executed – in particular where from the regulator's point of view it is difficult to assess and measure key components such as the net asset value, value at risk etc.

From a listed exchange perspective, we are conscious that there are difficulties when you try to integrate within your existing processes something that is very new to the exchange-traded world. It is very disruptive because the post-trading process and analysis of bond futures is very different from an IRS product. The risk component and risk analysis are very different, and as you can imagine a clearing house is a very conservative structure, which looks over and over again at the risk parameters. In case of swaps, CCPs are initially faced with a product that is very different, which has a very different geometry, very different components, and then you have to acquire the understanding on how to clear that instrument.

These were the questions that our clearing house had to ask itself - can we clear those products? Interest rate swaps are perhaps fairly easy to understand in terms of their mechanism, but there are some products, like swaptions, which are far more complex.

Renaud Huck It's true that if you look at it from a very holistic point of view, there are products which are easy to integrate within a clearing house, some which are more difficult, and where one can wonder what the benefits are going to be, and whether it's really possible, and even whether it is necessary. Not all markets necessarily need to be heavily regulated; some markets do work perfectly the way they are and the way they are structured.

We look at it from a service provider viewpoint with a very strong vested interest; the regulators look at it from a very agnostic, a very superficial view. We pay a great deal of attention to this because that is our role - we have been created to serve this industry.

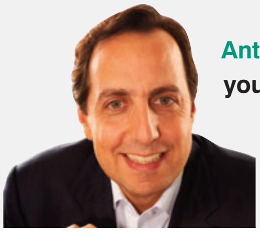
Akshay Krishnan: Do you think that we will see more dealer appetite? As the swaps are being given up to the exchanges, will that mean the dealers will engage more and be more active? What we have heard is perhaps the opposite, that the appetite to take any, even market-making risk, has not really gone up. I am just curious how this plays out?

Renaud Huck: There are two sides to a coin; the first one is that dealers are not charities. Investment banks have shareholders and they make their business decisions with them in mind, looking for the best returns from transactions.

A few years ago, they were the dominating force of the OTC space.

Also, investment banks are very flexible. Throw them any regulation and they will bounce back. It is interesting for us to see that yesterday they were completely against; tomorrow and today they are more in favor, and are willing to be more active going forward..

However, I do feel that the sentiment is changing. Earlier you were alluding to repo futures, it's true; the buy side will find difficulties with extending credit lines, refinancing capabilities, so other possibilities will have to be offered. An alternative can be repo futures – or perhaps this is the start of a whole new path.



Antoine Haddad: What I can add is that anytime a security or a liquid market moves to a listed venue, you also open up that market to a whole new set of players, including systematic players. Most systematic players are very hungry for data that is clean, consolidated and normalized, and the liquid exchanges do that for you. So in general, listing something on an exchange is certainly a step towards improved liquidity.

Matthias Knab We had some references in this discussion about the difficulties of discretionary macro managers in this environment. Akshay, you manage a macro funds of discretionary traders, what was your experience in discretionary for the last couple of years?

Akshay Krishnan: To be honest, it has not been that bad for macro. Last year was actually a good year for people. There was obviously the Japan trade and there was the short US fixed income trade in the middle of the year, and EM weakness, which people participated in, so it has not been that bad.

I think this year has obviously been a bit more challenging as some of those themes haven't worked, but I think in general it's what people have alluded to. I guess we have been in a market regime since ’09, which has been very pro-risk and volatility across all asset classes has been very suppressed which has been a headwind for macro.

I guess our view, which may be wishful thinking, we think maybe we are coming towards the end of that regime, and as you kind of have some monetary policy normalization, maybe you have renewed opportunities for interest rates and foreign exchange trading, which is really the major part of the toolkit for these guys.

But no one has stood still. I think people have found ways to adapt to the environment, and for us as allocators we have had to bit a more inventive and just don't buy the big blue chip guys alone, but look for emerging managers, smaller managers, people who are a bit more tactical, trading-oriented, focused on specific niche markets.

Like in Asia, for example, there have been active central banks and monetary policy divergence over the last 12 months, so an Asian macro fund has found decent opportunities, especially this year.

Matthias Knab Nacho, you are also an allocator, how have you been navigating those last couple of years?

Nacho Morais: Reasonably well, actually. I think the asset mix that we had helped us here. For instance, we started getting out of EM macro quite early, which was good in the face of the drain in liquidity that happened in the sector, since the tapering was verbalized in May 2013.

On the fundamental long-short equity side, I think we have done pretty well, too. We have been able to put together a stable of managers that actually have been able to navigate the regime of 2012-13 well, and take advantage of opportunities, whilst not getting killed in some of the situations that we had earlier this year in their space.

With respect to the latter, at some point earlier this year, the market went short crowdedness. Despite some managers being impacted by it, in general we managed to have a sufficiently diversified portfolio to digest that, and actually some of our managers did well in that environment.

Nacho Morais: I think that also tells you what sort of differentiation you have on managers. For instance, you could see that basically during all of 2013 and the first part of 2014, there was a very clear trend, in the form of outperformance of growth stocks versus value stocks. This was firstly prompted by the expectation of tapering, meaning that you would actually need EPS growth in order for a company to experience share price increases. Having a stable, quiet cash flow would no longer be the asset it used to be. Secondly, some sexy single-stock stories in the hyper-growth camp went parabolic within this environment. All this became a crowded, one-sided market and massively reversed when there was no marginal buyer left for the trade.

You could see a lot of funds actually following that pattern of return, not by the millimeter, but very closely, so a lot of the return could have been replicated. One has to analyze whether this is a situation that happened just in this timeframe or if it is something structural to the style of the manager that I can then replicate in a simpler, cheaper strategy. Is the differential in fees that I am paying worth the potential differential of return with respect to the passive strategy?

May I introduce one question on the point that arose on the transition from OTC to exchange-settled markets and how it would also result in clean datasets? Do you think there will be certain effects or consequences for the quant trading sector?

Is this more of an opportunity for quant managers to step in on the base of that clean data, or more of a barrier to entry vanishing for those managers who already had their own data from their OTC activity and used that to get a competitive edge, which is now fading?

Ewan Kirk: Let's take interest rate swaps as an example. Interest rate swaps have been traded for a very long time and there is good data on US swaps, German swaps, and Japanese swaps going back 20 years. Even in the early 90s there was basically a choice market on a 10 year interest rate swap – it was that tight. I am skeptical that the exchange is going to be able to reproduce that.

So there is lots of good data on interest rate swaps, but the problem with interest rate swaps, and let's take U.S. swaps as an example, is that although they are different from the 10-year bond, they are not that different. If the 10-year bond goes down, the interest rate swap goes down as well. They are very highly correlated. If you look at the Eigenvectors in the group or assets, adding interest rate swaps into a typical mix of fixed income futures doesn't give you any more diversification. Adding in electricity, which is very illiquid – we don't trade it, but I know some people do – is really different and totally un-correlated to everything else. So it might add some value, but for the things that are being cleared now like interest rate swaps or currencies, those are not the things that we are short of liquidity.

On the other hand, one of the issues of new asset classes is that, unlike with interest rate swaps, there isn't a 20-year history for power or credit. With so many changes in the regulations, in the structured CDS contracts and so on, this proves to be quite difficult. Meanwhile, in the large established markets you can access a lot of history.

Obviously, the one series that everyone knows going back to 1929 which is the S&P - the whole market and academic community knows that 100-year history of US Stocks. With controlled currencies and Bretton Woods, currencies are meaningless if you go before 1971. The first commodity contract was heating oil in 1983, and then everything else is post 1980 or 1990.

So we don't really have a lot to play with. Yes, it's great that we are bringing new things on like power, heating degree days and frozen shrimps and maybe my children will run a hedge fund based on that in 30 years' time, but not us.

Oliver Prock: So I think that was a "no" to Nacho's question if quants would trade new asset classes like listed interest rate swaps. I would also say no, and that is despite allocators wishing for that to happen, but what I wanted to point out here is that we are probably a bit too optimistic on the regulatory side.

One of the main issues here is that on the one hand the industry doesn't have one voice and that on the other hand the regulator seems to be have lost the view on smart regulation and interferes with all aspects of the business in a way that does not really make sense, and I wonder if at the end they will undo and roll back...

I believe the regulator is in uncharted territory, and they don't know what they are really doing. For example, Germany comes up with this algo trading regulation where they now say that an iceberg order is an algo, whereas with the CME it is an order type, not an algo. These types of things cause real problems and costs and make products more expensive for the investors. Very likely allocators don't hear so much about such issues, because people don't talk about it, but these are some of the challenges of today's environment. Actually you now need to register as an algo in Germany when you are executing an iceberg order which we actually should not even bother since it is a standard order type.

Stuart MacDonald: Such things are more often than not an instrument of trade or other areas of policy rather than being about protecting the investor. And it is clear that vested interests are often at play.

But, not all forms of regulation are malign in practice or intent.. Some can be inconvenient, but they can also create opportunities. The Volcker rule, for example, has meant that some people who might otherwise be embedded within investment banks are available as talent for the hedge fund industry, so it's not all bad.

But I agree, regulations are part of the “raising of the bar” that is one of the industry’s most abiding issues: the progressive asphyxiation of the pipeline of emerging managers, since regulatory overheads make it even more difficult for them to become viable in their early stages.

Oliver Prock: Still, if you allow I would like to add one more thing out of my experience that shows how bad the environment is from the regulations' side.

I was participating in the UCITS public consultations in regards to financial derivatives on financial indices that was set up to review existing rules about indices in UCITS funds, which at that time ended positive for the industry as a liberalization, similar to what the U.S. has now done with the 40 Act funds.

At that time I was lobbying and also established an association through which I participated in the ESMA Consultations from 2007 onwards. ESMA follows a so called “Lamfalussy process” where they basically question market participants like stock exchanges, associations, and fund managers, to provide supporting views to the regulator.

Once they received all the answers from market participants, so after the public consultation, ESMA then evaluates all statements and adjusts the final view for the common denominator.

But then in Europe, they killed it completely and reversed the liberalization in UCITS. And lately ESMA in the last consultations followed more a contrarian procedure were market participants provide the market’s intelligence, but ESMA disagrees with the participants' own views. This is how bad the environment currently is. So maybe we could call the process now Contra-Lamfalussy.

Matthias Knab And that was on the same subject as the consultation you participated?

Oliver Prock: Basically yes, market practitioners share their intelligence, but then the regulator tells you “oh, what you are saying is very interesting, but we think it is the opposite...”. However, this Lamfalussy process was designed to listen to market practitioners so that the regulator has the opportunity to deliver smart regulation.

Stuart MacDonald Right, consultations do not necessarily mean that anyone is actually listening...

Oliver Prock Well, all parties including the regulator should really be committed to such a process. Since the regulator bound itself to the Lamfalussy process so they should use the market intelligence to develop smart regulation. But the current regulative environment is so bad that the regulator acts more based on the assumption that they do not understand it anyway, so the best they can do is to ban it. This is really bad for the market and for innovation.

Stuart MacDonald Very likely, industry's or financial markets' efficiency is not uppermost in their considerations.

Stuart MacDonald: We recently we did a survey of institutional investors and one of the big things that came up was the number who felt that their mangers – and this is across the board, not just hedge funds – have style drifted, often substantially. Perhaps there could be protections against this phenomenon of not doing more or less what it says on the tin. So I wouldn't dismiss all notions of investor protection.

Oliver Prock I don't quite follow, why are you now bringing up the issue of style drift in this context?

Stuart MacDonald I was just giving an example of where regulation can have a positive and protective role.

Oliver Prock: Well, I have a different view to provide. Actually regulation can also force a fund manager to style drift. If you look at what has been going on in the last three years in the UCITS sector, some managers needed to style drift due to reversing of changes in UCITS law. So regulations forced them to, and continue to force them to style drift.

Akshay Krishnan We have heard of opportunities for example where an investment bank has been tapped on its shoulder and told they can't hold any credit risk that's worse than triple B, and then a structured credit hedge fund comes along and says, "hey, I will provide liquidity to you and take this risk off your book", and they are actually making money for example doing that..

That is happening not just in credit but even in FX where we have heard stories for example when a large sovereign needed to execute a certain trade in a really big size; the dealers are not able to warehouse any inventory risk, so they call on the hedge funds who are then stepping in and making more money from market making, if you will. We have heard a number of stories like this where as liquidity providers some hedge funds have managed to find unique opportunities.

Ewan Kirk But that should remind us of the liquidity crises, where we saw hedge funds suffer some serious liquidity issues.

Akshay Krishnan Well, maybe not necessarily, I am referring to firms here who survived 2008 ok, although each crisis is different, some of these funds have navigated 2008 and other market more volatile environments.

Renaud Huck: I have a question for Ewan and Antoine; Ewan, earlier you touched on the difficulty of diversifying asset classes you trade. We discussed the fact that some new products in fixed income may not necessarily diversify the return stream, while some of the smaller or newer asset classes will have liquidity restrictions, and because of size considerations, won't make a noticeable difference. So I was wondering, going forward, how are you going about avoiding the trap of concentration of risk?

Ewan Kirk: It is a tough question and there is no 'right' answer. Like everyone, we define a universe within which we have to work, and whilst we might wish that Chicago heating degree days was more liquid than it was, it isn't. For example, we have the CSI feed which lists 1500 commodity contracts, including Dalian Commodity Exchange PET (polyethylene terephthalate) contract, so you work with what you have.

Then you need to generate a cost model on a per asset basis. How much is it going to cost me to trade 10 lots of this contract at 9 o'clock in the morning? How much is it going to cost to trade 100 lots of this at 10:30 and so on? This cost model is then inserted into an optimization routine, and tells you what you can trade. It gives you an answer, which isn't perfect, but I would question how else are you going to do this?

You will have some idea of what your ex ante gross Sharpe is, or your gross return or depending on how you want to do it, your gross risk-adjusted return. You calculate what you net risk-adjusted return is, how you put it altogether, how you can reduce the trading cost.

For some definition of the word, this is optimal. There will be things that are clearly suboptimal, like putting all of your assets in natural gas. But there are more optimal solutions than this, and if you look at the world on a cost basis rather than a gross basis, you can find something which should be stable and generate the highest after costs return.

So when new contracts appear, then we have to produce a cost model. It doesn't help just to have some data: we have to look at the order book, collect data on the order book, look at the impact of different size trades on the order book, and build up this complex, nonlinear model of cost. Then, maybe we can trade it.

Antoine Haddad: The concentration-risk problem at hand is quite simply re-stated as follows: as a manager, you want to get your hands on as many "non-correlated" or "lightly correlated" assets as you can, and you want to weigh them in a portfolio in a way that will maximize, after cost and slippage assumptions, the efficiency of the return stream. The curve-ball in this statement is that "slippage assumptions" are a function of the percentage of one's participation in each market. For markets where liquidity and volume are not ideal, the slippage assumption will rise, and the output of the optimization will hardly leave any meaningful position in that market.

When you reach the point where the marginal improvement in return efficiency is so slight after the inclusion of a new market with a high trading cost assumption, you have to weigh the benefit of including that new market, versus the potentially unnecessary increase of complexity to your portfolio.

Renaud Huck So theoretically, when an asset class is brought into a listed format, it should help you in the longer term, right?

Ewan Kirk Longer-term yes, but I think this is in terms of years, rather than months.

Antoine Haddad Yes longer term, and subject to the condition that it's not duplicating something that already exists, as Ewan mentioned earlier in the example of interest rate swaps versus 10-year bonds. If the new asset has a low correlation to the existing mix of securities in your existing portfolio, it goes without saying that your portfolio optimization process with this new asset will yield a more efficient portfolio..

Ewan Kirk: **One of the best opportunities that you could look at from an exchange perspective is cement. It's the world's biggest commodity – it's even bigger than oil – and there are no futures contracts on it. Or steel is another good example! Steel is used around the world and the LME doesn't do a steel contract for actually quite good reasons, because it's quite complicated.**

But nonetheless, things like that will make a difference. We trade billions of dollars a day of OTC foreign exchange, and while having a listed Cable contract could be nice, it doesn't add extra alpha.

But, a steel or uranium contract – something that is really different – would be great. Of course, the problem is that there is a history of failed contracts, such as the propane and European gasoline contracts. Just in commodities there were lots of ideas of contracts that should have taken off, but they never quite made it. But some of the things I mentioned could be game changers, for CTAs in particular.

Oliver Prock: **I really like that Eurex is working on new products, and that you are optimistic. Eurex already provides a lot of relevant contracts to the market.**

But, I believe the one thing exchanges miss is designing all contracts cash settled. The new regulation already forces everybody to favor cash settled contracts. If you look at UCITS fund regulation, physical delivery is at a disadvantage, so in my personal opinion, all the products should be cash settled.

Matthias Knab So it seems to be a major challenge coming up with a real innovation.

Ewan Kirk The last big innovation was the VIX contract. The VIX was a great idea, and it was really well done.

Oliver Prock Sure, but volatility trading never took off in Germany. For example Deutsche Börse launched the VDAX and then needed to re-launch as VDAX-New, because the first one had a flaw, right?

Renaud Huck We have volatility futures and options. We are using STOXX as an index provider, and it's trading actively. It's trading quite satisfactorily, considering the fact that we are currently in a low volatility environment. So I think that is where we take confidence from. We have had products that have been active when the environment was really against them, and also we have seen their maturity reaching decent levels of liquidity outside the quarterly cycles of the rollover period. This shows us that the contract volumes are developing in the right direction.

Matthias Knab Well these things need to reach a tipping point from where on the volume and the acceptance is there. I believe a number of products Eurex recently introduced have reached this tipping point, like derivatives on Italian and French government bonds, right?

Stuart MacDonald They came at the right time.

Renaud Huck: **Yes, it was good timing. In fact, this is a question that we traditionally ask industry participants like yourselves at roundtables such as this one: What is the ideal level of liquidity of a product that must be reached for you to step in?**

We understand this is difficult to answer because not all products are the same. You cannot necessarily compare the liquidity of one equity index with bond futures or a medium-term interest rate futures. These are very different products.

Ewan Kirk: **If you wanted us to use your contracts more, then you should give us the French government bond futures contract and 20 years' worth of data of French government bonds.**

Oliver Prock Exactly!

Ewan Kirk Daily close data would be great. When, in a previous life, we came up with the VIX, one of the things we did was to recreate the VIX index going back through time from options prices. It made it much more accessible because there was a history.

Oliver Prock I agree with it, I fully agree.

Stuart MacDonald That has been so far an extremely rich discussion about quant or systematic trading, managed futures/CTAs and exchange listed products, and so before we end, I wanted to add a few words about one of Aquila's offerings.

On the one hand, we have our long established and broadly based multi-asset risk parity funds and an innovative risk parity bond fund that we launched last year- which was an industry first- and which has performed very well. These are systematic strategies. On the other, one of the main events for Aquila this year was, however, the launch of Aremus, a fundamentally driven European equities focused strategy with a substantial event driven components.

Ewan Kirk Is that one systematic?

Stuart MacDonald No, it's discretionary, with a team that uses its natural judgment to take decisions. I don't think any of us would deny that there is at least a tail of human beings who can for a reasonable period of time, identify opportunities and trade them successfully, whether they are based on broad observations such as the ones which are the basis of risk parity approaches or are based on stock picking.

Stuart MacDonald: **If I have a hope for the industry going forward – because I'm sure that we can get over the regulatory impediments that have been placed in our way – it is that the pendulum will swing at least partly away from the intense institutionalization and polarization to which it's been subject over the last few years. For example, there is some evidence, that high net worth money is coming back into the industry as opposed to the preponderance of institutional flows we've had before the crisis.**

But I think there has to be a concern about the barriers to entry to newer free standing managers. Yes, one can understand the considerations of business risk on the part of allocators. When backing the managers, one can understand, even the regulator's concerns not to have two men on a sheep on a stoop managing money, but if the industry is going to remain distinct from the mainstream with which it's already partly integrated, then the innovation has to be there.

As an aside, the greatest excitement that I've seen over the last year or 18 months has not been at hedge fund conferences, although they are hardly dull and there are some evidence that sentiment has picked up even on this side of the Atlantic, although Europe isn't exactly booming compared to the States.

The buzz has actually been agricultural investment conferences, where about one tenth of the people seem to be people I recognize from the hedge fund circuit. And people are getting terribly excited about what is evidently enormous and growing demand on the part of institutional investors for what's belatedly being recognized as almost the CTA or risk parity equivalent within the infrastructure space: agriculture or farmland is uncorrelated with the others and still offers the same general benefits as many other forms of real asset investment, such as inflation hedging and the capacity to generate an income stream. I wonder, in any case, what anyone has to say about the issues of innovation and emerging managers.

Nacho Morais: You mentioned how the conversation has shifted to the more systematic side of the business, and I wanted to contribute that maybe we should have a more blended approach to the investment strategies rather than strictly separating and compartmentalizing the fundamental versus the systematic guys.

For example, I think the fundamental guys should make more use of systematic tools in their work. If you are doing primary research on the products of a company, you can build a web scraping tool and get real-time information on the pricing of the products of that company.

Or, in other instances, you see managers who make ultra-thorough research on the companies, but then allocate to positions basically through a rule of thumb. There is a lot they would benefit from using the techniques the systematic side has mastered.

On the other hand, when we look at systematic managers, we tend to mainly analyze the stream of returns and try to figure out what the numbers are saying about the strategy and its drivers. The other side of the equation, the human factor, is extremely important. At the end of the day, a systematic manager will have to manage a group of individuals that develop models, to design how they are organizing their engineering process, their corporate culture, etc. These are things related to human organization, which go beyond the pure quant aspects.

You can compare it to, for example, the building of an infrastructure. One may have a model for a bridge, but then going into the specifics of developing and building a certain bridge is a whole different story. You need to assemble the right people, give them procedures, sequences, manage them to work together, talk in a common work language, optimize your resources and care of everyone's safety.

Antoine Haddad: I agree with you that compartmentalizing the industry into systematic and fundamental strategies is not really the right distinction. A strategy can be both systematic and fundamental.

Systematic is not a strategy, but a risk framework. At the end of the day, when you are a systematic trader, you are trading models that have an economic or behavioral rationale behind them. Take concepts like value, momentum, carry, or just trend, all these concepts can be traded by both discretionary or systematic managers.

Most strategies are fundamentally based, and then the systematic part simply acts as an overlay that helps a manager with the sizing and the timing of the trades. The systematic model also helps the manager to mix the trades appropriately in order to achieve an optimal portfolio of "views".

Ewan Kirk: Let me also add my thoughts about the quant distinction. In my view, everyone is a quant. Nobody wakes up in the morning and just decides to go long Gold.

In a risk parity framework, I have no ex-ante view of whether or not discretionary trading or systematic trading is going to be better in the future. I just don't know. In that case, you are probably going to allocate equally between the two, according to the risk parity framework.

There are certain things that systematic managers are really good at. For example, we can handle a hundred different views or a thousand different views at the same time, producing something that broadly has a constant volatility and generally doesn't have fat tails.

But as Nacho correctly pointed out, the key here is about getting the team together and having a positive research culture. I also point this out to investors who spend a lot of time looking at my numbers. Of course, I also spend a lot of time looking at my numbers, and I have a really smart team who are looking at our numbers as well. But there is a limited amount of information you can get out of that.

I have said to investors, "let's just imagine that I give you the total source code for everything that we do. Complete transparency. Does that help you?", and they say "well, it might."

But suppose my biggest competitor is sitting on the other side of the table and I gave her my source code and she gives me her source code, and I look at it. The thing is that I can't tell whether it is better, because you just can't know what's going to happen in the future.

So the things to look at for systematic managers are actually the same things you will look at with discretionary managers: people, organisation, controls around decision making processes and so on. How do you go from the idea you have when you are out for a run, all the way to risking billions of dollars of investors' money on it? If you are looking at all those processes when judging systematic managers, it will also be how you judge discretionary managers.

Oliver Prock: Diversification to quantitative managers definitely makes sense for allocators. I also understand the challenges allocators have to analyze and rate quants. We try to give a hand to allocators by providing information on the team we built, the infrastructure, our track record, also explaining them our models and that they mimic in many aspects discretionary traders but are more disciplined etc. I understand that analyzing idea generation and risk management on a fundamental manager might feel easier than on a quantitative manager. But maybe it actually isn't.

Here it is worth noting that active investment management success is most dependent on how much insight investment managers successfully apply, rather than simply on the decision to invest on the basis of qualitative or quantitative techniques. As more investment strategies become well known, uncovering

and exploiting new opportunities can become difficult for any manager. The best managers, either quantitative or fundamental, will continually invest in research in order to develop both innovative ways to analyze alpha and techniques for exploiting this alpha. We are investing millions of dollars into research and into enhancing the "box".

At the end of the day I think the track record counts. For example, we are annualizing 16% p.a. with Sharpe of 1.2 since 2003.

Stuart MacDonald: Looking into the future, I wonder about the extent to which algo, quant or systematic trading will actually take over our little universe. Will our business go beyond being in effect a cyborg? Will there be a time where the whole construct becomes machine-driven? I can imagine that there will then also be human beings who will find ways to cut across all of this, like cybernetic guerillas. It also occurs to me that we may at some point in the future start referring to managers, not as "he or she", but as "it or they".

How far down the track are we towards one's true competition being an inanimate, inorganic "thing", or do you think we will never actually reach such a millennial end point?

Ewan Kirk: Essentially, no. We make a decision every time we come up with a model or a risk tool. Some people believe that if we just had a complex enough formula with enough inputs, it would tell you what the S&P price is tomorrow. That's not going to happen.

Matthias Knab

Three years ago, IBM's Watson beat Jeopardy experts in real time. Three years from now, something like Watson may beat Warren Buffett.

If you look at the combination of ever increasing data and accessibility of data, Moore's law continuing making computing power ubiquitous and ultra cheap, together with advances in artificial intelligence and robotics, it may not be unrealistic to foresee a time when machines may outmaneuver humans in many fields of our current finance industry – like the drones, self driving cars and cloud-hosted medicine have started to do in other sectors. These revolutions are happening right now.