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Nordic Insights

Northern Trust | Hedge Fund Services

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HEDGENORDIC

Risk Management for Hedge Funds

Editors **Note**

Risk Management is playing an ever increasing role in all segments of the financial industry. Even more in the aftermath of the turbulences of 2008, this is especially true for hedge funds. Risk management takes place and affects many areas of a fund and asset managers operations, from trading, operational set up, legal structure, data and infrastructure to name a few.

Together with Northern Trust, HedgeNordic invited a panel of regional experts to discuss Risk Management and how it is applied in theory and practice within Nordic hedge funds. We were thrilled to be joined by a distinguished, diverse group ranging from risk managers, portfolio managers and academics from across the Nordics and beyond. The topics we discussed in a lively and informative meeting were:

1. What do you incorporate in the definition of risk?
2. May risk and extreme events be defined differently depending on the nature and risk appetite of the specific firm (and person) defining it?
3. Do regulatory requirements mitigate extreme events (so called “fat tail” events) and/or help make their effects less severe?
4. What competencies are needed to handle those “impossible events” defined as “fat tail event”?
5. Do finance professionals already work with preventive measures regarding extreme events?

The format chosen to compose this paper intends to let the reader participate as close as possible and “listen in” to the discussion among industry professionals in their own words.

Enjoy getting some “Nordic Insights” to Risk Management

Kamran Ghalitschi
Publisher HedgeNordic.com

Round **Table** – Participants

Jonas **Löfgren** – CRO, Catella Fonder

Jonas has been active in the financial industry for 15 years working with financial consulting and risk management in several types of organizations including banks, treasuries, asset managers, financial software providers, mortgage brokers and fund management companies. Before moving to finance Jonas worked with cryptography. Jonas holds a master in Electrical Engineering and Financial Economics from LTH and Lund University including studies at ETH in Zurich and NUS in Singapore. Privately he enjoys adventure-racing and philanthropy.

Jonas started the Risk & Performance department at Catella Fondförvaltning and has been heading the department since 2007. Catella Fondförvaltning manages a wide range of funds including hedge funds, fixed income funds and equity funds.

Werner **Braunöck** – CIO, Julia Capital Management

Werner has 12 years of experience in Investment Banking and Alternative Asset Management. Before setting up VERTO Invest, he was CIO of an Alternative Asset Management Fund called JCM and an advisor to international institutions on their Icelandic exposure. Prior work in alternative asset management funds includes being a portfolio manager at Griffin Capital Management, senior analyst at Tisbury Capital Management and before that, analyst at Mellon HBV Alternative Strategies. Werner started his career as an analyst in the M&A Corporate Finance department at Citigroup.

Tom E. S. **Farmen** – Partner, Risk Allocations, Nordkinn Asset Management

Tom started his career as a PhD researcher on credit risk and investment strategies at the Norwegian University of Science and Technology (NTNU). In 2006 he was appointed portfolio manager within fixed income at NBIM (the Norwegian petroleum fund). After 4 years, he moved to the Norwegian Central Bank to re-establish the portfolio management of the FX reserves.

Tom is one of the seven founding partners of Nordkinn Asset Management, where he is responsible for Risk Allocations within the investment team. In addition to his PhD, Tom holds an MBA, a BA in Finance/Marketing and a BA in Political science as well as executive education from Harvard and UC Berkley.

Nordkinn Asset Management AB was founded in 2012 as an independent Nordic asset management firm. Nordkinn aims to consistently provide investors with stable risk-adjusted absolute return through its unique team and local expertise. Operating from Stockholm and Oslo, the team of seven founding partners builds on a collective industry experience exceeding 100 years, with emphasis on fixed income and absolute return. Nordkinn Asset Management manages the Nordkinn Fixed Income Macro Fund.

Struan **Malcolm** – Head of Nordic Sales at Northern Trust

Struan is Head of Nordic Sales at Northern Trust, responsible for helping pension funds, insurance companies, asset managers and hedge funds to find solutions to their administration, technology, and regulatory requirements. Struan has dedicated the last 8 years of his career to covering the Nordic region on a multi-asset, multi-product basis.

Struan previously worked for Northern Trust, ABN Amro, and Nomura as a transition manager covering sales and trade execution for large multi-asset portfolio restructures and delta-one solutions. He started his career in asset servicing and then went on to be Deputy Head of Operations for Northern Trust Asset Management in Europe, where he designed the operational infrastructure to support $20bn AUM of investment activities across passive and active strategies. Struan holds a BA (Hons) Business in Europe degree from the Manchester Metropolitan University and the Investment Management Certificate.

Anthony Glickman – Global Head of Enterprise Risk Solutions

Anthony “Tony” Glickman is a Senior Vice President and Global Head of Enterprise Risk Solutions at Northern Trust, tasked with harnessing the full value of Northern Trust’s hedge fund services, custody, banking and operations platform on behalf of asset managers and institutional investors globally. He has most recently been leading a global project to overhaul Northern Trust Hedge Fund Services’ existing risk reporting and analytics, partnering with technology companies to offer a robust, industry leading risk platform. Glickman has more than 30 years of financial market-related experience. Previous appointments include head of risk services for GlobeOp FinancialServices where he developed risk capabilities and investor reporting tools, including Form PF-reporting.

Tony has worked as a proprietary trader at the former Bankers Trust and Chemical Bank, served as head of proprietary trading, treasurer and head of portfolio risk management at Canadian Imperial Bank of Commerce (CIBC), launched and led bank-sponsored and independent funds specializing in bond arbitrage, volatility-arbitrage and global macro strategies, and served as a consultant to asset managers, public pension funds, central bankers and regulators on strategic risk management issues. He earned an MBA in finance from the Stern School of Business of New York University,where he was a University Fellow.

Simon Reinius – CEO, Optimized Portfolio Management

Simon was the founder and Head of Investor Equity Trading, Investor AB and one of the founders of Speed Ventures NV, where he was Head of Business Development. The company was involved in seed investment in combination with operational support through a global network comprising 10 offices on three continents. The company was sold in 2002.

Developer of macroeconomic models at “Det Naturliga Steget”, Stockholm. The models were utilized to create a mutual fund, Svensk Miljöfond. Simon holds an MSc in Finance and Business Administration from the University of Stockholm.

OPM is an independent Swedish fund management company that offers systematically managed funds in alternative asset classes. The key to the company’s strategy is to deliver attractive complementary investments to institutional portfolios consisting mainly of stocks and bonds. OPM was founded in 2003 with a focus on analysis and evaluation of international hedge funds. In 2009, OPM broadened its operations to include other alternative asset classes to which OPM estimates being able to add long-term excess returns. Today OPM offers one fund investing in global listed Private Equity. All management is done after a systematic approach in which detailed processes are specified for each step. OPM is under the supervision of the Swedish Financial Supervisory Authority (Finansinspektionen) and use PWC as auditor and for independent reviews. 50% of the company is owned by Carnegie Investment Bank and 50% by the company’s founder.

Per Ivarsson – Head of Investment Management, RPM

Per Ivarsson, serves as Executive Vice President and Head of Investment Management of RPM Risk & Portfolio Management AB. Mr. Ivarsson joined RPM in 2003. Prior to joining RPM, Mr. Ivarsson worked for Front Capital Systems AB providing consultancy work in investment banking.

At the time of leaving Front in 2003 he was heading up a team of consultants in the interest rate and credit derivative areas. Mr. Ivarsson holds a Master of Science in Engineering Physics from Chalmers University of Technology and in addition credits in Financial Economics from the University of Gothenburg.

RPM was founded in 1993 and is based in Stockholm, Sweden. RPM is authorized and regulated by the Swedish Financial Supervisory Authority and a member of the Alternative Investment Management Association (AIMA). RPM provides services on investments of approximately USD 3.0 billion. RPM is a specialist investment manager focusing on directional investment strategies: Managed Futures and Global Macro. RPM’s investment products are based on managed accounts, as opposed to fund investments. This allows for daily liquidity and full transparency.

Ante Nilsson – President of Tanglin Asset Management AB, CIO, Partner

Ante Nilsson has worked more than 20 years in the financial market. From 1988 to 1996 he was employed in Brussels, for the first three years as Vice President of Nobel Finance S.A. with operative responsibility for all financial risk management.

In 1991 he left Nobel for a position as SVP at Stora Financial Services (SFS). Until 1996 Nilsson handled business operations and financial trading, with operative responsibility for financial risk management at SFS. In 1996 Nilsson returned to Sweden to take over as President of JP Bank AB. In 1999 he left JP Bank to form the fund company Tanglin Asset Management.

Amira Roula – Founder of Hvitravnur

Amria Roula has an MSc in Finance from Stockholm School of Economics (SSE), a BSc in Industrial Engineering / programming design from the Royal Institute of Technology (KTH), an MSc in international management from CEMS/HEC Paris and a BSc in accounting and finance from SSE.

With a fascination for alternative investments and risk management, Roula focuses on creating order out of chaos. Amira has worked in a fund of hedge fund, the corporate finance division of a large Swedish bank and the IT-department of another, worked with health economics and other fields in finance as well as IT. When not working, Amira loves to do sports in a multitude of formats, going out for coffee and learning new languages.

Kathryn Kaminski – Deputy Managing Director at SIFR - Institute for Financial Research

Kathryn M. Kaminski, PhD, is a visiting professor in industrial engineering and management at KTH, affiliated faculty at the Stockholm School of Economics, and a senior lecturer at MIT Sloan. Kathryn earned her PhD at the MIT Sloan School of Management. Her areas of research include: portfolio management, asset allocation, behavioral finance, and alternative investments. Kathryn lectures on derivatives, hedge funds, behavioral finance, and financial management. In 2011/2012, she was voted Teacher of the Year at SSE as well as being a 100 Women in Hedge Funds, CAIA Scholar.

Previously, Kathryn was the CIO and Founder of Alpha K Capital LLC. Kathryn was also a Senior Investment Analyst at RPM, a fund of hedge funds in Managed Futures. She also has quant experience in both emerging fixed-income and credit markets. Kathryn is a featured contributor for the CME Market Education Group. Kathryn currently serves as an advisor for two hedge funds including Flyberry Capital, a newly launched Big-Data MIT/Harvard based hedge fund.

Kamran Ghalitschi – Publisher HedgeNordic.com

Kamran started his career in 1994 as broker/dealer trading equities and derivatives on the US markets within the asset management division of Bank Austria in Vienna. From 2000 – 2002 Kamran was head of marketing and sales for the online brokerage division of Raiffeisen Banking Group. After a year as PR consultant servicing financial and business media as well as foreign investment funds on the Austrian market, in 2004, Kamran joined the Quadriga / Superfund group where he worked in several marketing, sales and management positions in Vienna, Frankfurt, Berlin, Amsterdam and Stockholm. He then joined Sares Invest, an Amsterdam-based multi-family office with a focus on fund of hedge funds.

Kamran co-founded Nordic Business Media (NBM) in January 2011 and publishes among others HedgeNordic.com, the leading news and content media focusing on the Nordic alternative investment market which also calculates and publishes the Nordic Hedge Index, NHX. NBM is also organizer and host to the Nordic Hedge Award.

Nordic **Insights:** Risk Management

***Amira Roula:** In our discussion today we will be looking at several questions around risk and risk management for hedge funds. To begin with, let us see if we can find and agree on a definition for risk.*

Kathryn Kaminski: This is an important and fundamental question, one we seldom discuss adequately in this industry. If we consider the actual definition of risk, risk is defined as when things do not turn out as we expect them to. Uncertainty is a situation where the circumstances, extent or magnitude of these circumstances are unknown to us. Since 2008 it has become evident that it is very difficult to determine when we are dealing with risk and when we are dealing with uncertainty.

It is important that we make this distinction now before we continue our discussion on risk because with uncertainty we are unable to parameterize or even calculate the extent and magnitude of potentially disastrous events. Unfortunately for most of us in finance the true dangers going forward are often governed by uncertainty while the risks of our past are easily calculated, discussed, monitored and parameterized.

Anthony Glickman: Here is something I think we have to explore. I do not think risk is related to the outcome. If I take all my money and buy lottery tickets, a positive outcome of a winning ticket does not change the fact that what I did was incredibly risky. Risk is pre factum, meaning before the fact, rather than post factum, after the fact.

Per Ivarsson: The definition I was taught in economics is that risk is when you know the possible outcomes and the probability of each event. Uncertainty is when you know the outcomes but you do not know the probabilities. ***Genuine uncertainty is when you do not know anything.*** The problem is when you confuse uncertainty with risk, and even worse, looking backwards using realized volatility to estimate future risk. After investing in an asset yielding good return with little volatility for a period, people fall into the trap of assuming they did not take any risk. Option selling is a good example of where you can have two, three or four years of fantastic returns with very low volatility tricking investors into thinking there is no risk and, WHAM, they get hit by a credit event and they get wiped out. And the irony is – they are surprised.

Too often, risk is estimated using observation from normal situations, when there is actually not much happening in the world. People look at these daily variations that are basically random noise and fit risk- models to that sort of random-noise environment. One has to remember that even on a day when the stock market is up 0.3%, the industry papers still have to write about it and the analysts still have to produce an analysis on it. It could very well be that nine days out of ten, nothing material has actually happened. But still, because of this backward looking anecdotal story-telling, risk models take the volatility and correlations of those days into account.

Anthony Glickman: You just summarized beautifully Nassim Nicholas Taleb's important book ´Fooled by Randomness'. Market risk-models may be prospective but they are not *a priori*, that is they are not detached from observation and purely theoretical. They very much depend on the characteristics of the data which is used to estimate their parameters. ***The risk of an event may be present even if we have not encountered it yet.*** Years ago, AAA-rated companies never defaulted. In recent history, we have seen that happen. The risk was always there but it was estimated from data sets that did not include any instances of such events. And to cite Nassim Taleb again, these events can even happen with more frequency than we once imagined. This is the theme of "The Black Swan". I remember as a hedge fund manager calculating in November 1987, what the probability was that the stock market crash of the previous month, October's Black Monday, happened - based on what we knew before it happened. By some measures, it was a once in an 18,000 years‘ event. The statistical probability was negligible but it happened and now, as Nassim reminds us, 30-standard deviation events happen with an alarming frequency. Perhaps history itself is just fiction, a construct that is posited by human beings after the fact to explain events. It turns out that if we consider human history - and particularly financial history – in the context of what we do not know, we realize that there is a lot that we still do not know and we comfort ourselves with constructs. Life, and trading, is playing Russian roulette without knowing the number of chambers in the gun and how many bullets there are.

***Amira Roula:** Can somebody pick up on that and offer a softer definition of risk?*

Tom E. S. Farmen: At Nordkinn, we principally make use of a non-technical definition of risk. We view risk as raw material. How we then process and consume risk, through our investment process in which risk management is integrated, makes our return.

We have carefully built every process around this concept, making sure that we always know which risks we carry and how we are going to benefit from utilizing those risks. Expressed differently, this is a realization of the financial theory which states that risk is a necessity for return.

Anthony Glickman: I want to just add that you make an extremely important point because lay people sometimes say there is a need to eliminate risk; that risk is a bad thing. Without risk, there is no return. Without risk, nothing will happen. ***So we need to manage risk, not eliminate it.***

Jonas Löfgren: Well, some risk you actually do want to eliminate, like operational risk. Financial risk is what drives our industry. Hence, you want to be able to have a good measure of the financial risk and ensure that it is within limits, but definitely not eliminate it. It is like driving a car; you need to have some speed to get to your destination. Risk management is controlling that speed.

Werner Braunöck: Return is a function for me between risk and reward. I totally agree with Tony that without risk there would be no return or reward. So we have to manage the risk appetite we have. I am coming from the merger and acquisition, risk-arbitrage side. So I basically define risk as a function of say 20-25 different risk parameters if a deal goes through or not. If we talk about market uncertainty, the September 11 crash or the Lehman crisis, then you are talking about Black Swan-events which do happen more often than we like. As a practical example; during my previous hedge-fund jobs in a multi-billion dollar fund we tried to protect the fund from uncertainty and big-impact Black Swan-events. Some of the smartest mathematics-and quant-guys were helping us, but at the end it cost us a lot of money to hedge the uncertainty of a really big-impact event. Trying to mitigate uncertainty-risks of a fund is very costly and a very challenging task. It is not impossible, I do not say that, but if a September 11-event hits, the only lifeline you have is your stop-loss limit, assuming that the market is continuous and liquid enough that you can trade. If trading stops, there will be lots of blood on the streets.

Anthony Glickman: I can give you so many examples that substantiate Werner’s observation. I have encountered very good risk-people who believe that their job is to protect against September 11 and extreme events and they are so over-hedged that they forget that there is also the risk of dying a slow death through eliminating all return.

Simon Reinius: We have talked a lot about market risk, but coming from the fund-of-hedge fund side, 90% of the time spent on risk management is actually more practical, handling different aspects of other risks. The time-consuming parts include the analysis of the legal structure, the memorandum, the operations and the audited balance sheets.

The quantitative market-risks have both an upside and a downside and you need to understand how much risk you are taking and the risk/reward balance in the actual investment. But when it comes to operational risks there is no balance. You basically do not have any upside to balance the downside risk. Another important risk parameter is liquidity. This affects the market risk and to understand the actual market risks you must have a clear understanding of this parameter. By only looking at historical time-series you can end up very wrong in your analysis if this aspect is not analyzed correctly. Particularly if the historical data you base the risk forecast on do not include a period when liquidity has dried up.

Ante Nilsson: I would like to begin with commenting on Simon‘s comment. I think it is very important to really tell the future investor what kind of risks the fund engages in, what kind of instruments and liquidity the fund is using. But typically if you come from a back- ground where you have been trading or taking positions, I think we all sort of confess to what Tom from Nordkinn said. I used to say that petrol is the raw material, the risk.

Petrol is what gets the vehicle running and you should never go empty, because the risk that you are using is what in the end can give you some kind of return. The problem today is mainly that there are so many unknowns that there tend to be quite low risk utilization for quite a few of us.

***Amira Roula:** What if you have a well-configured risk model but your operations are lacking?*

Jonas Löfgren: That is the reason why we need to focus on trying to find flaws and continually improve our risk measurement systems and processes. One can have the most sophisticated risk model, but accidentally define an instrument wrong, which might cause the risk to be totally off.

Amira Roula*: Can risk and extreme events be defined differently depending on the nature and risk-appetite for a specific firm or a person actually defining it?*

Per Ivarsson: If risk is the raw material for return, it is obvious that various participants have different ways of extracting returns from that risk. You have risk-takers and you have risk-sellers. When managing other people’s assets, you have to be clear on the risks they are taking and manage their expectations.

Jonas Löfgren: A simple example of how risk-sellers and risk-takers might find different risk measurements interesting is when looking at Value-at-Risk parameterization.

For the portfolio managers it might be more interesting with a one day horizon, you can change your investment quickly and you constantly fine-tune your risk, but if you are an investor you might not look at the fund daily. For the investor it might be much more interesting to use a month as VaR horizon.

Simon Reinius: I agree, but I think risk preferences are very individual. Your personal risk preference is something that you more or less have, even if it is affected by the corporate culture you are working in. VaR as a risk measure, I think, is an absolute disaster. Obviously, in this room, we are all working with risks, so we understand it. It is basically a derivative of the standard deviation. But given to individuals that are not working with risk, they often believe it is the value they can lose ‘the Value at Risk‘.

VaR is not the value at risk – it gives the worst outcome with a specified certainty, say 97.5%, over a specified time. There is 2.5% chance the result is much worse over the specific time and if you increase the time period the magnitude of the VaR increases as well. Change the specified assumptions of certainty and time and you end up with a totally different VaR value. Another aspect is the difficulty in forecasting volatility and the fact that the distribution is not log-normal. This is however a minor problem and a problem which is included in more or less all quantitative risk analyses.

Ante Nilsson: Follow up on that Simon please because if you look upon VaR with those eyes, do you defy managers that use Value at Risk or do you go further into the topic? Why I ask is that, when we started back in 2000, Value-at-Risk was quite new. We came from an institutional background with few connections into private wealth managers. We needed to get hold of the institutional investor and we thought that we had to be open about what we were doing. To show the investors on a daily basis what the fund was doing. And, more or less, the only way we could do that was to report Value-at-Risk.

We actually got help from RPM to publish that on a daily basis on the web, and that was much sought after from the hedge fund investor at that time. Hedge funds did not really have that kind of open mind about transparency in those days. If you have been running this kind of business, investing in risk, I think that you have something much like Value-at-Risk, in your back-bone ever since you started up.

Tom Farmen: I would like to take the discussion one step back. Personally, I disagree that perception of risk is similar across companies. The perception of risk and how risk is institutionalized is also a function of company culture and the legacy of its employees. I think companies with employees trained in larger blue chip organizations tend to pay more attention, and have a more systematic approach to risk management than others. So I believe risk perception differs across organizations and that this is a point investors should bear in mind.

Per Ivarsson: Two comments: First, to Tom, I think you are right but you have to make sure that the people taking on the risk also get rewarded. You do not want traders pushing long-term risk to the investors, but getting bonuses due to shorter-term gains. That is one observation. The other comment is on ***Value-at-Risk, I certainly agree, it is a very crude measurement.*** As long as you do not overuse it, and you acknowledge the strengths and weaknesses, it is a fairly good headline-risk number for strategies that mainly profit from market risk. Then it obviously has to be complemented with other types of risk measures like scenario-analyses, stress-tests etc.

Anthony Glickman: I have to be the person who has been with Value-at-Risk the longest, since it started at Bankers Trust in 1980 when I was a trader. At Bankers Trust, I was paid less than the Canadian dollar-trader because I traded Japanese Yen and it was more volatile and I actually had my bonus adjusted for volatility. We learned a lot about Value-at-Risk. Philippe Jorion, the distinguished academic and risk officer, wrote a wonderful book about VaR. My friend Nassim Taleb famously attacked the VaR methodology. I think there was a period of time in the ‘90s when VaR was under great pressure. What saved VaR and brought it back? The regulators. Bank regulators still require VaR. If you look at any big bank’s annual report, you will notice how the banks reported the distribution of their P&L against the predictions of their VaR model. More than this: it is a feature of UCITS reporting. UCITS managers have to track their P&L against VaR.

So the regulators saved it, it is in Form PF, you have to present VaR in Form PF if you are a billion and a half over. It is in AIFMD. For the foreseeable future, VaR is not going away. It comes from the world of Harry Markowitz in 1950 and his portfolio theory which defined observed volatility as risk. It enforces a little bit of retrospective empiricism, backward looking, as if statistics indicate future paths, as if past history will be repeated. There are non-probabilistic strategies though in the market place for which it will never work. It will never work for event driven, right? And it will not work for distressed either because every deal is idiosyncratic. So, the fact is we have to develop other measures there. And then somebody mentioned liquidity, I just want to point out there has never been a major financial crisis that can not be traced directly to liquidity.

Werner Braunöck: The investors, at least my investors, define their risk appetite in a function of performance versus volatility. Basically, they say we are expecting this return with this volatility. They measure your performance and also the willingness of paying fees to a function of performance and volatility in some kind, like the Sharpe Ratio. I totally agree that Value at Risk is something for banks, regulations and regulators. In the banking world it eventually works, but I am a strong disbeliever that with history you can predict uncertainty in the future although some mathematicians say so. A bank does that for the next day. How much risk of losing X million of Euros are they willing to take tomorrow? So this does not work, at least not for distressed, idiosyncratic events.

Simon Reinius: I just have one more point here regarding risk and how you define it. I must say, by looking at our product offerings, that the standard deviation, or the Sharpe Ratio, is almost always the starting point for the clients. But I would argue that correlation or Beta is more important than standard deviation.

If a client buys a 5% component into a portfolio, the standard deviation does not really cost that much if you have a low correlation with the other assets in the portfolio. I would argue that a professional investor should actually look at the marginal expected contribution of return and the marginal expected contribution of risk when evaluating an investment. It is clear we are not there today, but I think we will be there in the future.

Werner Braunöck: The whole function of performance and volatility, for example the Sharpe ratio, must be put into relation with market Beta. The Beta is very important for the investors because it benchmarks the fund directly. If markets go up everybody wants a Beta of 2. If it goes down you do not want to be correlated with the market.

***Amira Roula:** How do you approach your risk discussions with your investors?*

Kathryn Kaminski: Given even a few minutes in this industry, it is very clear that ***people have heterogeneous risk preferences***. It often seems that investment managers or hedge fund managers spend a considerable amount of time trying to fit in the right shoes. As a manager, one needs to find the right ways to communicate and explain the risks to their investors in order to make them feel comfortable. The managers themselves have their own views and methods for dealing with risks often very different from the risks their investors are concerned about.

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One other important issue to bring up is that risk preferences are also time varying and conditional on past experience. If this is the case, we will see that risk premiums themselves are time varying as well. For example, there has been considerable buzz amongst allocators regarding risk premiums and risk-premia portfolios. It seems like many institutional investors are looking towards a risk-premium approach via dynamic trading strategies. Recently Nobel Laureate Bill Sharpe was here in Stockholm at a "Rethinking Beta conference" at the Swedish House of Finance. During this event, the focus was on re-thinking the traditional risk reward trade-off. It is clear from recent research and cutting-edge approaches in the industry that both risk premia and risk preferences are dynamic. Even our good old friend Beta is time varying. What this means is that things are very, very complex.

Because of all that Simon discussed regarding these non-linear and often difficult risks, the market seems to be regulating itself. Both managers and investors are trying to find solutions to fit into the right box. Now managers are creating new boxes, hoping that investors might try them out. For those of us in hedge funds, this is more painful for some, the costs are higher, the competition is steeper and the overall level of skepticism is even more challenging.

Kamran Ghalitschi: *We have now discussed risk and risk management from a hedge fund manager's as well as an institutional, sophisticated investors perspective. But how does risk perception and tolerance change for you as portfolio or risk manager if we move down the ladder of sophistication of investors and discuss private individuals.*
How does the investors' skill and attitude influence your risk management?

Per Ivarsson: We do not talk to unqualified investors, but just judging by comments in business press, private individuals sometimes seem to have the view that you can eliminate risk completely and just get the returns.

Jonas Löfgren: I think we have a very important role in educating the people we report to about risk. We are, for example, talking to board of directors, where the members might have varying backgrounds and knowledge about risk management. Since risk management can include a lot of complex models and number crunching it is easy to make risk management sound very complex. However, one can likewise make explanations simple. You need to adjust your level of explanation to your audience. ***We have a big job in making people understand the numbers we produce.***

Anthony Glickman: That is a theoretical question though because in every jurisdiction of the world, those investors are barred from investing in hedge funds. They do not invest in hedge funds. They are not allowed in the United States, they are not allowed in the UK and under AIFMD they are not allowed either. They are not qualified investors, so, I do not see that as the golden grail of retail investors.

Tom Farmen: According to financial theory, the investor could just as easily look at the return objective of a fund to get an indication of the expected risk level since there is a direct relationship between the input of risk versus the output of return. A fund with particularly high return objective will have to carry significantly higher risk than a fund with an institutional-like return objective, assuming identical skills of extracting return from risk. In other words, looking at return objectives ex-ante would in many cases provide a good perception of risk.

One should, however, be more careful when looking at historical returns, as ex-post returns alone do not necessarily justify an investment. Using 20% of your wealth buying lottery tickets, and luckily winning, does not make the gamble a prudent investment.

Simon Reinius: ***Just taking on risk does not necessarily mean you can expect to make money***. A short equity position for example has risk but with a negative expected outcome. Another example is flipping a coin for "double or nothing" where you have a risk but no expected gain. Another aspect is diversification. If you have uncorrelated trades, a portfolio of the trades will have a much better risk return profile than the individual trades in the portfolio. Another problem is that hedge fund managers have a wide spread of expectations and those expectations are often very far from what we expect as investors in the funds. I would argue that the historical long-term alpha is a better predictor of future long-term alpha than the manager's official target.

***Amira Roula**: So, maybe we can and should teach each other in these different sectors and roles in finance?*

Kathryn Kaminski: Can I disagree with that statement because heterogeneity in preferences among individuals is usually good for markets. When people are doing different things, it makes markets work. If everybody does the same thing. That is when we have got a problem. For example, everyone agreed in the '80s that you should use port-folio insurance and look what happened. Heterogeneity in preferences, in beliefs, in activities is actually good for financial markets.

I think a lot of the big problems are the result of homogeneity in investment approaches. As Tony said, we can all learn from each other. But, when we copy too much from each other and simply all do the same thing, like in the past, we may be in for new problems.

***Amira Roula:** What regulatory requirements mitigate extreme events and/or help make their effects less severe?*

Jonas Löfgren: The vast amount of regulations lately is raising the floor of risk management. What used to be best practice has now become the law. This means that you need to have quite a high standard in risk management to comply with the law and because of that you might not have to do so much thinking about what it is that you are doing.

As a result, it is easy to just act in accordance and not question what it is one is doing or following. This is a dangerous path. It also means that we have a very uniform risk framework in the financial industry. We are all doing the same thing, which may inadvertently increase the overall risk in the financial industry.

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Per Ivarsson: As Kathryn said, if everyone is doing same thing, it is actually worse for every-one. But I also think it is important that the regulators stick to regulating risks that investors do not get paid to take.

However, when they regulate the risk you can actually turn into risk premium, the very reason for the financial industry, that is when you see the negative effects Kathryn is talking about.

Tom Farmen: On the contrary, ***we see great opportunities regarding the new regulations.*** Take Solvency II or the Volker-rule as examples. Banks are forced to cut down on their proprietary trading, even though this means transferring risk over to their market-making desks. This generates interesting opportunities for funds like Nordkinn to exploit. These market opportunities were previously largely held exclusively in the hands of the big banks.

But from the markets' perspective, regulations probably do not diminish all risks as intended. Financial institutions are domestically regulated by their local FSAs, though the world of finance is global. The interesting development will be to see how the combined effect, and their interconnections, through the patchwork of new regulations, will affect global financial markets.

***Amira Roula:** Do any of you see a structural change, long term, in the market due to regulatory requirements?*

Struan Malcolm: We definitely see a change in the transaction execution environment as a result of AIFMD, EMIR and a whole range of other regulations. I think what is important for investors now is to look across all of the regulations and seek to understand the impact of how the market will execute trades. We are hiring lots of staff to look at AIFMD and EMIR. But we need people who can look across all of the regulations and extrapolate what is actually going to happen to the structure of the market and what is going to happen to the nature of how traders execute.

You think about the implied increased cost of a depositary holding physical assets, does AIFMD start to push trading towards more synthetic trading so that the depositaries are not taking the liability? Or vice versa in some of the other regulations. So, I think, absolutely, it will have an impact to the way investors at large will trade and that will impact hedge funds directly.

Tom Farmen: I would assume that this, in the European context, is the end of exotic domiciles and set-ups like Bermuda or Bahamian offshore-funds, since everything will be regulated through AIFMD. One should remember that certain countries solely live off of the revenues of the financial industry and thereby have incentives to tweaking legislation towards attracting funds as opposed to protecting the investor. The Swedish legislation is, as one of Europe's most modern, deliberately designed to protecting the investor interests.

***Amira Roula:** What competencies are needed to actually manage risk? It is a touchy subject of how to balance background experiences versus academic experience.*

What have you learned from different market situations, for those who had the chance to experience the latest as well as previous crisis?

Jonas Löfgren: As for the competence needed in a risk management group, the same applies as for all groups; it is important to have people with different backgrounds who think differently to see things from different perspectives and thus improve your standard of delivery. Diversity makes the collective intelligence of the group as a whole go above and beyond the abilities of the individual group members, similar to how diversification works in risk management.

Since we work with a lot of data and the quality of all this data is essential, our time could easily be eaten up by washing data and producing reports. That is why we also value people who can automate processes and thereby reducing work that can be done by computers so that our time is spent on analyzing and questioning the result, rather than just producing it.

Per Ivarsson: I think it is good to have some sort of quantitative background, but the problem is, as they say, if you are holding a hammer, everything looks like a nail. Investment and risk management is a profession. You have to have the quantitative tools but you also have to have discipline, hands-on experience, sound judgment and so on.

Werner Braunöck: I see that a little bit as a pyramid: There are a certain input factors that help you to handle investments and the uncertain events more efficiently. You have to have the best fundamental education on micro and macro correlations you can possibly have. Then you have strict protection rules on how you react to those events and you need to be disciplined at that.

You need market understanding and experience to guide you, to execute, react in the right manner and to function when an uncertain event like that happens You should bring yourself in a position to start handling uncertain events more efficiently to protect the interest of your investors.

Ante Nilsson: That is really true, what you said earlier on, that you need different kind of skills. One of my partners says that, 'I can never think about the unthinkable because if I do so, I will not put on risk. I always put on risk when it looks the worst.' ***Ever since Lehman, it has been easy to paint a grim picture***. But if you always do that then it is hard to invest as you will never put on risk. If you just see fear in the market it is quite common to trade the tails and you will just lose money.

But then, if the unthinkable happens, then you have to sort that out as well. So, it is a complex way of building teams that can react and interact in a lot of different market situations.

Tom Farmen: Naturally, skill set is important, but there is more to it than that. It is whether you perceive risk as part of your investment process or as something residual. When Lehman happened, it turned irrelevant whether you had the biggest risk department or the greatest number of quants. The problem was the lack of portfolio management experience. Most of the time they were doing "tick-the-box" risk management; merely looking at mandates, limits, guidelines and VaR numbers, etc. The problem was not the risk management department itself, but rather the way it was not integrated within the investment process. Risk reporting is not the solution of a market breakdown, it is the immediate portfolio (re)action.

Amira Roula: A good summary of this topic may be that we must understand that trading is part of risk management and that we need these different competencies. We have gone through the technical part of this quite crucial question. But, you will not get anything from it if you do not have somebody actually having experience in the market and understanding what they are doing because, theories are just theories in the end.

Werner Braunöck: Can I just add that ***somebody has to know when to panic***. It can only be the portfolio manager! The most experienced senior PM you can find is what you want. This can help protect you.

Amira Roula: The last topic we want to discuss: preventative measures regarding handling risk. For example, benchmarking and peer analysis, how do you do that in your business? Again, how the question of competence comes into the equation in terms of subjective risk management, how you work with documentation modeling and how you move your research forward to actually handle pre-emptive models?

Kathryn Kaminski: My practical experience in risk management has taught me that most portfolio risk measures explain the risks we have faced in the past, while remaining very poor predictors of the risks we may face in the future. If we take systemic risk as an example, most systemic risk measures are very successful at determining a systemic event, yet there are very few leading indicators. The few moderately successful indicators I have seen look at the core connectivity between market players.

Perhaps what we can take from this is that inter-connectiveness between market players can divulge true risks and points of fragility in our approaches. Cutting-edge researchers are trying to find new metrics which can help in determining how to predict and prevent disastrous events.

Tom Farmen: Interestingly enough, ***transparency seems to be an often neglected attribute of risk management.*** Transparency together with the right set-up will not only aid you in identifying risk but also help in establishing a longer term relationship with investors. Investors should demand to know how the fund is invested and how the investments will perform under different market conditions, thereby simply not accepting a black-box. I believe institutional investors are seeking to move towards a white-box approach, requiring funds to be more transparent.

Ante Nilsson: There is also a problem with this sort of development. If we look back to the '90s, I was running the treasury at Stora Financial Services, the financial arm of the Stora Paper & Pulp company. The financial business was a business subsidiary and it was a kind of a big European hedge fund. At the time we had the risk mandates. But apart from the risk mandate we could also run reserves, profits that we could carry forward. The mark-to-market at the time was only applicable to losses whereas you could carry profits forward.

Those reserves were some kind of safety-net to bring in new managers and young managers into the business. Young people tend to have more risk appetite, showing some kind of fearlessness. So I think it is quite important to get new kids into the business. But today there is a change in the industry, there are less people that know about investing in risk because you do not do it in the banks, you do not do it in the companies the same way you did back in the nineties. Today, everyone looks at minimizing risk.

***Amira Roula:** How does your approach differ today, Ante, compared to when you started you asset management career?*

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Ante Nilsson: If I talk about the business at Tanglin, I think we had done a lot well but we have not been successful in doing it all right. In the sense that we were only investing in very liquid markets, liquid instruments we had some kind of style drift in the very low volatility environment in 2006. We invested in some Nordic companies which, after a while of poor liquidity, cost us quite a lot in November 2007. At that time there were some explaining to do to the investors and of course, some of the investors thought that we were letting them down.

Werner Braunöck: It is a start to be broadening your horizons or making yourself aware of macroeconomic events, countries versus economies versus banks, which are the cause and will create a default event. Obviously the pre-measurement can also be liquidity checks. If your daily liquidity moves the price will be affected very soon in some of your position in case you start moving your investments. One must define and execute stop loss limits. Those three things can help to manage uncertain events.

Jonas Löfgren: In order to take preventative measures, it is necessary to know what you are exposed to. That is why it is important to bring light on whatever exposure you actually have. That is one part of risk management: find all the risks you are exposed to. You might be exposed to something you had no intention of being exposed to and if you do not know this you cannot take preventative measures.

Per Ivarsson: Well, I have to disagree slightly with Jonas. The problem with the human mind is that if you list too many risks, you lose focus on the ones that are important. You must prioritize quite hard. For example, it is quite prudent to put a lightning rod on your house. However, it might not be prudent to make a house that can stand a meteor strike. The problem of recurring risk-reviews and other processes is that as humans we want to feel productive.

So, we continue to identify new potential risks that we add to our risk frameworks that grow. The important risks that can and need to be mitigated get drowned in the sheer number of improbable risks.

Jonas Löfgren: ***It is easy to make a risk report swell and that is not the intention***. Once all the stones are turned, you will need to bring it down to the risks that are crucial and that you should concentrate on. But in order to know that the risks you disregard are less important, you need to have measured them.

Amira Roula: *To summarize our discussion today, what is your key take-away point on risk and risk management?*

Jonas Löfgren: It is good to remember that we are all in the finance industry, and finance is just there to be a lubricant for the real economy. However, it is important for the real economy that this lubricant exists and is effective and that people do not lose confidence in it. That is what risk management is about, and it is the reason regulators lay all these regulations on us.

Tom Farmen: The goal of risk management should not be to eliminate risk, but to create return, take pre-emptive measures and prepare. Instinctively, everybody runs for shelter when a storm hits markets. At Nordkinn we aim to be the ones that are best prepared and thereby able to utilize our expertise to making the most, no matter what market conditions.

My conclusion is that we all actually like risk. If we know the possible outcomes and have an idea on the probability, then it is a matter of sizing the bet. What we do not like are risks that we do not get paid for!

Struan Malcolm: To follow on from Tom, we think that there is a big opportunity to improve and industrialize the heavy lifting involved in pulling together the raw data required for high-quality risk analytics. The staff that do this for you today can then be moved up the value chain to help the portfolio managers to manage risk more effectively.

Werner Braunöck: ***Without any risk, there would not be any returns.*** Some events will be hard to prevent hitting your portfolio. And we all should and will handle risk versus return for the investor as well as we can.

Kathryn Kaminski: It is a very exciting time in financial markets. I do not think there is been a time where there have been more significant changes in many, many years. We see the structures of how people are doing things changing dramatically. We see the hedge-fund industry, in particular, in a state of transition. Given these changes, risk is obviously at center stage while the entire financial industry changes its face.

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