

A Critical Perspective on 20 Years of Academic Finance Research

The editorial board of the VBA Journaal thought it might be interesting for its readers to do some interviews with people who have been active participants in academic research on finance and investments over the past 20 years (or part there of), and who have experience in both the academic and money management world. Our objective with the interviews is to reflect on the past and to paint a picture of the future. We have drawn up a list of questions that relate to major developments in both the asset management industry and the financial markets. We also set up a list of names of people we wanted to interview. Since most of the people on our list were from the US, we decided not to interview each one of them, but to send them a questionnaire instead. The response to our questionnaire was 50%, leaving us with 8 respondents; they are Richard Thaler, Mark Kritzman, Harry Kat, Keith Ambachtsheer, Nassim Taleb, Alan Brown, Richard Grinold and Robert Litterman. Our questionnaire contained 14 questions, however to raise the probability of a high response rate, all participants were given only 4 questions.

Financial markets

Over the past 20 years we have seen a further institutionalization of the financial markets: pension funds, insurance companies and mutual funds have become dominant players in the market. This movement has caused a sea change in the financial market's landscape. This also had an impact on the development of academic research on finance and investments. According to **Kritzman** "the emergence of institutional investors has brought together a critical mass of human and financial capital, resulting in a wide range of innovations to promote efficiency and the application of scientific methods." In his view, much of the relevant research initiatives have shifted from academia to the practitioner community. **Kritzman** argues that "...this shift is partly in response to recognition on the part of institutional investors of the importance of serious research, and partly in response to the tenure system in academia,

which discourages relevant and accessible research." Although the academic community has done an excellent job in developing tools to address many practical questions faced by institutional investors, there is still a lot to be done. Many academics seem to think that the big challenge for the next 20 years is the engineering of systems that put all these tools into practice, argues **Ambachtsheer**. But **Ambachtsheer** continues saying "But that is not enough. We need more than just the 're-engineering' of investment decision 'systems'. We must also integrate the profound issues raised by the highly asymmetric distribution of information that exists in the financial services market place, and by the fact that millions of ultimate beneficiaries at the bottom of the financial food-chain depend on a mosaic of intermediary 'agent' organizations to provide products and services that truly serve their financial interests."

The pension fund industry

Over the last 10 years there has been a trend among pension funds to increase their allocation to equities and to lower their allocation to bonds. More recently there is a growing concern about the prudence and necessity of this policy, especially given the fact that a pension fund's main risk is interest rate risk and inflation risk, which can be hedged using alternative instruments. Traditionally it was the case that bonds were viewed as the hedge component of the portfolio (hedge against risks of its liabilities, most importantly interest rate risk), and equity was viewed as the return component. During the nineties the focus shifted towards the return component, backed by the strong performance of the equity market. More recently however, the pendulum has moved back again towards the risk component since it is felt that the allocation to equities leaves the pension fund with too much interest rate risk.

Once we get past the wisdom that it is wise to set aside some savings for the future we don't really know a lot

Richard Grinold

Hans de Ruiter
senior portfolio
manager at ABP
Investments

According to **Litterman**, there are better ways to deal with this problem. Especially the derivatives markets offer good opportunities to retain the best of both worlds. He claims that “the liquid markets for both interest rate and equity derivatives allow pensions to hedge as much of their interest rate risk as desired and to create as much equity exposure as desired at very low cost and with minimal capital allocations. The market for inflation hedges is not yet as large, but is growing and becoming more liquid over time. The bottom line is that today there is no good reason for a pension fund to take uncompensated interest rate risk. In the case of both interest rate and inflation exposures, the exposures should be hedged up to the point where transaction costs and/or market views justify accepting the remaining risk.” **Harry Kat** holds a similar view on the subject, saying that “only when supported by a proper derivatives overlay to eliminate extreme risk does it make sense to increase pension funds’ equity allocations. If not, contributions will need to increase.” **Grinold** argues that in the recent past some pension funds were forgotten that their main focus should be on their liabilities; the recent collapse in the equity markets learned that there is a difference between an asset management firm and a pension fund. Having said that, dealing with long dated liabilities is one of the most difficult tasks, since it carries an enormous amount of macro risk. Expectations regarding solutions to this problem, including the optimal asset mix, should therefore be muted, or in the words of **Grinold** “...once we get past the wisdom that it is wise to set aside some savings for the future we don’t really know a lot.” **Brown** agrees with **Grinold** that pension funds should focus more on the risk characteristics of their liabilities. But when they do so, they have to do that in the right way...”At the heart of the problem is the myopic nature of asset/liability models which inherently assume that an investor’s risk appetite is invariant to changes in their wealth (funding ratio) or changes in opportunity (risk premia)...asset allocation needs to be more dynamic and to be responsive to changes in both risk premia and funding ratios. This takes us towards the intertemporal optimisation work of Robert Merton and more recently de Temple, Garcia and Rindisbacher.”

Some observers claim that over the past decade there has been a shift among institutional investors, including pension funds, from passive strategies to active

Keith Ambachtsheer, President of K.P.A. Advisory Services Ltd. in Toronto, Canada

Alan Brown, Group Chief Investment Officer, State Street Global Advisors, Boston, USA

Richard Grinold, Research director at Barclays Global Investors, San Francisco, USA (he is the co-author of the book ‘Active Portfolio Management’, which he has written together with Ron Kahn)

Harry Kat, Professor of Risk Management at the Sir John Cass School of Business at City University London

Mark Kritzman, Managing partner, Windham Capital Management (he is the author on many articles on risk management and asset allocation, most of which have been published in the Financial Analysts Journal and the Journal of Portfolio Management)

Robert Litterman, Managing Director, Quantitative Resources Group, Goldman Sachs, New York (he is the author of many articles on portfolio optimization, risk management and quantitative investment strategies and the recently published book ‘Modern Investment Management: An Equilibrium Approach’)

Nassim Nicholas Taleb, Founder and Managing Director of Empirica Capital LLC and fellow and adjunct professor at the Courant Institute of Mathematical Sciences of New York University (he is the author of the book ‘Fooled by Randomness’ which confronts investors with the immanent human tendency to underestimate randomness)

Richard Thaler, Professor of Behavioral Science and Economics, Graduate School of Business, University of Chicago, USA

strategies. Most respondents do not ascribe to this observation. **Litterman** characterizes the shift in the market as one where investors separate the sources of market risk, beta, from the sources of alpha, the expected return from active management. He expects this trend to have major implications, as it will reduce the demand for traditional long-only stock portfolios and will raise the demand for hedge funds and overlay strategies. Just like **Litterman**, **Grinold** does not observe a long-term trend towards active strategies. According to **Grinold**, what we observe is a cycle that is usually not driven by anything more substantial than the fashion cycle. He argues that “the drivers include turnover of executives who are trustees so old lessons must be relearned, return envy stimulated by looking at the ex-post best results which are always good, using equal weighted rather than value weighted measures of active management performance, ignoring survivorship bias and measuring active performance with an inappropriate benchmark.”

Risk Management

Over the past 20 years a lot of effort has been put in the development of risk management tools and insights, both in academia and practice. When we asked the respondents about their views on the contribution of these developments to the investment management industry, we got a mixed picture.

Much more effort needs to be put in practical tools that can handle worlds that are sometimes far from normality

Harry Kat

According to **Kritzman**, the developments over the past 20 years have significantly improved the quality of the investment management industry. Some of the more significant innovations he cites include the incorporation of higher moments into estimates of exposure to loss, Bayesian and other techniques to address estimation error, the applications of first passage probabilities to measure within-horizon exposure to loss and some innovations in credit derivatives. There remains a gap, however, which will be difficult to close. On one side of the gap we have neoclassical utility theory, which is mathematically elegant but simplistic and unrealistic, and on the other side we have behavioral finance, which is realistic, but too ad hoc and theoretically weak. **Kat** is less positive on the developments in risk management. In his view there have not been many major breakthroughs in the past 20 years. Most of the work done has been aimed at the application and further exploration of the ruling paradigm, which is build upon the assumption of normality, which is clearly at odds with reality. According to **Kat** much more effort need to be put in practical tools that can handle worlds that are sometimes far from normality.

Hedge Funds

Over the last 10 years we have witnessed a strong growth in both the number of hedge funds and the institutional money allocated to these strategies. In the slipstream of this development we see that a growing number of asset managers are developing separate alpha and beta products.

The separation of alpha and beta is definitely here to stay, says **Grinold**. However, it may take some time before it gets fully adopted. The development of the financial futures market opened the way to the notion of portable alpha (in fact, portable beta) and

markets have taken nearly a quarter of a century to get used to the idea. Regarding the current state of the hedge fund market, most respondents are not so optimistic. **Kat** argues that the desperate search for assets with high expected returns by institutional investors has triggered an unparalleled growth in hedge fund products. According to **Kat** this will ultimately will "...put many hedge funds' returns under pressure and increase the risk that managers will have to take to maintain performance. It will undoubtedly take some time but eventually the bubble will burst. People never learn." **Grinold** recognizes that hedge funds have profited from a more efficient implementation of investment signals and the introduction of new asset classes, but he also warns for overrated expectations, which he illustrates using Sharpe's arithmetic of active management..."if you place all the asset managers and their assets in a large room, then you could by purchasing a representative slice of the assets obtain value weighted average returns if there are no costs. When there are costs you will do better than average since yours is a low cost strategy. If you view the world this way and place the hedge fund managers in the room as well, you see you have only succeeded in increasing costs."

Market Efficiency and Investor Behavior

Some investors claim that over the past 20 years have become more efficient because of the fact that the availability of information is much more complete and immediate and at much lower costs, due to the internet technology, and also because investors are much better educated today than in the past. It is without any doubt that the availability of information has improved a great lot over the past 20 years. And so does the availability of noise! More information does not always mean better efficiency; this depends critically on the availability of investors to separate noise from information. That does not directly apply to mechanical arbitrages.

Arbitrages that are vulnerable to fat tails look like arbitrage but are charlatanism

Nassim Taleb

According to **Taleb**, most of these opportunities have been eliminated thanks to simple rules of economic behavior and the emergence of technology. Examples of mechanical arbitrages include cash/future/forward relationships, location-related arbitrages and synthe-

tic-decomposition (e.g. 'crush' or 'crack' trades in energy products). However, pseudoarbitrages like credit arbitrage, option arbitrage and mortgage arbitrage may be short a blow-up option that may make everything in the past look inadequate. **Taleb** says "...arbitrages that are vulnerable to fat tails look like arbitrage but are charlatanism." Despite this caveat **Taleb** believes that financial markets are far more efficient than they sometimes appear, particularly when one adjusts for all relevant risk measures.

Although investors are much better educated today than twenty years ago, behavioral finance studies still show that people make the same mistakes and fall in the same mind traps as they have done for ages. Apparently, evolution is slow (or even absent) when it comes to cognitive capacities and rational decision making. Does that mean that we can enhance our investment process by studying psychology and sociology? **Taleb** thinks that we can learn a lot more about psychology and sociology from finance and economics than the other way around. He says "I personally learned so much about human nature having been a trader but I am not convinced that studying human behavior will help me understand markets, because markets do not care about the average but the marginal operator." Another issue that is often heard is that behavioral finance research is too much focused on the individual investor. Given the growing importance of institutions in the market place, it might be necessary to redirect the focus to the link between behavioral finance and corporate decision theory. **Thaler** recognizes the prime focus of most empirical studies on the individual investor, but does not ascribe that to a lack of interest among academics. Instead, he argues, the lack of research reflects a lack of data. What needs to happen first is that corporate decision makers open their doors to let academics in on the decision making process.

Achievements of the academic finance community

Kritzman is rather positive on the achievements of the academic finance community over the past 20 years. As the major contributions he cites the following areas: option pricing, or more broadly, contingent claims analysis, portfolio theory, asset pricing and market micro structure analysis. Both **Kat** and **Taleb** are much less optimistic on the achievements of the academic finance community.

Big names like Eugene Fama and others...have done the field of finance a great disservice

Harry Kat

Kat argues "In contrast to medicine, law and engineering, when it comes to practical applicability modern finance is quite a weak discipline, which especially shows in the area of investment management. Only now is it becoming clear that big names like Eugene Fama and other who helped turning finance from the highly practical discipline that it was until the 1960s into a branch of Neo-Classical price theory, have done the field a great disservice. Ask any finance student or academic how (s)he would invest \$ 1 billion and not many will be able to provide a clear-cut answer. Markets are thought to be highly efficient and portfolios are selected using optimisation software, requiring the investor to do little or no homework or original thinking of his own. The few people that do, such as Warren Buffet, are placed on a pedestal while they do nothing more than what every serious investor should do in the first place."

Mean-variance does not work but nobody is willing to accept the fact publicly

Nassim Taleb

Taleb is equally sceptical about the contribution of modern portfolio theory. He argues "...modern portfolio theory ignores fat tails. Fat tails mean a lot since they represent the bulk of the variations and close to 99% of the risks – and we still know so little about them. Basically mean-variance does not work but nobody is willing to accept the fact publicly. Academic finance has invested too much in mean-variance to back-track so they keep using empirically invalid models. Basically we should find a measure of risk that does not use 'variance' and its siblings like correlation etc. These are grossly undefined. Fixes like GARCH are even worse...Let us face reality. I rather not use a model that does not have any empirical validity – astrology is not used to predict the future and we should not rely on these Gaussian-related methods. Mandelbrot has been saying that for 44 years without being heeded. I advocate building portfolios that are not very sensitive to model risks, namely MPT. In the end the behavioral problem is that people use mean-variance to lower their anxiety rather than to see clearly ahead of them. They are voluntarily fooled by randomness."