Robo-Advisors:

Added Value for Investors and Regulatory Challenges

A roundtable organized by FaIR-ILB and ACPR

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Marie Brière (Scientific Director of FaiR-ILB)
Louis Bertucci (Scientific Coordinator of FaIR-ILB)
For more information on the FaIR-ILB program: fair.institutlouisbachelier.org

PRESENTATION OF THE ROUNDTABLE

Is robo-advising a paradigm shift or will it be used by human advisors to enhance their business and client experience ? To what extent will robo-advising change the current industry of financial advice ? To answer those questions, the interdisciplinary program Finance and Insurance Reloaded (FaIR) hosted at Institut Louis Bachelier (ILB) has organised this round table with panelists from the financial advice industry, from regulatory institutions and from academic researchers. FaIR and ILB would like to thank the Agence de Contrôle Prudentiel et de Résolution (ACPR) for hosting this event.

Automation in the financial industry is a long running process that has been going on for a while but recently accelerated due to the advent of machine learning and artificial intelligence. Robo-advising is the implementation of such automation for financial advice and it poses new important questions and challenges. This round table was following two academic presentations :
- **Marie Brière** (Head of Investor Research Center at Amundi and Affiliate Professor at Paris Dauphine University) on the investment behavior of investors using robo-advisors.
- **Agostino Capponi** (Associate Professor in the Industrial Engineering and Operations Research Department at Columbia University, and a Member of the Columbia Data Science Institute) on technical means to capture and use investment goals to build investment strategies.

This roundtable was moderated by **Mark Sinsheimer** (Consultant) and panellists include **Matteo Rava** (ESMA), **Jean-Philippe Barjon** (ACPR), **Philippe Maupas** (Alpha Beta Consulting), **Lukasz Szpruch** (Turing Institute) and **David Furcajg** (HighWave Capital). **Marie Brière** (Amundi), **Charles-Albert Lehalle** (CFM) and **Agostino Capponi** (Columbia University) also intervene in this discussion.

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1 THE DEFINITION OF ROBO-ADVISOR

Mark SINSHEIMER

Before we address technicalities, I would like us to first zoom backwards a little bit and try to agree upon an understanding of what should be called «robo-advisors» . Are we talking about pure players, or are we talking about various elements of the value chain of investment advice?

Matteo RAVA

I can take the first question. Let me first introduce myself, I am Matteo Rava and I work in ESMA, the European Securities Regulator. We have dealt with the issue of robo-advisor from the policy perspective, and we have always tried to identify it as those players that interact directly with clients with limited or no human intervention. Because if we were to consider as robo-advisors any service that includes automation or automated decision support, then we would end up including all kinds of advisors. We found it interesting to focus on advice without human intervention to prevent regulation to establish too high barriers to the development of positive aspects of this phenomena. It is also interesting to mention the cultural barriers that sometimes we find with investors and the difficulties they have in trusting these kind of pure technological advisors compared to the old traditional models where everywhere there was human interaction.

Mark SINSHEIMER

Could you call them pure players as such then? What would be their characteristic ? Low cost ? Online ? Without even an opt-out possibility to move on to a human interaction ?

Matteo Rava

From our experience the hybrid models, i.e.a mix of automation and human decision , seems to be the one that have succeeded the most. Most likely because they overcome that psychological barrier, where the client sometimes feel uncomfortable of interacting only with an algorithm. However again, even in our policy studies, we try to focus on the pure robo-advisors. Those with little or no human interactions, apart from the human element in having somebody to direct a complaint or ask a question, but not in the financial advice per se.

Jean-Philippe BARJON

Yes, if I may complete the view expressed by Matteo. First let me introduce myself. I'm Jean-Philippe Barjon, I work at the French Authority in charge of the conduct of business supervision for banks and insurers. The first point I would like to raise is that there is no legal definition of what a robo-advisor is. There is only a legal definition of financial services. So, for instance, a robo-advisor which only distributes life insurance contracts is a mere insurance intermediary from the legal standpoint. The second point is that, in practical terms, the boundaries between robo-advisors and others traditional financial advisors are not so clear-cut. In fact, there is a certain diversity of financial services that could be automated. Even in the sole field of investment, there is a broad spectrum of activities : the simple provision of financial information, the provision of a advice

at investment time, a kind of on-going advice but with the investment decision remaining in the hand of the client and a delegated management. Note that the same diversity of services may exist for traditional advice. Thirdly, sophisticated tools could be used as well by human advisors, and we observe that many captive distribution networks of large players are equipped with very sophisticated tools as well.

To conclude, the only distinctive feature of the pure model of robo-advisors could be the fact that the management is supposed to be optimized at the level of the portfolio and no active funds are needed. Am I right?

Mark SINSHEIMER

That is one of the questions actually. Because then we move on to the business model of robo-advisors which is that they are low-cost, and mainly use ETFs, a product that has not yet reached its full potential on the retail market. So technically, there should be an avenue for the distribution of ETFs, where we see Vanguard and Blackrock moving forward. But it is not only about a focus on the use of ETFs, it is a matter of business model too.
This is where we will move to the second stage: the economics of the market. We can start by the value chain, and look into the investor relationship with the advisor, and the advantages of robo-advisors. In both of the preceeding presentations (footnote : this round table followed two presentations by Marie Brière and Agostino Capponi), the key point was the definition and measurement of the client's "risk tolerance". It should be part of the duty of an advisor to understand through a very comprehensive questionnaire what is the objective level of risk tolerance given the state of the assets, and the subjective risk tolerance given his knowledge and psychology. So, we are talking a lot about the subjective risk tolerance but there are also material elements, that can help characterize how the investor could or should take risks. What could be the difference between a human or a robot when it is about to understand this risk-reward profile of a given investor?

Philippe MAUPAS

No difference your honor. Just a quick introduction, I am Philippe Maupas, I am a human non-robot financial advisor. I also happen to be the cofounder of a company, created 13 years ago which is named Quantalys, and it took us a few years to realize that we were providing robo-advisory services, without knowing it in those days. So I have seen it from the side of software development, and I am seeing it right now, as an advisor, at another point of the value chain. Initially Quantalys was trying to lead the market with super smart algorithms. It took me a few years as well to realize that was a non realistic venture, that maybe getting broad exposure at the lowest possible cost to the right asset allocation was the best service to give to the investors, but that is another story. To come back to your question, I don't see any difference, it is down to the interface. If you are an advisor, a robotic advisor or a human advisor, you have to know your clients, to assess the risk tolerance (ability to take risks, capacity to take risk depending on her goals, if she has any) and then you administer a questionnaire that you buy from trusted third parties. The same trusted third parties will provide a questionnaire to robo-advisors, so I see absolutely no difference. A robo-advisor is a new distribution avenue for something that the financial service industry has been doing for a century, which is providing portfolio management services to retail investors.

Mark SINSHEIMER

Let me challenge this because there is a part of what Agostino Capponi mentioned in his talk. Typically, the client, if you ask him, wants high return, low risk and the advisor needs to educate him to understand that there needs to be a trade-off. But working out directly towards what is his risk aversion, I think is not exactly the right avenue, at least it is not what I experienced in my professional life. You need to understand what he wants, and tell him that his requirements, his expectations are perhaps too high. And that seems to be something that today robo-advisors are not really capable of providing, and I would provocatively argue that the human interaction will enable and smooth this out. The second element is to ensure that, after this process, there is a clear and complete understanding between the investor and the advisor. Is it possible to assess the efficiency of such a process for robo-advisors?

2 THE CHALLENGE OF MEASURING INDIVIDUALS' PREFERENCES

Moving forward, once we have identified what the client wants, or what his risk aversion is to be considered, then what do we do? Typically, we optimise using Markowitz Mean Variance framework or something more sophisticated. Is that sufficient to define what robo-advisory is for you ?

Lukasz SZPRUCH

Well, let me introduce myself, I am Lukasz Szpruch, I am a mathematician. So I am quite excited about some of the fantastic control problems that we heard towards the end of the preceding academic talks. And I am here because I am the program director for the Finance and Economic Program in the Turing Institute in London that has a partnership with the FaIR programme of the ILB, so I am involved in the understanding how all the innovations coming from technology, machine learning and data science might affect and change how the financial services industry work. And since we are talking about automation, it is expected that it will provide a lower cost advisory that allows much frequent contact and exchange of information with a client. As Agostino Capponi mentioned during his presentation, there is this exploitation/exploration tradeoff and you have a chance through robo-advising to obtain more information from the client, more frequently, because it is much cheaper to interact. Perhaps that would not be possible if you were thinking about traditional advisors as you need to set up a meeting, and perhaps it's only available to fewer investors than it may be if it's automated.

I would argue that most of us will struggle to describe precisely what exactly risk tolerance is, because it's a process that we learn, and it is actually quite complex, and it is inter temporal: life situations change quite a lot. The more interactions within a consistent framework, the more reliable, clean and comparabledata will be available. I'm not sure exactly how easy it is, but people around this table have experience in this area about how clean and how large data is available at the moment. What I mean by that is how the data obtained from the client or customer is about the risk, profile preference, as used on investment decisions, and how easy it is to actually analyse this? I would imagine that through robo-advising, that would have a more systematic approach and more systematic data collection, that would then lead to new research and new insights about investment and risk tolerance, or preferences.

Matteo RAVA

One of the points I hear a lot is about this robo-advising being able to, for example, determine the risk profile of the client, observing how he interacts. But is it really about robo-advisors? Because if we look at the traditional banks, they are those who know everything about the client: they know what loans he has, they know what payments he does on his credit cards, they know how he uses his bank account, what kind of salary he has, etc.

Usually if it is a traditional banking group, they don't even have to ask a third party, they would have to have access to that already so, why hasn't this jump already been made by the players who already have that data ? Why would a robo-advisor be able to make that change that has not been made?

Lukasz SZPRUCH

This is a very good point; it questions change management and the way innovation is shared between existing participants and newcomers. It is a process, not an instantaneous switch.

3 BEHAVIORAL BIASES AND THE PLACE OF HUMAN-ROBOT INTERACTION

Mark SINSHEIMER

Even if the risk aversion is well characterized, there is another important component of robo-advising: it intensively relies on modern portfolio theory and its further developments, or to make it short, on investment science. Can the theory be used in an autonomous manner, without any human interaction?

For instance if we take the example of about Markowitz: how are the inputs of this optimization program determined? Is there an objectively optimal way to construct the covariance matrix? How should expected returns be assessed? Should that be based on a scientific process, or is it subjective mix of models or simply "I have a hunch" conviction based?

Lukasz SZPRUCH

On the abstract level, you know what you are trying to do. Are you trying to solve an optimization problem, for which you need to collect the data and then you need to make certain assumptions? You know what optimisation problem you are trying to solve, right? So you make some modelling assumptions about the future evolution of the assets returns. You make some assumptions about the preferences, about utility.

These are assumptions, but then through more data driven solution, if you have access to this data and if the technology desk is able to process large quantities of data, in real time then you can keep verifying the assumptions as was presented in the talk by Agostino, so that you could try to learn through data, through choices that the clients make and how they respond to certain questions. You can have more information on their utility function, what they try to optimize, or what constraints they have. So I think we could go up to automation but this would be a process.

David FURCAJG

Let me introduce myself, I am David FURCAJG from HighWave Capital. We provide robo-advisory services for banks and asset manager companies and we are located in Luxembourg. Actually as a company we don't see any of this situation, because we use behavioral finance for the profiling of the asset allocation. We don't use any Markovitz or any kind of classic profiling to understand the end client. So how do we do that? First, if you look into nearly 90% or 100% of robo-advisors, they are going to profile their end client like any other bank. There is no big innovation. They will ask nearly the same questions. The problem is that these questions have an inherent biais, the way you are going to answer these questions is not the same as me. So at the end, the banks are going to advise their clients without a good understanding of the profile of their end clients. The best way for us is not to ask such questions, and to provide something like a hard gaming experience, with no questions related to financial markets or economy, because it leads to interpretation and bias. We provide hard gaming questionnaires with a fortune, and you can be like 15 years old, you can come from United States or Europe, you can be male or female, the way you will interpret this wheel of fortune is the same, so there is no biais, no interpretation biais which is very important. And the more you go into the questionnaire, the more the questions fit your profile. And at the end there are thousands of profiles available. It is a scientific way to assess the risk profiling. This is the first

part of the answer. The second part is that we don't use any Markowitz nor fundamental analysis, we analyse the psychology of the markets, and we, according, of course, to the profiling, adapt the combination between stocks and bonds. But only with psychology analysis of the market.

Matteo RAVA

Since we are talking about biases, let me just comment on the presentation that was made today by Marie Brière about the assumption that robo-advisors are in a better position to avoid the typical behavioral biases. My fear is that those behavioral biases are there, and will stay there and are difficult to avoid. The problem is that intermediaries should not leverage on those biases to avoid investing in the wrong things. My impression is that it is not really an issue about the human advisor vs the robo-advisors, because I can easily see robo-advisors using similar biases. For example in the questionnaire or if there is a game saying to the client «do you want to have your risk profile but with the opportunity of getting up to 15% a year on your portfolio?", the client will easily say yes, because he is attracted by the win. Or even if I receive every two days, an email from my robo-advisor saying «our algorithm has identified a great investment opportunity, click here and you can access it», well of course there you are abusing the client trust. I would be a bit reluctant to saying that one of the two models is better at avoiding the biases. Lastly, my reaction coming from a regulator and supervisor is that if you are supervising an algorithm, you are supervising a written process that sets down in a hard way how the decisions are made, what is considered as input, what is generated as output , what are the rules for these decisions. It is easier to identify if there is a bias or something wrong in the machine, rather than you know supervising humans and how they are making that decision? Or when did they actually call the client? What words did they use to push a certain client or not? So that could be challenging. Somehow, automation provides better tractability. Of course, robo-advisors are also challenging to supervise, because it's a whole new world.

Marie BRIERE

This is a good point, I would like to emphasize that robo-advisors can for example correct the bias of people's inability to rebalance their portfolio as often as they should. Most people are not paying enough attention to their savings, and they don't rebalance. However, it has been proven that rebalancing, depending on market conditions of course, is adding performance.
(Matteo RAVA)
But there are also costs. I have a good asset allocation and I don't touch it for years, I have a good chance my return is higher than intervening on the market especially considering that I am a retail client.

Note that I am not talking about rebalancing at a high frequency. For example, rebalancing to constant weight on a yearly basis, that is something we discussed a lot with Charles-Albert Lehalle, allows you to benefit from the mean reverting process of asset returns, and involves low transaction costs.

Mark SINSHEIMER

To me, portfolio maintenance is the third element in the value chain. How often do you reoptimize if you use an optimizer? How often do you need to reset whatever algo is set up? And if it's not a reset then there is going to be rebalancing, but rebalancing could come because things have changed, just because the market has included products or because they drift in different weights.

Charles-Albert LEHALLE

There is something for me that is very strange if you don't propose rebalancing. Say you have a robo-advisor, and say you have a first client coming with an identified profile. Say also that by magic, you know the optimal portfolio for this profile. After few months, you have another client with exactly the same profile as the first one. By magic again, you know the optimal allocation for this profile given the market conditions and the available investment vehicles. Remember that the two clients are exactly the same, except that time lapsed. Will the first client allocation be exactly the same now to the one you advice for the second client, few months later? Probably not if the first client did not rebalance. Thus you need to advice to rebalance. Rebalancing should structurally come with robo-advisory.

David FURCAJG

Well, actually for any robo-advisor the strength should be to rebalance according to the profile, and at a certain time, which a human advisor is not able to do. Why? Because let's say I am a financial advisor in a bank and I have 200 clients. How could I manage 200 profiles at the right time? It is not possible. We were talking about the fact that we don't know the definition of robo-advisor but regarding their goal, and we all agree about that, robo-advisors should be able to rebalance at the right time, according to the profile.

Jean-Philippe BARJON

The question is how a human advisor who follows let's say 200 clients could do that? The answer is very clear : with a robo-advisor. I'm a bit surprised because we are talking a lot about the need of attention when managing our own assets, but really the clients don't like managing their own assets. That is the reason why financial advice exists in the first place. Average people don't want to be involved in the day-to-day management of their assets even if, obviously, there are some exceptions.

Agostino Capponi

One of the reasons why the fee is so low, for robo-advisor compared to human advisor, is exactly because you get to manage so much more clients simultaneously. You can invent an algorithm and you can give an investment recommendation based on the algorithm. Then the question is why should not everybody switch to robots? Is it because they prefer this peace of mind you have when you talk to a person you feel trusted. On the other hand, if you have a decision made by a machine you have no way of asking : «Why have you made this recommendation?". We are talking about explainable A.I. Here.

Matteo RAVA

One doubt I have in mind, related to explainability, is thatI often hear robo-advisors described as these kinds of high-tech and complex models, that can use big data to identify what the client's actual needs and interact very often with the client in order to create complex and customized solutions. On the other hand the reality of what we often see, at least in Europe is that what the robo-advisors seem to offer is instead almost the opposite, that is hyper simplification. In the post-crisis world where we had complex investment products and complex solutions, investors want something simple, plain, cost effective. At the end of the day, it is a cheap solution, but also kind of a simple one. With usually 3 to 4 different kinds of asset allocations, they simply allocate all the clients to one of the 3 to 4 types. Moreover what comes afterwards in terms of rebalancing

is usually not done client by client in terms of customisation, but also on typical model portfolios, in order to maintain the cost low, and justify the whole business model. I still don't know whether the robo-advisor are that complex, data intensive, customised approach or the simple low cost solution.

My impression is that it is more of a simple solution that people want. At the end of the day robo-advisor users would probably not be high net worth individual. I hear that some people have a higher understanding of the financial market but if you have that knowledge and some fund you will have other options. My impression is that this industry is more targeting people with a few tens of thousands to invest and that find traditional solution not very satisfactory because the cost is high and the experience is bad.

4 THE ROBO-ADVISOR INDUSTRY : FINTECH VS INCUMBENTS

Mark SINSHEIMER

Here we are moving definitely into the field of business models. Right now robo-advisors, at least the pure players, are considered as high tech, high growth companies. The cost of acquisition of new internet-based companies with some franchise value is very high. But actually most are low cost, and are not making a lot of money, if any. Right now their valuation runs around 12 times that of Blackrock in terms of assets under management. So it seems such valuation is built on very high growth assumptions in term of asset gathering. We have seen this quite a few times already, and sometimes it backfires. And we have already seen robo-advisors exiting the market or going eventually bankrupt because they have burnt too much cash and are not able to recoup their cost. The issue is rather complicated and it not always extrapolates on trends.

Even if we consider that Vanguard and Schwab have a large share of robo-advisory in the US, they are not pure players, they are actually distributing their products, extending their services into other areas. The new pure players could suffer from this competition coming from much larger and better established companies. They have all the advantages of robo-advisors, and none of the inconveniences, plus a reputation of security because they are household names. So, whether it is Blackrock or Vanguard as asset managers moving into advisory, or Schwab moving from brokerage into advisory and managed accounts, these companies have already a big footprint on the market. For new compagnies things are more complicated. It could be the same as early 2000's after the Dotcom bubble all over again.

Matteo RAVA

At ESMA, we have observed that the barriers to the development of robo-advisors could be boiled down to two elements : the lack of trust from clients and a regulatory barriers. As a small fintech it often is quite challenging to say I will start offering investment advice because it means complying in Europe with MiFiD, GDPR, etc. What we saw in market trends was that those two barriers were overcome with agreements or joint ventures between the small fintech firms and the traditional players on the market. This allowed big traditional bank players to say I will take care of the regulatory aspects because I am an expert on this, and you take care of all that is robo-advice. It also allowed the investor to be more trustworthy because the moment he went online it is a website but it has the logo of a big bank, which makes him feel more confident in giving away his savings.

Mark SINSHEIMER

This is the crucial trust factor. How can investors trust a robo-advisor? They need to be innovative and sophisticated to differentiate themselves, but if they move into sophisticated land the risk is nobody understands exactly what they offer. David, you have perhaps some experience in that matter. How do you manage to come across as being innovative, and at the same time trustworthy that is backed up by some material. When establishing your business plan, did you address this issue?

David FURCAJG

From the start of this discussion, we were very focused on B-to-C robo-advisors. What we are doing is more B-to-B-to-C because the cost acquisition of a consumer is very high. The cost of regulation is also very high. Everything is very expensive actually, so the best way, is to work with big brands that have clients, but maybe it costs a lot for them to deliver such solutions, so with our business models we can try to adapt something.
What was the question again, sorry?

Mark SINSHEIMER

Did your business clients use your technology and wrap it up in their offering? Was there a discussion on how to showcase what you offer as innovative and better, and at the same time well established, trustworthy and supported by academic studies? Because we have these two elements in trust: we'd rather be cutting edge than using obsolete technology but at the same time we appreciate well established processes with a proven track record.

David FURCAJG

Customers and prospects are banks, and they want to digitize a part of their offer. Despite spending 2 years building a robo-advisor solution we can provide something quicker and more probably efficient.

Mark SINSHEIMER

Of course outsourcing technology authorises a much faster entry into this new paradigm.

5 THE BUSINESS MODEL OF THE ADVISORY INDUSTRY

Philippe MAUPAS

Maybe it's time to mention the elephant in the room? The super low cost ETF, that gives investors access to the market portfolio, which is every academic dream, getting exposed to market portfolio. You have the possibility of getting exposed to the MSCI World Index for 8 basis points. Where are those ETFs in the mainstream distribution channels? We all know the reason why. All those banks and insurance companies, are charging active management fees, and they don't want to get rid of this activity so they don't push toward more ETF adoption.

Mark SINSHEIMER

From my personal experience, I didn't launch the first but the second ETF in France. And most of our clients and distribution channels said : your product is too good, we cannot sell it since it would canibalise our business. Which is a little bit of a problem. In the end, who buys (and holds) ETFs in France? Mostly asset managers and institutional investors. Robo-advisor are the new low-cost channels.

Here, the elephant in the room is the commission driven business of advisory. We spoke about very subtle behavioral biases, but there are also very strong behavioral biases when you earn income by selling high expense funds. This is where robo-advisors can definitely be innovators by changing the business models. The question is just : are they capable of doing that? In the USA, they have a fighting chance in part because the low-cost investment business is already quite sizeable. However, it is not clear who will be the winners new pure players or more traditional players that are integrating robo-advisory in their value chain. In Europe, the matter is as usual more complicated. In the UK and Germany, the market is pretty much open architecture. But for most other countries it is closed architecture. Let's not talk about France but rather Italy as an example. Robo-advisory is not very active there. Regarding the viability of robo-advisory business, the elephant in the room is the way you make money when vertical integration predominates. We still live in this environment. On which maybe you want to comment, because there are fiduciary elements here. Also, we were both, Philippe and I, presidents of the French Chapter of the CFA institute. And the president of the CFA institute recently admitted it was not even a secret that the investment advisory industry is not delivering a level of service commensurate with the amount we are charging and that our services are way overpriced. The British regulator has come to the same conclusion, and said there was a big problem regarding asset management services. So I believe such harsh conclusions constitute an objective safe ground to build up from and benchmark future progress. Now how is that going to work out? Are robo-advisors the solution to this big problem?

Jean-Philippe BARJON

There are a lot of things raised by your question. The starting point to me is also that in Europe the rules are the same regarding payments between the product manufacturer and the distributors whatever they are. So the same rules apply for the banking world and for the robots. It not purely an issue of rules, it is also a matter of fact. Robo-advisors have issues in developing probably because there is also a lack of demand. Are retail investors actually able to understand the difference between fee-based advice and inducement-based advice?

Jean-Philippe BARJON

I would like to add that in Marie Brière's presentation, the robo-advisor was proposed freely, it was not the default option. And the vast majority of clients chose, deliberately, not to be bored with this tool. So I'm sorry but this is clearly a demonstration that we should nuance the appetite of the public.

Mark SINSHEIMER

Not really. Once again, the economic aspect of managing employee saving schemes is that clients are very boring. Answering all these clients asking, «how can I redeem my funds, even though I did this, I did that?" is very costly. All that, typically is not robo-driven. Right now, the robo will mostly slightly reduce the advisory investment part. Now the real expense is on servicing. And servicing you need to have call centers, and that is not going to be robotized soon. And how do you make money? On management fees, so it is sort of like «you scratch my back, and I scratch yours». I give you an administrative servicing, for free, and in exchange, you'll pay high management fees, and it's all going to be sorted out. And here robo advisory is not, once again, pure player, it's implemented in a very specific setting.

Marie BRIERE

In the employee savings' schemes we were studying, the choice of funds is not made by the robot. The menu of funds offered to the employees is chosen by the employer. If the employer wants only ETFs, it is possible. It can also be external funds offered in an open architecture. But the robo-service is not free, I should have mentioned that. In our research so far, we didn't investigate precisely the impact of the cost structure on investor's decisions but this is an important dimension.

6 REGULATION AND RISK MANAGEMENT

Mark SINSHEIMER

It is soon time to conclude; is there any issue, or specific issues regarding robo-advice, robo algos coming from the regulatory side?

Matteo RAVA

I'll speak as a regulator, but then I'm really curious what the other panelists think. We looked at this quite carefully. Being in the team of client's protection, we really put ourselves on the client side, rather than on the firm side. So, how we approached it was regulation in Europe, and I'm thinking specifically MiFiD for the security sector, is to set a series of controls, and elements that have to be performed by the intermediary when it performs certain investment services like investment advice or portfolio management. What we didn't want to do was lower some of these controls or simplify some of these controls based on the technology you are using because that is not relevant for the client. What is relevant for the client is the nature of the service that he is receiving. For us the issue is not really to set different rules, different requirements according to the fact that if you are providing human advice, or robo advice, because that can change tomorrow. What we find challenging as regulators, what we are trying to do instead, is giving guidance to robo-advisors, explaining how to apply current regulation which we acknowledge that it is usually drafted having in mind the traditional banking model, so it can sometimes be challenging for the robo-advisor. So again, from a regulatory perspective just to close, the issue is not really setting different rules but working together with the industry to provide guidance and help them, in order for the regulatory aspect not to be a barrier that they cannot pass, but work with them and to help them comply with existing requirements.

In Europe we are one step ahead on that topic, because in Europe there is a clear obligation for intermediaries to act in the best interest of the client. In the US, this is not the case and that is why they tried to fight. Industry is resisting. I think the advantage in the US, is probably that the level of financial knowledge, the average financial understanding of clients is much higher than the average retail client in Europe. I come from Italy and let me give this example. My mother, she had a degree in Nuclear Physics, so she managed with quantum physics easily but if you asked her the difference between a bond and a share, she wouldn't know how to answer, which compared to the US, is quite striking I would say.

Philippe MAUPAS

I don't totally agree with your reference to the US. They have a fiduciary standard which doesn't exist here, and registered financial advisors, which are very few compared to broker dealers, are subject to this standard. Broker dealers are submitted to the suitability standard which unless I am very wrong is the standard that prevails in Europe. Even though we have the wording «intermediaries have to work in the best interest of the client», provided they provide suitable advice, it is not as strong as the fiduciary standard.

Matteo RAVA

Yes, but the best interest is legally a step before and you have to of course provide in Europe a suitable advice which means, matching with the investment objective. However, there is always the higher presumption that however you apply those details the best interest of the client prevails which to me is always broader in Europe in terms of legal requirements than in the US in terms of actors to whom it applies.

Mark SINSHEIMER

Do you see a problem regarding an authorization and monitoring quantitative robo-advisors? How is inspection done for instance?

Matteo RAVA

My short answer is that the phenomenon in Europe is still very small in terms of numbers. Overall, when you speak to European supervisors the reality is that for them it still has very little impact, and they tend to supervise more by services again rather than by specific business models.

Jean-Philippe BARJON

I can confirm what Mateo said. Clearly, the general stance of supervisors is to be technologically neutral. Our mandate is to monitor and to supervise the implementation of the rules regarding consumer protection. So, we are focused on this subject. The question of whether a kind of player will flourish in the next decade is not exactly our subject, because this is not an issue for us, as long as these players, will comply with the rules regarding consumer protection.

Mark SINSHEIMER

Regarding, the main issue that is the supervision of fraud and negligence. If it's human, it's «business as usual», but if it's purely automatized, you have to evaluate the model risks. What is the model supervision? How is it tested? How is it monitored? You need to look at the data risk, the contingency risk, the continuity risk, the coding risk, etc., One of the most notorious guru in the field of portfolio risk management, Barr Rosenberg, who received numerous medals for his achievements, was banned from markets, because of a coding error in his firm. So, small errors, big consequences.

Jean-Philippe BARJON

I agree with you. On the one hand automation creates a kind of systematic risk, I agree with you. On the other hand, it is clear as well that it is more easily auditable.

David FURCAJG

We are comparing a lot of robo risks and human risks. But if you have a look into the internet crisis, and the real estate crisis for instance, did they come from algorithms or humans? At the end, this is the human who doesn't want to trigger the button. Possibly the market will go higher and higher, and at the end we are drunk with the market going higher and higher. I'm going to tell you something about my mother, she is not a scientist, and in 2008, she knocked on the door of a private bank in France, and her financial advisor put all her savings on the stock market. So, I would prefer my mother to knock the door for robo-advisor with no sensitive idea about the financial

market, but with the ability to cut the position when it's the time to do it. In my view psychology is important in every process. I think that algorithms are much more clever than human behavior, because they are able to cut.

David FURCAJG

Let me add something that may be important for the training of a robo advisor that would be obtained via machine learning. We are talking a lot about financial goals. The next generation will be very interested in non-financial goals. And robo-advisors will be able to fit this profile accordingly. For example, I will be able to choose a minimum of 2% a year, but I also want to save the planet, or I want equality between male and female, and the robo-advisor will be the only solution to structure this product for the right person. The next generation will be very interested in non-financial goals. And we need to think about that, because all the research is talking about financial goals, but the next generation maybe won't care that much about risks and financial goals, but maybe they will need to save the planet more than a yielding percent a year.

Mark SINSHEIMER

It is time to end the roundtable, thank you a lot for your contributions, and thanks to the ILB FaIR program and the ACPR for the organization of this workshop.

SPEAKERS

Mark SINSHEIMER

Mark is an Independent Consultant and trainer to asset management firms, institutional investors and financial regulators on international best practices. He is also Associate Professor of Finance at Skema and EDHEC Business Schools. Previously, Mark had board level responsibilities with global asset management companies from 1996 to 2002 as Head of Marketing and Sales for Credit Lyonnais Asset Management and Head of Business Development for CDC Asset Management. Before, he was Product specialist for Paribas Asset Management and Trader for Crédit Lyonnais.

Mark has a BA in History, MA in International Relations and a Graduate Degree in Law from Paris V University. He is a CFA charterholder and passed CAIA level 1 & 2.

Mark founded CFA France and was its Advocacy Chair until 2011. He is a an active volunteer for the CFA Institute where he served on the Annual Conference Committee, Global Advisory Committee, European Advocacy Committee, Candidate Curriculum Committee, Standards and Practice Council and Advisory Council of INSEAD's "Global Investors Workshop". He was a member of the Governing Council of the European Asset Management Association where he chaired EAMA' working group on index construction best practices. He is regularly interviewed by the financial press or invited to speak in forums and conferences.

Matteo RAVA

Matteo contributes to ESMA's work on the business conduct aspects relating to the provision of investment services and activities by investment firms and credit institutions in the retail financial services markets, and on investor protection more generally.
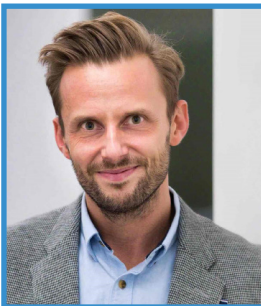
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Lukasz is a Reader (Associate Professor) at the School of Mathematics, University of Edinburgh. He is also the director of Finance and Economics programme at The Alan Turing Institute, London. Previously Lukasz was a Nomura Junior Research Fellow at the Institute of Mathematics, University of Oxford, and a member of the Oxford-Man Institute for Quantitative Finance.
Lukasz has a broad research interest in Quantitive Finance, Machine and Reinforcement Learning, Statistics and Mean-Field Game Theory.

Marie BRIÈRE
Marie Brière is Head of Investor Research Center at AMUNDI (Asset Management of Crédit Agricole and Société Générale) in Paris. She is also Affiliate Professor with Paris Dauphine University and Associate Researcher with the Centre Emile Bernheim at Solvay Business School, Université Libre de Bruxelles. She joined the scientific direction of the interdisciplinary research programme «Finance and Insurance Reloaded» at Institute Louis Bachelier.
This program explores the influence of new technologies (from artificial intelligence to blockchain) on the banking/financial/ insurance industry.

David FURCAJG
President and Co-founder of HightWave Capital
Financial advising and training company that offers expertise in market timing to professional traders and individual investors.

Charles-Albert LEHALLE

Responsible for Data Analysis at Capital Fund Management (CFM, Paris) and Visiting Scholar at Imperial College (London), Charles-Albert studied Machine-Learning for Stochastic Control during his PhD, 20 years ago. He started his career as IA Project Manager at the Renault research center and joined the financial community in 2005 with the advent of automated trading. In 2016, Charles Albert was awarded the prize for the best article in finance by the Institut Europlace de Finance (IEF) and published more than fifty academic articles and book chapters. He is co-author of the book «Market Microstructure in Practice» (World Scientific Publisher, 2nd edition 2018), analysing the main characteristic of today's markets.