Are robots taking over wealth management?

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- Over the past years a whole bunch of so called Robo Advisors has been launched, promising the democratisation of wealth management services based on automation
- These financial firms offer discretionary wealth management and are built around a mobile or web application running the customer through a standardized onboarding process which presents them a portfolio tailored to their risk/return profile at the end
- We believe that this alleged revolution in wealth management is rather a marketing and distribution evolution
- To retail clients Robo Advisors don't necessarily offer better investment solutions than Multi-Asset Mutual Funds but they outperform on client education, communication and fee transparency

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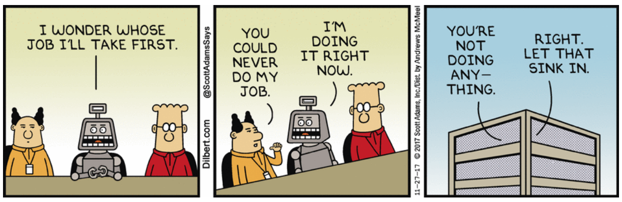
Most people are familiar with Moore's Law (1965), yet it is often misinterpreted: Back then, the yardstick was the integration of an exponentially increasing number of transistors within a period of 2 years. Today, it is the power and performance of computing chips which has brought unprecedented possibilities. With the speed at which technologies are being redeveloped, adapted and improved today, it is not surprising that some industries are more than ever subject to this principle: "Adapt or die". Nevertheless, new does not always mean better. We take a critical look at the latest thing in asset and wealth management and illustrate how incumbents can tackle it.

1 Financial Innovation ...

At least since the great financial crisis, the term innovation mentioned in combination with finance can bring up rather negative associations. Nevertheless our often scolded industry can undoubtedly be remarkably creative and sometimes even in a positive way. One of the most significant recent developments in the financial industry which we would consider truly progressive are Robo Advisors. As Investopedia states, this term refers to "digital platforms that provide automated, algorithm-driven financial planning services with little to no human supervision". It typically "collects information from clients about their financial situation and future goals through an online survey and then uses the data to offer advice and automatically invest client assets". There are now several dozens of these providers worldwide and they differ widely in terms of degree of automation, target groups, choice of instruments and regulatory environment. While some Robo Advisors were founded as independent start-ups, the concept has increasingly evolved into a distribution platform for large banks, brokers and asset managers with Vanguard and Schwab leading the official statistics on Assets under Management.



2 Robots in Asset & Wealth Management

Robo Advisors are often compared to traditional wealth management services offered by Private Banks and in this context advertised as a democratization of a once more or less exclusive services. We believe that there needs to be a greater degree of differentiation. The customization Robo Advisors offer and can offer is in fact fairly limited as investors are pigeon-holed into predefined risk profiles based on their responses to a limited number of fairly general questions. This offering can hardly compete with the tailored services offered by Private Banks and sophisticated Asset &

Wealth Managers to High-Net-Worth Individuals that take into account a wide range of factors affecting the clients needs including individual preferences and constraints, tax optimization, residence issues and family constellations. Nevertheless before leaning back in relief, Private Bankers should keep in mind a study by Deloitte from 2016 showing that no less than 49% of High-Net-Worth Individuals worldwide would consider to trust Robo Advisors at least with some of their wealth (see Deloitte, 2016). We believe that firms in the segment need to respond to this threat with clear differentiation in terms of customization and services but also by integrating the technology used by Robo Advisors to complement their existing offering with a sufficiently attractive digital experience.

Obviously though, this is not the market segment that Robo Advisors primarily target; their financial solutions are usually available starting with investments in the low five-digit range. As research by Deutsche Bank (DB Research, 2020) pointed out the average user of a Robo Advisor in Germany is a man in his mid 40s with above average education and significantly above average salary. Findings are similar for the US where investments in the capital markets are way more common due to their role in the country's retirement system. This clientele is not served by Private Bankers and Wealth Managers but has most likely received financial advice (of often questionable quality) from traditional Retail Banks. Compared to these services, Robo Advisors offer a range of key advantages:

- **Ease of Access**
  Visiting a bank branch is not exactly a popular amusement and for retail investors not familiar with financial markets, the experience can even feel a bit intimidating. Rapidly declining numbers of bank branches make the 24/7/365 availability of mobile and web apps provided by Robo Advisors even more attractive.
- **Simplicity and comprehensibility**
  According to our experience it's not unusual especially in Europe to meet highly educated professionals who are not familiar with even the most basic concepts in financial markets. In this context the extensive volume of information provided by many Robo Advisors including nicely animated explainer videos and presentations can be extremely helpful and a major advantage also compared to Mutual Funds. On top of this going through a nicely programmed, and highly efficient onboarding process tends to be more entertaining than having to respond to rather personal questions in a face to face meeting.
- **Cost efficiency and transparency**
  Many Robo Advisors advertise the low cost of their usually ETF based products and provide detailed breakdowns of the different components driving the so-called Total Expense Ratio (TER). Some firms offer solutions for all-in fees of 40bp to 50bp covering management, trading and other fees only adding the fees charged by the ETFs used (often around 20bp on average). From a consumer point of view this open handling of fees as well as significantly lower management fees, especially compared to traditional advisory, is probably the greatest achievement of this industry. In contrast to this it is an open secret that even the Total Expense Ratio often doesn't include all costs and in the worst case funds still charge front or back loads of 4% or 5%.

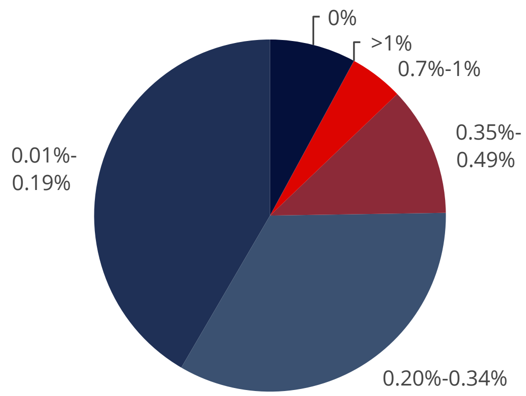


Figure 1: *Typical product cost breakdown (TER of ETFs used) Source: Amadeus Capital*

To cut a long story short, there is a lot to like about Robo Advisors and we are quite enthusiastic about some of the offerings we have found in this market. Nevertheless, having said that, let's compare the offering with the best and most popular alternative traditionally available to clients in the same segment: Multi-Asset Mutual Funds.

3 The iPhone of Investing?

When Apple launched the first iPhone in 2008, it stood out, not only because of its attractive design and new user interface but also because it was literally the only phone produced by the company. Nokia, Sony Ericsson or Motorola offered hundreds of different devices with various configurations, a product jungle designed for clients to get lost or spend their Sundays studying tech magazines. Apple offered the iPhone ... that was it.

In the financial industry the situation is a bit similar but worse. Clients can select between thousands of investment funds and ETFs promising myriad different features and most investors are simply overwhelmed by the abundance of choice. Robo Advisors in their simplest version cut through this product jungle by showing potential clients a clear path to a reasonable product mix roughly tailored to their risk taking abilities and preferences. Alongside this journey they offer background information about the various financial products used in the investment solutions and keep in touch with the clients through regular push notifications and emails. However, obviously this is not the end of the story for an industry (in)famous for its very special creativity. In practice, research shows that the Robo Advisors attracting the lion share of assets are not those selling simple, reasonable and cheap solutions but those players utilizing various portfolio optimization and market timing methods promising superior risk adjusted returns. This is where things become complicated for the end client and this is where we think investors need to be very careful.

3.1 How much robo is in the Robo Advisor

Big data, machine learning and artificial intelligence have become powerful buzzwords not only in the financial industry. The term Robo Advisor combined with these trends makes the impression that there is some intelligent machine analysing the individual clients and taking superior, unbiased investment decisions. The reality is much more profane. Mikhail Beketov, 2018 analysed the methods driving the allocations of 219 Robo Advisors from 28 countries. Getting accurate information about the system in place as well as figures on Assets under Management and performance is notoriously difficult which is one of the drawbacks of Robo Advisors.

Nevertheless the work of Beketov provides some interesting insight on the most popular concepts used by firms in the industry. Funny enough, the dominating concept driving allocations according to this paper is Modern Portfolio Theory, an asset allocation framework soon celebrating its 70th birthday. Beketov also found that there is a tendency to “improve and augment this framework rather than applying and developing entirely new approaches” (this includes using Var or CVaR instead of volatility as well as concepts such as the Black-Litterman model). This is not a bad thing

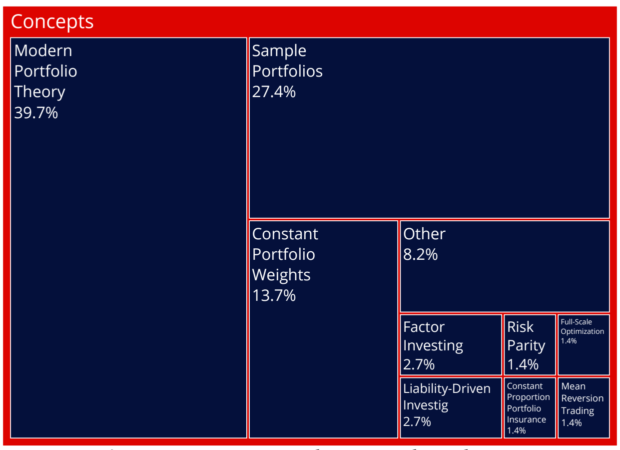


Figure 2: *Strategies driving Robo Advisors*
Source: Mikhail Beketov, 2018

per se but it confirms what we already suspected - the brave new world of Robo Advising is mostly quantitative asset management with a new interface. Having said that, the industry also suffers from the same flaws and limitations that quantitative asset managers have been struggling with for decades. The systematic investment processes are still designed by humans and many approaches look great in backtests but fail to life up to expectations in reality. The clients of a leading German Robo Advisor learnt this the hard way in 2020 when the praised risk management algorithms reduced exposure to risk assets just when markets started to rebound leaving them with hefty losses.

3.2 Limited track record and intransparency

As outlined before these problems are not new at all but well known among quantitative asset and wealth managers. However while it takes at least three years for an active investment fund to even receive a Morningstar rating, the average Robo Advisor studies by Beketov in 2018 was only founded around 2014. Also, while detailed performance data and risk return analysis on investment funds are readily available on the web, comparing different Robo Advisors is a much more tricky exercise. Most importantly it can be assumed that concepts such as conditional value at risk and risk parity are rather foreign to the targeted retail clientele. This is fine as long as optimization procedures are sufficiently robust and effectively avoid extreme allocations but as the previously mentioned example shows this is not always the case. We took a look at the performance of a sample of 23 German Robo Advisors published on biallo.de (*Robo-Advisor: Das sind die Top-Performer 2020!*). After 2 years the total return of the reported (defensive) solutions extends from little more than 4% to almost 16%.

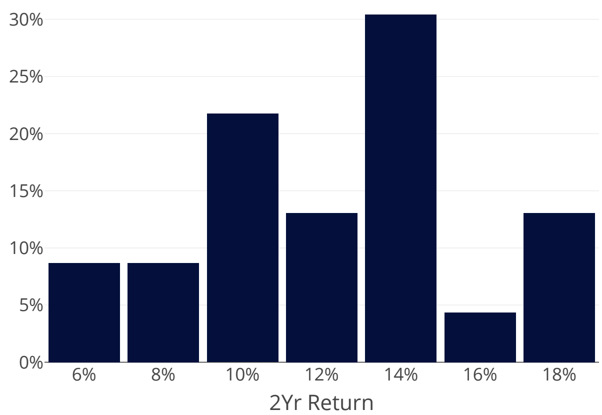


Figure 3: *2 year performance of German Robo Advisors*
Source: biallo.de

Equity quotas are mostly around 30% but some solutions invest no more than 10% in stocks while others go up to 35% and add commodities or real estate. In other words, the same client will end up receiving vastly different products with significantly different risk return profiles depending on which provider is chosen. Eventually investors searching for a Robo Advisor need to understand the difference between purely passive approaches and active risk management processes and judge the reliability of the algorithms used by the providers offering the latter. It is at least debatable whether the majority of retail clients understands that with active risk management processes they may end up with a market exposure deviating a lot from what they initially expected to have.

3.3 Don't write-off the Multi-Asset Mutual Funds

We also crunched some numbers on the longer-term performance of the leading German Robo Advisors and compared it with the results delivered by Active Multi-Asset Mutual Funds in the same risk category. For this little analysis we used the life performance test published by Brokervergleich (*Robo Advisor im Echtgeld-Test 2021*) that has been tracking returns of 8 then available Robo Advisors in the Balanced category since 2016. We afterwards took the results of the mutual fund ranking published by Das Investment (*Deutschlands größte Fonds-Statistik*) in 2015 and selected all Balanced Multi-Asset Funds with a 5 star Morningstar rating. All funds are still in business and by using the results published in 2015 we avoid survivorship bias. Out of the 8 Robo Advisors tracked by Brokervergleich at the beginning of 2016, three dropped out of the sample before the end of 2020 for unexplained reason. Out of these 3 Robo Advisors one was lagging its peers at the time of the discontinuation of the time series. The Robo Advisors in question are still in business.

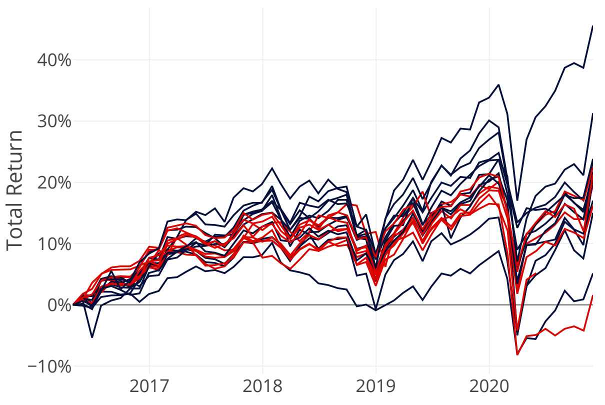


Figure 4: *Performance Robo Advisors (red) vs Funds (blue)*
Source: Brokervergleich, Bloomberg, Amadeus Quantamental

The results are not surprising. The performance of the Robo Advisors tracked varies only slightly and statistically not significantly except for one outlier. The performance delivered by the Multi-Asset Funds is generally comparable. The Balanced Mutual Funds vary more widely in their risk taking but those with a similar

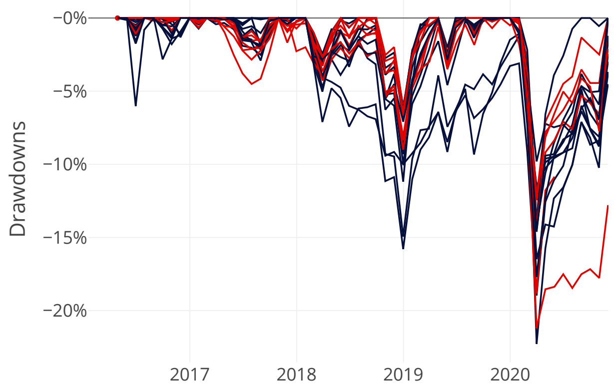


Figure 5: *Drawdowns Robo Advisors (red) vs Funds (blue)*
Source: Brokervergleich, Bloomberg, Amadeus Quantamental

volatility deliver similar or even slightly better returns than the respective Robo Advisors.

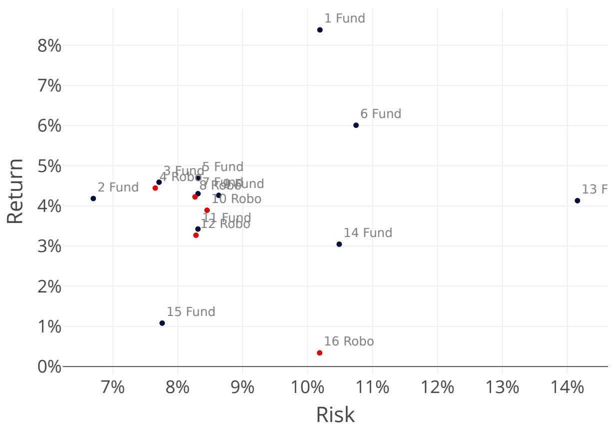


Figure 6: *Risk/Return Robo Advisors (red) vs Funds (blue)*
Source: Brokervergleich, Bloomberg, Amadeus Quantamental

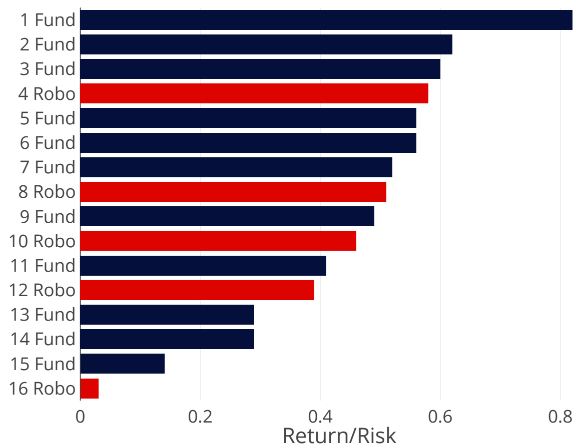


Figure 7: *Return/Risk Robo Advisors (red) vs Funds (blue)*
Source: Brokervergleich, Bloomberg, Amadeus Quantamental

Most importantly, looking at the ratio between Return and Risk we find that the field is led by three Mutual Funds while the worst performance has been delivered by a Robo Advisor and its active risk management approach. It is worth noting that these results are net of fees, assuming that the clients do not pay Front or Back Load fees which are often waived nowadays. Nevertheless, this is a major limitation of our study as we cannot rule out that especially unsophisticated investors end up still paying ridiculously high upfront fees. As outlined, transparency on fees is one of the greatest achievements of Robo Advisors.

3.4 Not that cheap after all

It is worth noting though that the prices charged by different Robo Advisors in the market also vary widely and some players with management fees around 1% are not cheap at all especially for smaller investments as below graphic for the German market shows. These are ranges were an Active Multi-Asset Fund or Fund of ETFs can be competitive.

Figure 8: *German Robo Advisors Fees Distribution*
Source: biallo.de

3.5 Conclusion: It's the marketing, stupid

Obviously this study is not exhaustive and suffers from small sample size and the short time frame available. It however yields a couple of important findings:

- Well rated Active Multi-Asset funds can compete with Robo Advisors in terms of Risk/Return and thus provide an attractive alternative provided that management fees are competitive and Front and Back Load are waived.
- Investors picking Robo Advisors with active risk management strategies can experience very bad surprises as the outlier in our sample shows. Trusting a significant share of ones wealth to such a strategy with limited track record does not seem advisable.
- Furthermore fund based wealth management solutions offer important advantages, especially a greater transparency concerning historical performance, Assets under Management and the availability of independent performance ratings and risk classifications.
- Beyond this, fund based solutions benefit from far less administrative work and greater flexibility. Investors who don't want to trust their wealth to a single strategy don't need to open several discretionary wealth management accounts but can easily buy and sell different Multi-Asset Funds from various asset managers through a single brokerage account.

Eventually the disciplines where Robo Advisors truly excel are marketing, client education and fee transparency. The average retail client with little knowledge of the subject and little time to study it benefits from a simple, intuitive onboarding process that helps to narrow down the overwhelming number of products offered by the financial industry to one simple, more or less suitable solution. For many perplexed investors this is already extremely helpful. Beyond this, Robo Advisors benefit investors through an attractive educational offering and greater fee transparency as well as in some cases truly lower costs.

However, as outlined before the business model suffers from major drawbacks. We believe that at a the right price Multi-Asset Mutual Funds are still the best product for retail investors looking for well diversified financial solutions. Asset Managers need to invest in the toolboxes necessary to lower entry barriers for investors and effectively offer suitable products to them. Fee structures need to become fair, transparent and competitive. We imagine a model that combines the attractive onboarding and learning environment offered by Robo Advisors with fund based solutions. In this context, the easier comparability of investment funds is a major advantage for clients.

For High-Net-Worth Individuals a hybrid model that uses technology to combine a highly efficient and attractive onboarding, KYC and regular maintenance of client data with customization and face-to-face advisory will be the model of choice.

End investors should be extremely careful regarding Robo Advisors promising superior Risk/Return profiles based on active risk management programs. Algorithms that automatically and aggressively shift allocations between asset classes can deliver terrible underperformance if market behavior deviates from historical patterns. Clients need to understand the unreliability of backtests and should not be fooled by long Whitepapers and fancy buzzwords such as Artifical Intelligence or Machine Learning. The majority of German Robo Advisors in our sample delivered very respectable results and offers very fair fee structures but with more and more products hitting the market we would advice clients to study the products well and diversify across multiple solutions especially when selecting strategies that are rather active.

A new Asset & Wealth Management ecosystem

Amadeus Capital and Freie Internationale Sparkasse are partners in Amadeus Quantamental, a Luxembourg based start-up launched in 2018 with the aim to bundle the further development of both firms' investment processes including the implementation of sophisticated quantitative portfolio management methods and sustainable investing. We believe in the power of an ecosystem built around shared services and rapid continuous improvement. Our investment, reporting and research solutions can be white-labeled and offered to other Asset & Wealth Managers.

For further information please refer to our websites or contact us:

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