German robo-advisors

March of the machines driving passive investments

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Germans are not famous for their direct investment in capital markets. They keep a large share of their savings in deposit accounts and invest in capital markets mostly indirectly via retail fund holdings.

To date, Germans have also shown relatively little interest in passive investment alternatives. Retail clients hold EUR 633 bn in mutual funds, but only a small EUR 30-35 bn in ETFs. Due to traditional financial advisory services and pay-as-you-go public pension plans in Germany, ETFs were not able to replace more of the costlier and less liquid open-ended funds.

Robo-advisors, which primarily invest in ETFs, have seen the number of their clients and AuM grow in Germany. If the current market dynamics broadly continue, robos could manage about EUR 25-35 bn in 2025, up from EUR 4 bn today. This may drive up retail clients' ETF holdings.

The pioneer robo-clients are largely male and middle-aged. On average, their income is three times that of an average bank client. They value full control and autonomy in their financial decisions and deal with financial matters mostly online. Still, they visit bank branches quite frequently.

When it comes to household finances, Germans are famous for their passion to save. On average, they saved around 11% of their disposable income in 2018. This is one of the highest saving rates in Europe, with the euro area average at 5% or the UK below 1%. As Germans keep a large share of their savings in bank accounts, retail deposits stood at a huge EUR 2,273 bn in Q3 2019. In recent years though, zero rates have made investment-saving decisions increasingly challenging for many Germans. While shifting some savings from deposit accounts to capital markets would be reasonable to achieve higher returns in the long run, the move is not straightforward for several reasons. Some retail clients are first-time investors in capital markets while others have limited knowledge of the financial markets, limited time or money. Even if they make the move, Germans primarily tend to invest in equity mutual funds. For example, in 2018, five million Germans held open-ended equity funds and another two million held equity funds and individual stocks. Actively managed equity funds are usually expensive compared to passive investment alternatives (active fund holdings involve purchase, management and depository fees, as well as sometimes performance fees, and the funds are not traded in public markets). Moreover, their returns are not necessarily higher than those of passive alternatives which replicate returns of a benchmark index (see box 1 for a short overview). By allowing for more informed and diversified capital market investments, digital financial advice platforms, known as robo-advisors, offer lucrative features for retail clients. Thanks to full automation and exchange-traded fund (ETF) portfolios, robo-advisors are low-cost alternatives. Hence, it is worth taking a closer look at the potential impact of robo-advisors on passive investing in Germany.

History of fund management in a nutshell 1

The history of fund management is long with the first investment fund dating back to the mid-18th century. However, it was not until the 1950s when active fund management as we know it today came about. I.e. an investment expert selects fund assets and actively manages them by rebalancing the portfolio and replacing assets. The main objective of active fund management is to achieve returns higher than the benchmark. This practice incurs high costs such as administrative and trading expenses, investment specialist and research expenses, which are reflected in substantial fees to clients. Despite relatively high prices, active fund managers often do not fulfil expectations in terms of outperformance.

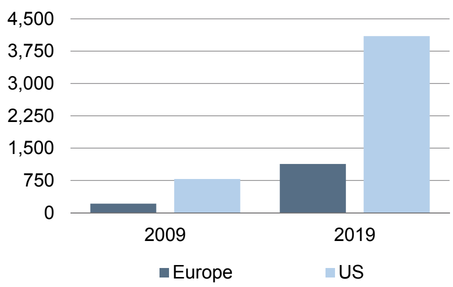
As an alternative to the idea of beating the market, index funds came onto the scene as early as in the 1970s. For them, mimicking the returns of a benchmark index is the main purpose. To do so, index funds usually hold assets in line with their representation in the targeted index. As long as the index composition remains unchanged, index funds do not require rebalancing or trading and thereby are low-cost compared to active funds.

In the 1990s, index funds took on a new dimension with the introduction of exchange-traded funds (ETFs). ETFs trade on public exchanges rather than via a middle man (i.e., a fund management company). They are therefore much more liquid and also cheaper than traditional index funds.

Source: Deutsche Bank Research

Huge ETF AuM in the US 2

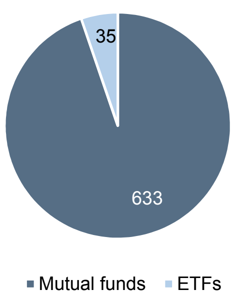
USD billion



Sources: Morningstar, Deutsche Bank Research

ETF investments of German households: Only a fraction of actively managed funds 3

EUR billion, Q3 2019



Sources: BVI, Deutsche Bank Research

Passive investing in Germany

What are the optimal investment strategies for retail clients in financial markets? Market participants, policymakers and academic researchers have been trying to answer this question for a long time. Today, it is widely accepted that buying and selling stocks or funds too frequently usually leads to subdued long-term returns for less-informed investors. On the contrary, evidence suggests that retail investors with long-term saving goals should stay invested throughout market cycles and commit to a well-diversified portfolio. Particularly suitable in this respect are ETFs which are publicly traded passive investment tools. Thanks to their cost efficiency, liquidity and transparency, their popularity has been rising since the financial crisis.

The growth of the ETF market has been remarkable. In the US, assets under management (AuM) of ETFs surged to more than USD 4,000 bn in 2019, up from USD 785 bn in 2009. The European market grew at a similarly strong pace. European ETFs' AuM rose 5.5x between 2009 and 2019 to USD 1,130 bn. Despite the boom though, the absolute size of the ETF market in Europe is considerably smaller than in the US. This is partly due to ETFs arriving in Europe much later than the US. More importantly, though, the limited participation of retail investors in Europe is probably to blame. According to industry estimates, retail investors hold around 45% of the ETFs in the US whereas in Europe, this figure stands at around only 15%.

While they hold only a few ETFs, retail clients in Europe invest a lot in actively managed investment funds. Germany provides a good example. With a volume of EUR 144 bn in AuM in Q3 2019, up from EUR 54 bn in 2009, the German ETF market is sizeable in a European comparison.[1] Yet only around 20% or EUR 30-35 bn of the ETFs are held by retail customers.[2] By contrast, with EUR 633 bn, open-ended mutual fund holdings of retail investors are huge. But why have ETFs not yet replaced more of the costlier and less liquid open-ended funds?

Why do so few Germans invest in ETFs?

Financial advisory services in Germany are the first factor to look at. Thanks to the dominance of the universal banking model, banks usually have their own asset management divisions or cooperate closely with external asset management firms. Therefore, financial advisors in Germany tend to favour retail funds of their own group or of their partners from which they receive commissions. This probably leads to an overrepresentation of actively managed funds in retail portfolios. In the US, on the contrary, ETFs are used far more widely by financial advisors, which are often independent from banks. According to survey responses, for example, nine out of ten financial advisors offer ETFs to their retail clients in the US, compared to only four out of ten financial advisors in Europe.[3] The question of which advice model is better for retail clients is almost as old as the profession itself. There is no straightforward answer as different models may have different advantages for investors.

Differences in retirement systems are another factor for the limited ETF investments of German households. With prevailing pay-as-you-go public pension

1 Figures of the German ETF market should be considered as a lower bound, as especially ETFs issued in Ireland are not fully recorded in the data.
2 See Mai, Heike and Orçun Kaya (2019). ETFs – a niche product for private investors (for now).
3 See PwC (2016). ETFs: A roadmap to growth.

plans, which guarantee certain benefits in retirement, retail investors do not accumulate a lot of capital for retirement purposes. Therefore, they might not be too familiar with newer financial products including ETFs. If they decide at some point to shift savings away from their deposit accounts, they tend to invest in more traditional alternatives like individual stocks or open-ended retail funds. US retail investors on the contrary are more accustomed to managing their retirement funds themselves (and thus familiar with capital market products such as ETFs), thanks to defined contribution retirement plans. To sum up, in Germany, pay-as-you-go pension plans together with financial advisory services which favour actively managed funds probably lower the ETF holdings of retail clients.

MiFID II 4

In the aftermath of the financial crisis, enhanced client protection and increased transparency in financial advisory services became important policy objectives in Europe. The introduction of the second Markets in Financial Instruments Directive (MiFID II), which came into force in January 2018, has been an important milestone in this respect.

One of the key goals of MiFID II is to promote independent investment advice. A firm is considered an independent provider of financial advice if its advice is based on a broad range of different types of financial products from a large number of issuers or suppliers. The idea behind this is to offer clients a sufficiently diverse range of products to ensure that investment objectives can be suitably met. Independent financial advisors are prohibited from accepting or retaining payments or benefits from third parties (or entities acting on their behalf) in relation to the provision of their services. Based on this, clients can now decide which type of advice they want to receive. If a client chooses a financial advisor who is not independent and who offers products that have close links to a financial firm, these links will have to be disclosed at an early stage.

Source: Deutsche Bank Research

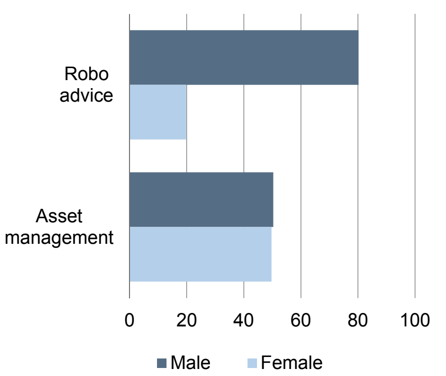
Robo-advisors could push ETF investments

With the advancements in financial technology (FinTech), the established financial advisory services might gradually change in Germany (see box 4 for an overview of recent regulatory developments in Europe). By now there are several digital platforms, or in short, robo-advisors, that offer online advisory services to retail clients. Thanks to their scalable and digital business model, robo-advisors are in many ways cheaper and more efficient than traditional advisors. Robo-advisors continuously monitor client portfolios and rebalance these if they detect deviations from a pre-defined risk-return profile. In this respect, they are not only advisors but also comprehensive portfolio managers. To be fair though, they are relatively limited in their offering and investment strategies. ETFs are natural investment tools for the retail digital marketplace as they are low-cost, highly transparent and liquid.

Most of the early robo-advisors in Germany started as FinTech start-ups. Over time, their popularity has grown and an increasing number of traditional financial institutions have started to offer their own robo-advisory services. After mergers and acquisitions, the number of robo-advisors in Germany stood at around 25 in 2019. With more established players entering the market, AuM of robo-advisors surged to around EUR 4 bn in 2019, up from EUR 0.3 bn in 2016. Despite being relatively small in absolute terms, robo-advisors have exponential growth potential as their digital business model is highly scalable. If the German ETF market keeps expanding roughly at its average pace seen since 2014, German robo-advisors will probably manage about EUR 25-35 bn by 2025. Robos typically invest in ETFs and if they grow further, this will most likely reduce retail clients' reliance on traditional financial advisors which favour actively managed funds. Moreover, Robo-advisors might fill the advice gap for those who invest smaller sums in capital markets but have limited market knowledge. Hence, an expanding retail client base of robo-advisors, among other drivers, may increase ETF investments in Germany in the years to come.

Robo-users: Mainly male 5

% of clients

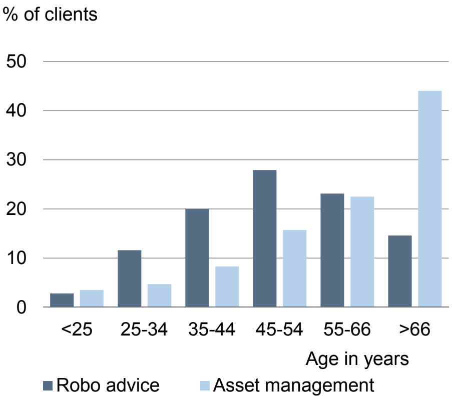


Source: Deutsche Bank Research

Who are robo-advisors' clients?

A closer look at the client characteristics of robo-advisors sheds some light on the potential of this new technology to grow and bridge the advice gap. In doing so, we focus on a representative dataset of German robo-advisors and traditional asset management clients. The latter refers to mutual fund management which invests on behalf of retail clients and receives a management service fee. Our observation period is 2019. Looking at potential asymmetries with respect to gender is a good starting point. Accounting for 80% of the total, the overrepresentation of male robo-clients is striking. In comparison, traditional asset management clients are evenly balanced with 50% women and 50% men. Male clients are documented to be often overconfident in their financial decisions.[4] Therefore, their overrepresentation in robo-advice might refer to earlier robo-clients' willingness to take more risk. Female investors meanwhile, who are usually more risk averse, might follow a wait-and-see approach with regard to robo-advice, at least for now, but their participation will probably go up in the coming years. Ultimately, the simple understandable rules of robo-advisors might even be a strong point in attracting more risk averse investors.

Robo-advisor clients: Mostly middle-aged 6

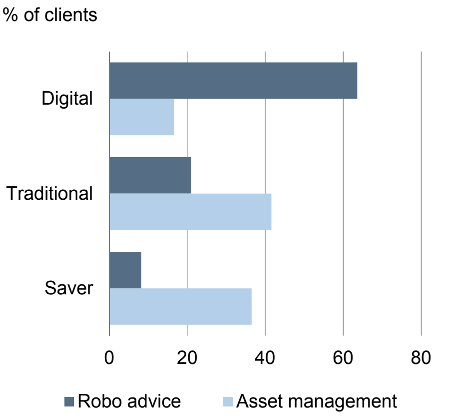


Source: Deutsche Bank Research

Concerning age, our data shows that the share of robo-clients increases initially, reaches its peak with the 45- to 54-year-olds and decreases later on. Limited participation of tech-affine younger individuals might come as a surprise but is probably due to the limited savings they possess. As individuals get older and accumulate wealth, they tend to make use of robo-advisors more readily. For traditional asset management clients, usage increases with age. Retirees are the largest group, making up more than 40% of clients. Obviously, observing client age at a point in time neglects cohort effects and the evolvement of preferences throughout time. Still, clients may use robo-advice services to achieve certain saving targets, save for a flat down payment, purchase of a car, etc. Older generations meanwhile have probably been investing over a longer period of time in more traditional ways. From a behavioural viewpoint, it is not simple for them to change their investment habits and shift their portfolios to new technologies. Nevertheless, robo-advisors might benefit from intergenerational wealth transfers (inheritance, gifts, etc.) in the future.

Another important client characteristic is monthly income. In our dataset, the median income of a robo-advisor client is almost three times that of a typical bank client. In general, low-income individuals use financial advisory services less than high-income individuals with robo-advisors not being an exception. Of course, higher income also tends to imply higher wealth. However, wealth alone cannot explain the subdued participation rate of low-income individuals in robo-advice. They often have limited access to financial services and problems in receiving and processing financial information. These effects should not be underestimated.[5] Paradoxically however, robo-advice could be particularly beneficial for low-income individuals as they might save on search costs.

Robo-clients are primarily "digital investors", unsurprisingly 7



Source: Deutsche Bank Research

What are the investment approaches of robo-advice clients today and what do they suggest for robos' future growth potential? A huge 65% of robo-advisor clients are primarily "digital investors". That is, they do not need a middle man (such as a fund management company) in their investment process and value the autonomy and full control of their decisions. This is a characteristic mostly attributed to millennials and younger generations. In comparison, only 17% of asset management clients are digital investors. Around 40% of them are "traditional investors" who value interaction with advisors for investment decisions. Moreover, a large share of asset management clients are, above all, risk-averse "savers". Without doubt, there is some selection bias in these figures, i.e. digital investors may cluster around robo-advisors, while others remain with asset managers. However, shifts in these approaches can be expected in the years to come, in an ever more digitalising society.

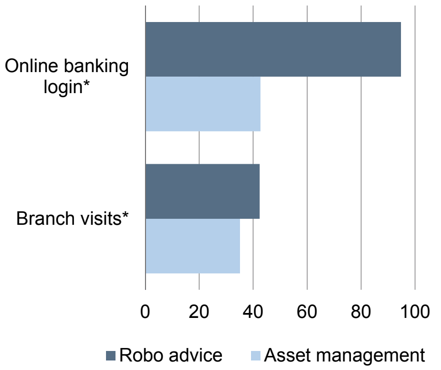
All in all, the average robo-advisor client is male, middle-aged and has a high income. Growth in robo-advisory to date has been driven by a specific sub-sample which is not representative of the population overall or the asset management landscape. That said, robo-advice has strong growth potential, thanks to i) its

4 Barber, Brad M. and Terrance Odean (2001). Boys will be boys: Gender, overconfidence, and common stock investment. Quarterly Journal of Economics, 261-292.
5 Tang, Ning and Marie-Eve Lachance (2012). Financial advice: what about low-income consumers? Journal of Personal Finance, 11 (2), 121-158.

scalability, and ii) the fact that its pioneer clients are digital natives who will probably dominate the society in the future. If robo-advisors are able to convince also some of the traditional savers, their market penetration could increase substantially.

Robo-clients contact their bank not only online 8

% of clients



*at least once during last 6 months.

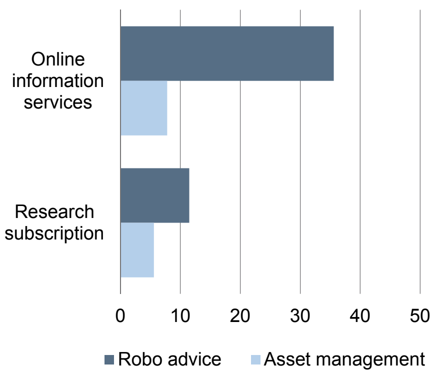
Source: Deutsche Bank Research

Robo-clients and retail banking

Robo-advisor clients might be a good approximation of how future generations will deal with financial matters and interact with banks. Banks will probably expand their offering to fulfil the expectations of this client segment. Beyond financial performance, obviously, what may these expectations entail? One thing to look at are distribution channels. In fact, 95% of robo-clients logged in to their online bank account at least once within six months, a much higher figure than for asset management clients. However, this does not imply that robo-clients do not visit bank branches. Actually, a large share of robo-clients (around 40% in a six-month period) visit branches to interact with employees. In a two-year period, both robo-advisor and asset management clients made a similar number of visits in total. This points to an ongoing interest of robo-clients in services offered at branches in general. Even though online solutions are increasingly replacing standard services, they are often an imperfect substitute e.g. when applying for a mortgage, consumer credit etc., at least to date. A properly staffed branch network can still address client demands on various fronts.

How do robo-clients receive and process information? 9

% of clients

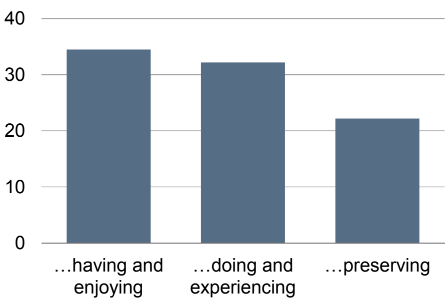


Source: Deutsche Bank Research

Another important aspect is the way robo-clients access information. A striking 37% of them prefer to receive information on their finances in real-time through e-mails, push-notifications etc. They value the speed and ease-of-use over traditional forms of client contact. Banks that use social networks, blogs, video-sharing as well as websites and e-mails to share information have a comparative advantage in attracting these clients. Also relevant in this context is how clients process information. A total of 12% of robo-clients have a research subscription compared to only 6% of asset management clients. Robo-clients probably compare products and prices on the internet, they read forum recommendations and share investment experiences with others. They most likely value the autonomy in which they make their assessment of an investment. This is somewhat in contrast to the basic principle of robo-advisory though, in which clients let machines do the investment for them. But it may reflect a general trend towards simple, straightforward customer experience.

Life attitudes of robo-clients 10

% of clients who value...



Sources: Sinus-Milieus, Deutsche Bank Research

As clients' attitudes (including towards online banking and information preferences) are largely driven by their values, insights can be gained from their ways of living. To assess this, we employ Sinus-Milieus and categorise robo-clients into three different groups.[6] In our dataset, individuals who value a high standard of living, status and ownership make up the largest group, accounting for 35% of robo-clients. These individuals aim at self-realisation and authenticity, usually have a liberal way of thinking and a desire for personal development. With 32%, the second-largest group comprises those who test new approaches and like exploring and focusing on new things. These individuals usually have a global economic mindset and a self-image as pioneers in terms of their consumption and lifestyle. They are technically inclined and IT-minded and therefore easily use new technologies. The third group, to which 22% of robo-clients belong, prefers to preserve the status quo and has a higher desire for order and balance. Obviously, there are certain overlaps and transitions between these values. Still, one can argue that the first two groups are more likely to represent future generations. The fact that robo-advisory is more common among these is further evidence of the growth potential of this technology.

[6] See Sinus-Milieus (2018). Information on Sinus-Milieus.

Outlook

Robo-advisors are making inroads in Germany and attracting an increasing number of clients. This trend may lead to higher ETF holdings of retail investors which so far have been subdued partly due to pay-as-you-go pension plans and traditional financial advisory services. The current robo-clients are a rather small subset of potential clients. Participation of female and low-income clients will probably grow in the coming years and, together with intergenerational wealth transfers from inheritance and gifts, etc., enlarge the robo-advisor client base strongly. Therefore, a partial shift from open-ended retail funds to passive investment alternatives would not be surprising in Germany. Preferences of current robo-advisory clients are a good approximation of clients of the future. A microdata overview reveals that despite their digital tendency and online affinity, robo-clients still visit branches. They value efficiency and autonomy in financial matters and focus on having and enjoying in life. Against this background, banks may continue to invest to increase their digital offerings and speed while keeping the core of their traditional access points.

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