Are robo-advisors sufficiently intelligent to provide suitable advice to individual investors?

BETTER FINANCE

The European Federation of Investors and Financial Services Users
Fédération Européenne des Épargnants et Usagers des Services Financiers

ARE ROBO-ADVISORS SUFFICIENTLY INTELLIGENT TO PROVIDE SUITABLE ADVICE TO INDIVIDUAL INVESTORS?

A RESEARCH REPORT BY BETTER FINANCE

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FOREWORD

The global health pandemic disrupted human relationships and multiplied the number of digital alternatives on offer. It also forced households to reduce consumption and spend more time online which, coupled with other factors, generated an increase in capital market investments.

Among other factors, we found that the availability of easily accessible and user-friendly FinTech platforms, including Robo-advisors, added further momentum to this trend. FinTech financing also increased in 2021, signalling the coming of age of many new providers and innovative solutions.

However, without adequate testing and supervision, FinTech will fall short of its promises and expectations. It is the purpose of this annual research report to monitor a part of this market, *Robo-advisors*, and highlight the good practices in the field as well as identify where there is room for improvement.

EXECUTIVE SUMMARY

BETTER FINANCE continued its research series into *Robo advice* with this **sixth annual edition,** mapping start-up platforms that provide Robo-advisory and investing services, and analysing their user-friendliness, transparency, costs, portfolio composition, the suitability of their recommendations and sustainability (through mystery shopping). This year the research team selected **18 platforms** providing investment advice in **11 countries** across Europe, Australia, USA and Singapore. However, the comparison of the results with the research of the previous 3 years is based on a sample of 9 platforms from Europe and the USA.[1] Looking at the Robo advisors in scope this year, we observed that:

Fees: While there are many pros and cons to Robo-advice, the success of the concept hinges on its ability to keep costs low. In this respect, Robo-advisors do not fall short! By any measure, Robo-advisors continue to be far less expensive than the equivalent services provided by more traditional players such as banks, financial advisors and asset managers.

There has been a constant downward trend in overall fees charged by Robo-advisors since the beginning of this research in 2016, especially in Europe where the lower-end fees continue their downward trend in 2021.

Divergences in asset allocation advice and expected returns: The research also analyses differences in terms of risk, asset allocation and expected returns for the two investor profiles.

Robo-advisors' algorithms generate significant divergences in expected returns, equity allocation and associated risk between platforms for the same investor profile.

In some cases, a conservative risk-reward profile composed of 51% of equities, is expected to yield more than twice as much as a portfolio with 90% of its capital invested in equities[2].

Also, the comparative analysis across 4 years reveals, besides important differences between platforms and investor profiles, significant divergences in expected returns between the years for the investor profiles on the same platforms.

Fees

- **European Robo advisors:** Overall fees vary between 0.48% and 1.60%
- **Non-European Robo advisors:** Overall fees vary between 0.11% and 1.10% (US, Australia and Singapore)

Divergences in portfolio composition and expected returns

- Annual **growth rates** vary from 1.90% to 11.69% (Millennial), and from 1.45% to 7.10% (Baby Boomer).
- Millennial: Robo advisors propose investments from very low risk (3/7) to "*high*" risk.
- Baby Boomer: Robo advisors propose from "*safety oriented*" investments or "low" risk to highly risky portfolios (9/10).

User-friendliness

- Robo-advisors perform slightly better in terms of **accessibility and simplicity** (average score 61,8%)
- Lower scores are obtained when it comes to providing **educational videos** and access to a "**human**" **advisor** to their clients (average score 49,3%).

[1] *Please note that this report does not aim to single out the best Robo-advice platforms, but to determine whether Robo-advice delivers on its promises to individual investors and provides suitable recommendations.*

[2] Another study focussing on Robo-advisors located in Germany revealed similar findings regarding divergences between asset allocation and expected performance of the investment advice. The study reveals that similar portfolio allocations composed of 50% equities and 50% bonds usually yield substantial differences in terms of performances.

Transparency

- Just 9 out of 14 European Robo-advisors disclose the **risk level** of the advised strategy.
- Only 9 out of 18 Robo advisors disclose **past performance.**
- All 18 Robo advisors provide a simple and intuitive representation of the **portfolio composition.**

Suitability

- **Suitability of the questionnaire:** Just 2 platforms have a "high" score with regard to assessing the financial literacy of the client.
- **Suitability of the investment advice**: only 3 out of 18 Robo advisors obtained the maximum score.

Sustainability

- 8 out 18 Robo Advisors provide options labeled as sustainable.

User-friendliness: Over the years, Robo-advisors have continuously improved the accessibility and simplicity of their platforms. However, just 3 platforms have noticeably improved their questionnaire by including new questions about the financial knowledge and investment preferences of the potential client compared to previous years.

Transparency: the combined score of a group of Robo-advisors per category (Fees, Portfolio, Risk and Past Performance) from 2018 to 2021 reveals that advisors are slowly improving their scores. Although transparency of information (disclosure) on fees improved in 2021, transparency with regards to past performance continues to be the worst performing indicator, having slightly decreased over the years (2018-2021).

Conflict of interest: according to the information disclosed on Robo-advisors' websites, most Robo-advisors' business models do not rely on "inducements" (these are "fee-only"). In this sense, they can be deemed to deliver **independent investment advice**,[3] thereby eliminating the issue of "conflict of interest" in the retail distribution chain.

Suitability: This report also assesses the **suitability of the questionnaires** used by the different Robo-advisors. The most concerning finding is that there are very few questions pertaining to the personal situation of the clients, nor do the questionnaires feature many questions on the level of financial literacy of the clients and individual investors.

The research also looked into **the suitability of the investment recommendations.** In terms of diversification, all platforms propose fairly diversified portfolios according to our methodology (*see ANNEX I for additional information on the methodology).*

Sustainability: We observed that the platforms do not formulate specific questions aimed at discerning the sustainability preferences of their potential clients. Just one single Robo-advisor allows for a choice between a range of thematic options to be selected during the questionnaire, such as "Ethics" and "Energy of the Future".

Conversely, Robo-advisors who do propose sustainable investments, allow for the client to simply switch the investment recommendation from a "traditional" to a "sustainable" one, but only after the Robo-advisor provides the investment recommendation (after the questionnaire).

Finally, none of the Robo-advisors disclose information on the sustainable portfolio / investing strategy (integration, exclusion, engagement, impact).

[3] See, for instance, PWC, "Robo Advisory Moves Forward in Italy", www.pwc.com/it, p. 23, available at: https://www.pwc.com/it/it/publications/assets/docs/robo-advisory-italy.pdf.

Policy Recommendations

Raise awareness of investor protection regimes

The European Securities and Markets Authority ("ESMA") and the European Commission ("EC") have already taken action to improve the level of financial literacy of EU individual investors and their trust in capital markets.

The ESAs should consider coordinating a pan-EU investor protection awareness programme, aimed at informing "retail" investors of the sets of rights that protect them when seeking advice and investing in capital markets and citing examples of successful enforcement cases.

Investment Advice

The EC should consider adopting the CESR[4] Guidelines on investment advice under the MiFID II Delegated Regulation (EU) 2017/565, in particular to clarify that:

- both explicit and implicit advice fall under the scope of Arts. 4(1)(4), 24(1), 24(7) and 25(1);
- implicit advice can take the form of either actions or behaviour, including written and oral communications, which by their purpose or reasonable impression, amount to investment advice.
- practices meant to circumvent the rules applicable to investment advice will face a ban and sanctions.

The European Commission should harmonise the definition and applicable rules for financial advice across all EU categories of retail financial products.

Actual cost, risk, and performance disclosure

The EU Commission should consider the following initiatives for EU financial services users:

- Independent savings products databases requiring standardised Key Information on actual costs, performances and risks.
- Independent web comparison tools.
- Rethinking mandatory disclosure documents such as an adapted KIID for digital / smart phone use.
- Enabling individual shareholder engagement within the EU by facilitating voting or giving power to a proxy through one's smartphone.

Sustainable Investing

ESMA's revised guidelines on sustainability preferences should be as granular and detailed as possible and include templates to ensure that financial advisors ask comprehensive and granular questions to their clients.

Robo advisors and other digital intermediaries such as neo-brokers must enable and facilitate the engagement of individual investors, notably by offering and facilitating the exercise of their shareholders rights.

Simplicity and Comparability

Robo-advice platforms still deal with products and services that require clients to be relatively financially literate. Unfortunately, as proven by the European Authorities' reports on cost and past performance, not only are long-term retail savings the only EU consumer products for which consumers and Public Supervisors are in the dark as to their future performance, but often don't even know what their past performance has been, especially with regard to their own investment objectives[5].

For this reason BETTER FINANCE once again calls on EU Authorities to fulfil their legal duty to promote simplicity and transparency of investment products.

Algorithm appropriateness

Seeing the lack of transparency with regards to the algorithms used by Robo-advisors and the high divergences in terms of expected returns and asset allocation revealed in this report, we call on the EU Commission and ESMA to investigate the algorithms used by Robo advisors in order to test their appropriateness and suitability for retail investors.

INTRODUCTION

BETTER FINANCE's annual report on automated investment advice (*robo-advice*) seeks to analyse a set of independent providers of such services in the European market and undertake a mystery shopping exercise to evaluate whether artificial intelligence can be an adequate substitute for traditional advice services.

In our first edition in 2016, "*Robo-Advice" for Savings & Investments: A Misnomer with Real Potential Benefits*,[6] the research team selected six newly established and independent[7]* robo-advisors in the EU and another four in the US market, to determine the main characteristics of these providers, compared to traditional investment firms.

BETTER FINANCE found these services to be attractive thanks to their cheaper, fee-based advice models: "*generally far simpler and more transparent fees from robo investing are also much lower than fees charged by 'human' financial advisors or private bankers*",[8] ranging between 0.69% and 1.69% (fund and wrapper fees included).

Most importantly, robo-advisors were offering – and continue to do so – overall cheaper services by using low-cost, index-tracking UCITS ETFs. In the subsequent editions of the *Robo-advice* series, BETTER FINANCE expanded its analysis to determine how the advice provided by an automated platform compares with traditional advice services. To this end, BETTER FINANCE undertook a "mystery shopping" exercise, based on two hypothetical investors – the *millennial* and the *baby boomer* – and looked at key elements for retail financial services users:

- the user-friendliness of the platforms,
- their transparency regarding fees, conflicts of interests, and investment proposition,
- the divergences in portfolio allocation (investment advice) and performance projections, and
- the sustainability of the underlying investment supports.

Over the last six years, the robo-advice market in the EU has expanded, with the launch of new providers and a larger market share in terms of the number of users and assets under management (AuM). The services provided also became more sophisticated and diversified, which makes this exercise all the more challenging. At the same time, the European Securities and Markets Authority (ESMA) issued additional guidance on the use of automated advice and investment platforms in retail financial services, which further consolidated this sector.

This year's report marks the sixth edition of BETTER FINANCE's research and mystery shopping exercise, with a selection of 18 providers from the EU, the US, and SG[9] markets. The advantage of maintaining the same scope of coverage is that it allows us to extend the data series and evaluate their performances (in line with our criteria) over longer periods of time to see whether improvements have been made.

The purpose of the report is not to evaluate compliance with the applicable legal frameworks (since this can only be done by supervisory authorities on a case-by-case basis), nor to create a classification (*best* to *worst* in class), but to **identify best practices, as well as room for improvement, in a financial services model that we find to hold significant promise for retail investors**. In light of the developments triggered by the lockdown measures during the global health pandemic, we believe that Robo-advisors will become increasingly important actors on the financial services scene. But as is the case with most innovations, robo-advice comes with its own challenges and risks, reason why monitoring and supervision will be key in the years to come.

[4] Committee Of European Securities Regulators
[5] See BETTER FINANCE's press release and assessment of ESAs reports on cost and past performance.
[6] Available at: https://betterfinance.eu/wp-content/uploads/publications/Robot_Advice_Research_Paper_FINAL.pdf.
[7] *Through *independent, BETTER FINANCE was referring to the fact that the investment firms establishing the automated advice and investment platforms had no ties to well-established large financial institutions active in the field.*
[8] Ibid, p. 4.
[9] Singapore

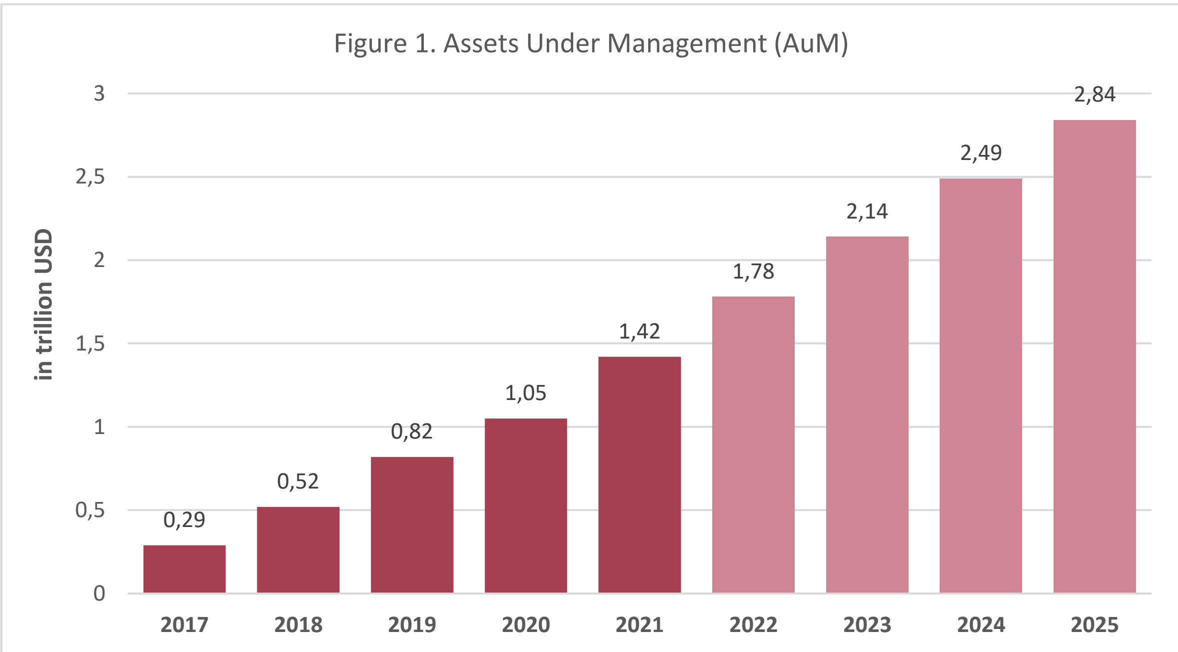
THE ROBO-ADVICE MARKET

The history of Robo-advice can be said to start with Betterment, an automated advisory platform born in 2010 in the US. In Europe, Robo-advisors started to appear in the UK and Germany around 2013[10]. Since then, several factors have contributed to the proliferation of Robo-advisors such as an increasing digitalisation of services, a simplification thanks to the use of apps, and a higher use of smartphones for daily banking activities.[11]

The global market

Even though forecasts predicted an exponential growth of the Robo-advice market, some sources evidenced that the Robo-advice market seriously undershot the 2015 growth projections: whereas the 4- to 5-year growth estimates of Assets under Management (AuM) predicted a market share of roughly €3.3 trillion ($4 trillion) in 2019 and €6.6 trillion ($8 trillion) in 2020, the actual AuM and adjusted projections for these two years are well below €1.6 trillion ($2 trillion) now.[12]

According to the latest figures form Statista (*January 2021*) the worldwide AuM of Robo-advisors worldwide reached 1,42 trillion USD in 2021 which is higher than the expected AuM for the previous year (1,37 trillion USD, 2020 forecasts).[13] The expected annual growth rate is 19%, with the market reaching 2.8 trillion USD by 2025.

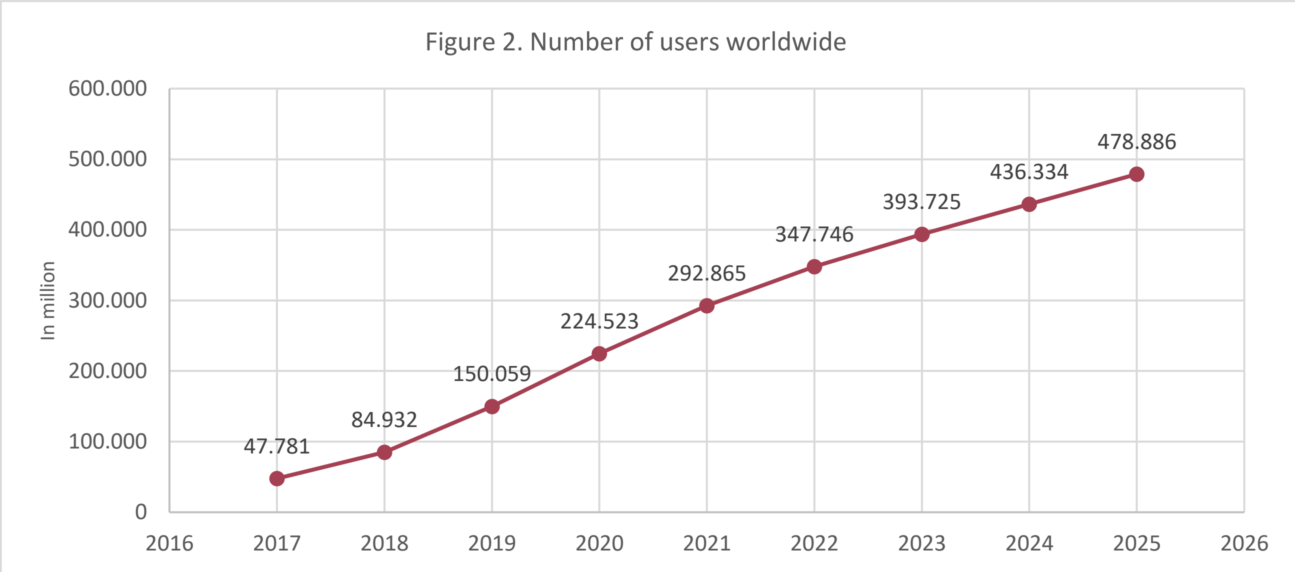


Source: Statista updated in January 2021 figures from 2022 to 2025 are estimated [14]

Besides a steady growth in AuM numbers around the world, the last few years also witnessed an increase in the number of clients signing up for Robo-advice services. In recent years, the wealth management industry encountered a new generation of clients, receptive to digital technologies and with a preference for having active control over their investments, as opposed to a more "hands-off" investment strategy reliant on traditional financial advisors.

[10] https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662928/IPOL_STU(2021)662928_EN.pdf
[11] https://www.frontiersin.org/articles/10.3389/frai.2020.00060/full
[12] Christoph Merkle, 'Robo-Advice and the Future of Delegated Investment' (2020) 51 Journal of Financial Transformation, 20-27, 22, quoting data from Statista, p. 3, available at: https://ssrn.com/abstract=3612986.
[13] BETTER FINANCE Report 2020 Robo Advice 5.0 Can consumer trust robots? https://betterfinance.eu/wp-content/uploads/Robo-Advice-Report-2020-25012021.pdf
[14] https://www.statista.com/statistics/741512/aum-of-robo-advisors-globally/

This new group of clients is also more inclined to rely on information from online sources rather than individual financial advisors. In addition, demographic changes are complemented by older generations that are becoming more tech-savvy, demanding more digital investment services to meet their demands.[15] In 2021, the number of clients of Robo-advisors reached 292 million worldwide and the number of users is projected to grow up to 478.8 million in 2025 (Figure 2).[16]



Source: Statista 2021; figures for 2022-2025 are estimated [17]

The emergence of Robo-advisors, as part of a fast-paced and changing FinTech market, has attracted the attention of the more traditional players of the financial industry. As a result, it is possible to see an emerging trend of more traditional institutional providers of financial services acquiring stakes, in full or in part, of this emerging market, thereby often influencing the independence of Robo-advisors. Consequently, the increasing trend of mergers and acquisitions of small and independent Robo-advisors by institutional financial players reduces the presence of independent Robo-advisors in the market.[18] What this implies for individual investors is yet to be seen. While this reduced independence of robo-advisors could lead to an improvement of their services (scaling up through an acquisition), it could also lead to a higher risk of conflicts of interests. *For additional information on conflict of interests please see the section below **(Robo Advisors are less conflicted than the mainstream ones)**.*

An alternative trend reported in the 2019 BETTER FINANCE Research Report on Robo-advisors, are mergers as the result of smaller Robo-advisors being acquired or taken over by larger and more established Robo-advisors. Within the IT and digital sector, the acquisition of start-ups by well-established companies is a common occurrence. This strategy allows established providers to mitigate future competition, as well as to increase the level of in-house innovation, while broadening the range of services available to their customers.

The European market

The European market represents but a relatively small share of the global market. According to Statista, the biggest market in terms of AuM is the US one, with 999 billion USD, followed by China with 92.7 billion USD, and Japan with 52.2 billion USD. [19] The EU remains relatively small compared to the US and China. In terms of AuM, the biggest market in Europe in 2021 is represented by the UK (27.4 billion €), followed by Italy (23.5 billion €), France (20.4 billion €) and Germany (18.5 billion €).

[15] Mikhail Beketov, Kevin Lehmann, Manuel Wittke, 'Robo Advisors: Quantitative Methods Inside the Robots' (2018) 19(6) Journal of Asset Management, 363-370.
[16] Statista: statistics portal Robo advisors: https://www.statista.com/outlook/dmo/fintech/digital-investment/robo-advisors/europe?currency=usdv
[17] https://www.statista.com/outlook/dmo/fintech/digital-investment/robo-advisors/europe?currency=usdv
[18] https://www.thinkadvisor.com/2019/08/20/acquisitions-and-closings-mean-fewer-robo-advisors/
[19] Statista update January 2021 https://www.statista.com/outlook/dmo/fintech/digital-investment/robo-advisors/worldwide?currency=eur#key-market-indicators

Figure 1.1: European Robo-advice market by AUM

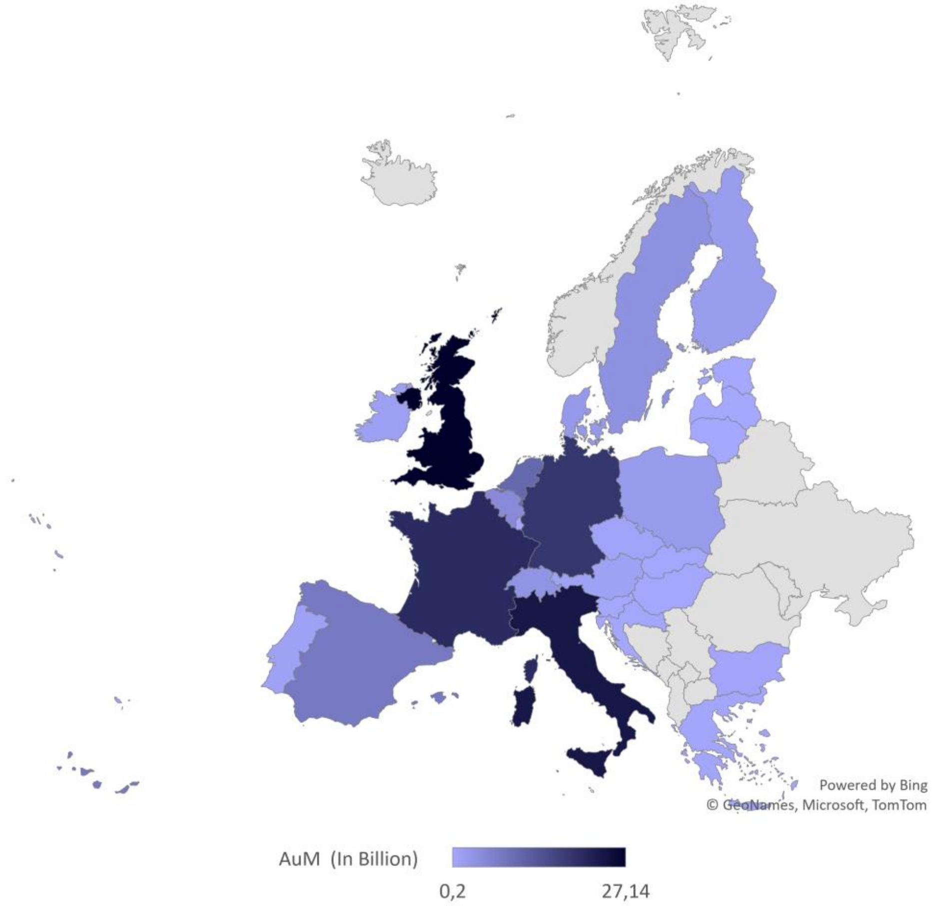


Table 1.1: AuM representation per country	
Country	AuM (In Billion €)
UK	27,14
Italy	23,58
France	20,41
Germany	18,59
Netherlands	10,41
Spain	7,87
Belgium	4,87
Sweden	3,96
Switzerland	3,42
Denmark	2,6
Poland	2,36
Finland	2,22
Ireland	1,45
Austria	1,20
Portugal	1,17
Czechia	0,79
Bulgaria	0,77
Greece	0,60
Hungary	0,40
Slovakia	0,32
Croatia	0,30
Luxembourg	0,28
Lithuania	0,25
Slovenia	0,25
Estonia	0,22
Latvia	0,20

Source: Statista updates January 2021

Generally, users of Robo-advisors invest relatively low amounts of money. One of the advantages of Robo-advisors is that most independent platforms have low thresholds with regard to the initial investment, thus attracting more clients that intend to make small investments. In Europe, the average investment of individual investors using Robo-advisors amounts to about 4.749 EUR. The trend in the number of users of Robo-advisors is typically exponential: 20.1 million users in 2020 and 40 million users are expected by 2025.

THE USE OF ALGORITHMS IN THE INVESTMENT ADVISORY PROCESS

Traditional Advisors vs Robo Advisors

With the emergence of FinTech, the financial industry is experiencing an unprecedented change that is evolving at a fast pace. In this context, Robo-advisors bring new advantages and improvements compared to the traditional "human" advisor, but as with any other technological change, this doesn't come without risk.

The raison d'être of financial advisors, be they automated or "human", is to match the needs and preferences of the client with the investment product that best corresponds to their interests. Yet, research reveals consistent important biases affecting the advisory process of traditional financial advisors, [20] [21] [22] often leading to a "one size fit all" approach instead of personalised financial advice.[23]

[20] *Working Paper 109-2021, April 2021 Robo-advising Less AI and More XAI* https://www.icmagroup.org/assets/Uploads/Robo.pdf
[21] *Foerster, Linnainmaa, Melzer and Previtero (2017) retail financial advice: does one size fit all?* https://www.nber.org/system/files/working_papers/w20712/w20712.pdf
[22] Mullainathan, Noeth and Schoar (2012) THE MARKET FOR FINANCIAL ADVICE: AN AUDIT STUDY https://www.nber.org/system/files/working_papers/w17929/w17929.pdf
[23] Ibid.

Thus, the beliefs, knowledge, and capabilities of the financial advisor finally affect the advice to the client with the risk of providing a non-customised investment.[24] From another perspective, Robo advisors provide investment advice based on a basic algorithm. The European Supervisory Authorities' (ESAs) 2015 Discussion Paper on automation in financial advice[25] highlighted a series of other benefits Robo-advisors can bring, such as increased accessibility through online distribution (B2), product or instrument diversity (B3), or the ability to receive "*financial advice in a faster, easier and non-time-consuming way*".[26] The European Securities and Markets Authority (ESMA) also highlighted in its guidelines that automated platforms should mitigate the risk of advisees overestimating their knowledge and experience when filling the questionnaires without human supervision.[27]

The use of this technology is not free of limitations and potential risks for retail investors.[28] Most of these risks are derived from the substitution of human judgment and interaction with artificial intelligence. Some authors deem that Robo-advisors present risks such as "*errors in the underlying algorithm or limited ability to cover the specificities of all customers*".[29]

In addition, another advantage of Robo-advisors is the (very) low level of fees and **the accessible investment thresholds**[30]. Indeed, evidence shows that Robo-advisors charge between 130 and 180 bps less than traditional asset managers on a balanced fund;[31] whilst other studies show that, whereas the cost for "human" advice does not go below 0.75%, and can go as high as 1.5%, Robo-advisors charge six times less (0.25%).[32] In light of the negative effect that fees have on returns,[33] these are considerable cost-efficiency gains. BETTER FINANCE wishes to highlight the considerable improvement on the ***real net returns of*** portfolios recommended and managed by Robo-investors (Robo-advisors and cyborgs) for "retail" investors. Since most Robo-advisors use passive management strategies, based on low-cost index-tracking Exchange Traded Funds (ETFs), a non-professional investor may be better off with automated advice after fees and inflation are deducted, rather than with an actively managed, human-advised instrument or product.[34]

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[24] Ibid.

[25] European Supervisory Authorities' Joint Committee Discussion Paper on Automation in Financial Advice (4 December 2015) 4, JC 2015 080.

[26] Ibid, p. 17.

[27] ESMA*, Guidelines on Certain Aspects of the MiFID II Suitability Requirements* (n 114) Supporting Guideline no. 51; on the other hand, several other studies regarding consumers' behaviour in the online environment highlight the differences between in-person and online questionnaires, revealing that the "interviewer effect" and "social desirability bias" may prompt respondents to t answer differently; see Bobby Duffy, Kate Smith, George Terhanian, John Bremer, 'Comparing Data from Online and Face-to-Face Surveys' (2005) 47(6) International Journal of Market Research, 615-639, 618 and 638, referring to studies by Taylor (2000) and Taylor *et al.* (2005) on internet researches and social desirability biases.

[28] Boreiko, Massarotti (2020), How risk profiles of investors affect Robo advised Portfolio https://www.frontiersin.org/articles/10.3389/frai.2020.00060/full

[29] Macchiavello, 'FinTech Regulation from a Cross-Sectoral Perspective' (n 7), p. 67.

[30] Many "Human" financial advisor require a minimum investment that could offset the cost of advice (e.g. €5,000) which is prohibitive or demotivating for a large part of EU savers, in particular the younger generations which do not have savings accumulated. A Deloitte report showed that robo-advisors need 52% less Assets under Management to cover the costs per advisor compared to a wealth manager; see Dominik Mouillet, Julian Stolzenbach, Andreas Bein, Ilma Wagner, 'Cost Income Ratios: Why Wealth Managers Need to Engage with Robo Advisors' (December 2016) Deloitte GmbH, p. 3, available at: https://www2.deloitte.com/content/dam/Deloitte/de/Documents/financial-services/Robo-Advisory-in-Wealth-Management.pdf.

[31] Gruppo di Lavoro CONSOB, Scuola Superiore Sant'Anna di Pisa, Universita Bocconi, Universita di Pavia, Universita di Roma "Tor Vergata", Universita di Verona, 'La Digitalizzazione Della Consulenza in Materia di Investimenti Finanziari' (2019) CONSOB Quaderni FinTech, p. 25, footnote 11 quoting a study from BlackRock.

[32] Abraham, Schmukler, Tessada, 'Robo-Advisers: Investing Through Machines' (n 5), 1, quoting data from EY (2015).

[33] See the BETTER FINANCE's report on the correlation between cost and performance of retail investment funds, showing that fees can reduce up to 0.88% the excess return (and net performance) of a EU retail UCITS: https://betterfinance.eu/wp-content/uploads/BETTER1.pdf.

[34] The two ESMA reports on cost and performance of retail investment products in the EU (2019, 2020) have shown that, net of fees, passively managed funds outperformed actively managed ones; see ESMA Annual Statistical Report, *Cost and Performance of Retail Investment Products in the EU* (2019, ESMA50-165-731 and 2020, ESMA50-165-1098); this finding is also supported by Merkle's research, showing that "[a] *passive low cost strategy will beat most active managers and advisor recommendations*", Merkle, 'Robo-Advice and the Future of Delegated Investment' (n 13), p. 6.

WHEN DO AUTOMATED INVESTMENT PLATFORMS PROVIDE ADVICE?

In a recent BETTER FINANCE report on the *New Retail Trading Environment*[35] we highlight the potential determinants of increased retail investments in capital markets. Among others, we single out *social trading* as a rapidly evolving trend by which non-professional investors seek financial information, investing models, and even advice on social networks from peers or other professionals.[36]

In this light, several supervisory authorities raised concerns about these developments, generally highlighting the risk of individual investors making suboptimal decisions and exposing themselves to too much risk.[37] In October 2021, the European Securities and Markets Authority (ESMA) issued a supervisory statement about giving investment recommendations on social media platforms: in short, ESMA highlighted the disclosures required when suggesting investment strategies in an online environment.

Since certain platforms claim not to provide advice or present disclaimers in this sense, coupled with our findings from several years' worth of mystery shopping, the BETTER FINANCE research team thought it useful to revisit this topic: what is the difference between the different types of financial and investment information provided online, including on social networks?

Simply put, **when does the provision of information** (as an application of the freedom of expression) **become an investment recommendation** or **investment advice**? Can a disclaimer ("*this is not investment advice*") remove the recommendation or advice nature of the information disseminated to certain persons or the public?

> ***Why is this important?*** *Investment advice is a regulated service under MiFID II*[38] *and, besides being required to meet an entire list of conditions,*[39] *can be provided only by authorised professionals (in the EU).*[40] *Investment recommendations can be provided by non-professionals as well, but must be transparent about the underlying interests in order to not mislead investors.*

The analysis must start with a top-down approach, i.e., first we need to deconstruct the concept of *investment advice* to understand what differentiates it from *investment recommendations*. To begin with, MiFID II defines investment advice as

> *the provision of personal recommendations to a client, either upon its request or at the initiative of the investment firm, in respect of one or more transactions relating to financial instruments* (Art. 4(4) MiFID II).

While this seems easily understandable, in fact, the applicable framework is much more complex. One of the Commission's Delegated Regulations (providing further implementation details for particular MiFID II provisions) specifies that "*personal"* in "*personal recommendation*" means that the advice is addressed to a particular "*person in his capacity as an investor or potential investor*" and is not "*issued exclusively to the public*".[41]

Furthermore, investment advice must "*be presented as suitable*" or "*be based on a consideration of the circumstances*" of the client or potential client[42] and recommend to provision of investment advice. However, what if a client lodges a complaint against a professional for *unsuitable* advice and the professional defends that, in fact, he/she did not provide investment advice?

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[35] See BETTER FINANCE, *The New Retail Trading Environment: Expectations and Challenges Ahead* (November 2021) BETTER FINANCE

[36] Ibid, p. 12.

[37] For instance, the Chair of the Spanish Securities Markets Commission (CNVM) highlighted, in relation to crypto-investing, that "influencers or public figures" that promote such investments to be responsible so that individual investors do not fall for "*misleading or fraudulent*" offers – see Maria Dominguez, '"Toque" de Rodrigo Buenaventura (CNMV) a Los 'Influencers' Que Anuncian Criptodivisas' (4 October 2021, eleconomista.es) accessed 11 November 2021, available at: https://www.eleconomista.es/inversion-sostenible-asg/noticias/11418335/10/21/Toque-de-Rodrigo-Buenaventura-CNMV-a-los-influencers-que-anuncian-criptodivisas.html; for further explanations on the phenomenon of "finfluencers", see Vanessa Pombo Nartallo, '"Finfluencers": Financial Education and Regulator Surveillance' (8 October 2021, bbva.es) accessed 11 November 2021, available at: https://www.bbva.com/en/finfluencers-financial-education-and-regulator-surveillance/.

[38] See Annex I, Section A, pt. (5), read in conjunction with Art. 4(4) of MiFID II.

[39] Investment advice must be personal (given in consideration of clients' personal circumstances), competent, suitable, must disclose whether it is independent or not etc – for a simple analysis of the requirements of investment advice, see the sub-section *EU Regulatory Framework* in BETTER FINANCE, *Robo-Advice 5.0: Can Consumers Trust Robots?* (January 2021) BETTER FINANCE, p. 14-15, available at: https://betterfinance.eu/publication/robo-advice-5-0-can-consumers-trust-robots/.

[40] See para (1) read in conjunction with para (2) of Art. 4 and Annex I, Section A, of MiFID II.

[41] Article 9 of Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj (hereinafter MiFID II DR 2017/565).

[42] Client can be used interchangeably with *investor*.

(a) to buy, sell, subscribe for, exchange, redeem, hold or underwrite a particular financial instrument.
(b) to exercise or not to exercise any right conferred by a particular financial instrument to buy, sell, subscribe for, exchange, or redeem a financial instrument (Art. 9 MiFID II DR 2017/565).

Implicit advice. There can be situations where the provision of specific information to a certain person still qualifies as investment advice although it is not framed as such. Assuming, hypothetically, that a professional discusses with one of our mystery shoppers about his financial situation and investment objectives outside of the work environment, without making a recommendation, but later tags him/her in a post on social media

Source: BETTER FINANCE, 2021

Based on the proposals of the Committee of European Securities Regulators (CESR) of 2009,[43] it would still qualify as investment advice, albeit ***implicit***, and the professional would still be held to the MiFID II standards for providing this particular service. This is because the provision of investment advice is judged either by the *purpose* to which a specific financial or investing information is conveyed or by the *reasonable impression* the addressee is given by those who provide financial or investing information.

Purpose: EU law makes a distinction between *investment advice* and *investment recommendation*, while defining investment advice as a *"recommendation* (…)", which prompts us to ask what is the essence of advice? Based on the CESR guidance, which is still valid today,[44] advice must have the nature and purpose of guiding the addressee towards a certain investment decision, regardless of whether the addressee actually takes that decision or not. CESR highlighted that advice differentiates from other recommendations by its "*value judgement on its relevance to decisions which an investor may make*". While objective statements of figures, facts, or events do not have "*the force of a recommendation*", when the communication starts to be biased or aimed towards a certain investment action (buy, sell, hold, redeem, exercise a right, etc.), it becomes a recommendation which, if addressed to a particular person, will become *investment advice*.

Reasonable impression: Both the CESR and the current applicable framework focused more on the reasonable expectation or impression a retail client is left with (from the communication with a professional) to qualify the information as investment advice or not. If the client reasonably understands that a recommendation is suitable for him/her or that it is given in consideration of his/her personal circumstances, judged by all elements of the communication/exchange with the professional, the latter will have to fulfil all criteria for investment advice. However, both the CESR and the current applicable laws lacks one aspect in their clarifications: first, should professionals understand *suitable recommendation* the same as *suitable advice*, i.e. the content of the *suitability assessment* prescribed under Art. 25(2) MiFID II? For those fluent in financial regulation, it may seem obvious that "*presented as suitable*" would follow the prescriptions of the *suitability assessment*, but how to determine if the average non-professional investors, with a limited financial literacy, find a recommendation as suitable for themselves? Perhaps it was the intention of regulators, just as with the concept of "*reasonable*", to leave room for supervisors and enforcers to make a case-by-case assessment and judge, based on all circumstances at hand, whether the addressee of the recommendation could have found or did find it suitable for him/her.

In our view, the assessment of implicit investment advice should start from the position of authority or expertise the one who initiates the exchange of information has, or is perceived to have, in the eyes of the non-professional addressees. Our proposal comes against the background of the already documented, but also new, behavioural biases individual, non-professional investors exhibit when participating, directly or indirectly, in capital markets. Most importantly, given the rise of *social trading*, particularly those platforms that still propose mirror or copy trading, it may

[43] The CESR is the precursor of the European Securities and Markets Authority, see CESR, *Understanding The Definition of Advice Under MiFID* (14 October 2009), Consultation Paper, CESR/09-665, available at: https://www.esma.europa.eu/system/files_force/library/2015/11/09_665.pdf.
[44] This is because not only the definition of investment advice under MiFID has been kept under MiFID II, but also the MiFID II DR 2017/565 has adopted key elements in defining advice from the CESR guidance of 2009.

be that most of the discussions are intended to guide the decision to be taken by individual investors (or through the opinions disseminated to *value judgment to a decision to be taken*), which would move the discussion in the sphere of investment advice.

Especially since most of this social trading takes the form of execution-only services (where no suitability or appropriateness assessment is made), EU and national securities markets supervisors should pay more attention to what designated peers or "experts" communicate with retail investors and how the "beauty contest" transforms to generalised investment recommendations.

Other forms of implicit advice. The research team finds it useful for the average non-professional investor to enumerate a few examples taken by the CESR where an exchange of information that does not readily seem as advice does, in fact, qualify as investment advice under MiFID II:

- presenting a number of alternatives, rather than one particular investment choice/strategy, to a particular client (the above conditions being met), for instance when a few model portfolios are recommended based on a questionnaire the client goes through;
- notifications when certain financial instruments reach a price, if prior to that the risk profile and assessment of the client has been made; or
- slightly ambiguous expressions such as "investors like you buy this product" or "this would be the best option".

Investment recommendations. Based on the provisions of the MiFID II provisions framework explained above, if the recommendation is not *personal*, but addressed to a wider audience, or it is personal (addressed to a particular individual) but does not appear to be suitable or in consideration of his/her personal circumstances, it would qualify as an *investment recommendation* regulated by the Market Abuse Regulation (MAR).

An investment recommendation means "***information recommending or suggesting an investment strategy, explicitly or implicitly, concerning one or several financial instruments or the issuers, including any opinion as to the present or future value or price of such instruments, intended for distribution channels or for the public***", that is

> "***(i) produced by an independent analyst, an investment firm, a credit institution, any other person whose main business is to produce investment recommendations or a natural person working for them under a contract of employment or otherwise, which, directly or indirectly, expresses a particular investment proposal in respect of a financial instrument or an issuer; or***
>
> ***(ii) produced by persons other than those referred to in point (i), which directly proposes a particular investment decision in respect of a financial instrument.***" (Art. 3(34) and (35) MAR).

In much simpler terms, an investment recommendation under MAR is *generic advice* or *general recommendation*. The same reasoning for investment advice would apply in this case as well; particularly, if a set of information is objective and presented objectively, it will not qualify as investment recommendation under MAR. Such examples include:

- comparison of the benefits, risks, or conditions of a particular investment;
- presentation of league tables, best/worst performers, as well as information on performances or costs;
- alerts about certain events happening.

In relation to social networks discussions, there is an important distinction made in Art. 3(34) MAR: if a professional suggests, directly or indirectly, transactions with either a financial instrument or the issuer, it will be considered an investment recommendation. However, it will not be the case for non-professionals if they speak about ***issuers*** and, generally, if they do not directly propose a financial instrument.

Note: *Both above-mentioned provisions (MAR and MiFID II) do not distinguish between professional and retail investors. While there is merit of affording a high level of protection to professional investors as well, additional safeguards for non-professional (retail) investors should be put in place.*

In addition, the implementing Regulation of MAR makes an important additional clarification for those non-professionals who present themselves as, or create the appearance of being, experts. In short, such a person will be considered to act as an expert if:

- *(i)* ***presents himself as having financial expertise or experience; or***
- *(ii)* ***puts forward his recommendation in such a way that other persons would reasonably believe he has financial expertise or experience*** (Art. 1(1) Regulation 596/2014).

Such persons are held to additional disclosure rules under the MAR framework.

BETTER FINANCE believes that what distinguishes the freedom of expression from investment recommendations (MAR) and advice (MiFID II) is not, in fact, the objectivity of information but the purpose and appearance that the information fulfils or generates with non-professional addressees.

ROBO ADVISORS' INVESTMENT ADVICE PROCESS

Looking more in detail on how Robo advisors provide the investment advice, we can divide the operation in various phases. The first phase is the **assessment of the client**. The platform asks a set of questions to the client such as financial situation, investor characteristics (age, marital status, risk tolerance, investment horizon and net salary), financial knowledge and the investment objective. This information is collected via the online questionnaire in order to profile the client.[45] However, the number of questions and clients' aspects asked in the questionnaire changes extensively across the Robo advisors. The EU framework (MiFID II) requires specifically financial advisors to assess also the financial literacy of their clients. With recent amendments on MiFID II on *the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms,*[46] financial advisors will also need to ask clients their sustainability preferences and to take them into consideration in their assessment. However, the changes will apply from August 2022.

In a second phase, the Robo-advisor proposes a "tailored" **investment portfolio** based on the responses to the questionnaire. For the construction of the portfolio, Robo -advisors generally use different portfolio construction techniques. Research[47] shows Modern Portfolio Theory is the most used technique by Robo advisors for portfolio optimisation and asset allocation.[48] However, one of the main issues is the lack of transparency of the methods applied by the Robo advisors. In the same research, a large number of Robo advisors do not disclose what methodology they use for the asset allocation.[49] BETTER FINANCE is not the only one to show inconsistency in terms of investment advice. For example, research shows that there are major inconsistencies in asset allocation for moderate/conservative risk profiles.[50] Another research analysing German Robo advisors came to the conclusion that similar asset allocations have very divergent performances.[51]

Some Robo advisors also provide **automatic rebalancing** of the portfolio.[52] The portfolio is adjusted depending on when the algorithm detects deviations from the initial portfolio.[53] These differences could be determined by market or asset value changes within the portfolio. However, little is known about the recurrence of this type of automatic rebalancing, which usually occurs without the client needing to perform any action in the platform.[54]

ISSUES CONCERNING THE APPLICATION OF THE ALGORITHMS

An algorithm can be defined as the mathematical process of incorporating inputs (investor assessment) in order to provide outputs (investment portfolio). Artificial intelligence (AI), on the other hand, is a more complex system than algorithms, but the term's definition is still subject to debate. According to the EU Commission: "*artificial intelligence system' (AI system) means software that is developed with one or more of the techniques and approaches listed in Annex I*[55] *and can, for a given set of human-defined objectives, generate outputs such as content, predictions,*

[45] *Working Paper 109-2021, April 2021 Robo-advising Less AI and More XAI* https://www.icmagroup.org/assets/Uploads/Robo.pdf
[46] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1253&from=EN
[47] Beketov, Lehmann, Wittke (2018) Robo Advisors: quantitative methods inside the robots file:///C:/Users/User/Downloads/Robo_Advisors_quantitative_methods_inside_the_robo%20(1).pdf
[48] Ibid.
[49] Ibid.
[50] Boreiko, Massarotti (2020), How risk profiles of investors affect Robo advised Portfolio https://www.frontiersin.org/articles/10.3389/frai.2020.00060/full
[51] PUHLE (2019) The performance and asset allocation of German Robo-advisors https://www.researchgate.net/publication/336237020_The_Performance_and_Asset_Allocation_of_German_Robo-Advisors
[52] Study requested by the ECON Committee, Robo Advisors, How they fit in the existing EU regulatory Framework, in particular with regard to investor protection? https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662928/IPOL_STU(2021)662928_EN.pdf
[53] Ibid.
[54] Ibid.
[55] *"Machine learning approaches, including supervised, unsupervised and reinforcement learning, using a wide variety of methods including deep learning; (b) Logic- and knowledge-based approaches, including knowledge representation, inductive (logic) programming, knowledge bases, inference and deductive engines, (symbolic) reasoning and expert systems; (c) Statistical approaches, Bayesian estimation, search and optimization methods." https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_2&format=PDF*

recommendations, or decisions influencing the environments they interact with".[56] Research[57] [58] suggests that the application of AI in Robo-advisor is not relevant at the moment as these platforms use simple and standardised algorithms instead of more complex AI systems. Even if the application of AI and machine learning system is highly possible in the future, it is not an easy task to determine specifically in which category they might fall due to lack of common definitions and transparency of the software used. Most Robo-advisors' algorithms, being at the core of their business model[59], are not publicly disclosed,

Therefore, one of the main questions remains the accountability and comprehensibility of algorithms. There are common concerns that the use of algorithms creates risks in terms of consumer protection. [60] ESMA also raises concerns with regard to the use of consumer data by Robo-advisors. Consumers are not aware of the technology used by such automatisation, and they lack understanding of the underlying process from which the investment advice is borne. [61]

ROBO ADVISORS ARE LESS CONFLICTED THAN THE MAINSTREAM ONES

The lack of trust in the financial system can also be blamed on mis-selling,[62] and indirectly on the conflicts of interest, commissions received by investment advisors. This is because mis-selling can also originate in the **mismatch** between the investment recommendation and the needs of individual, non-professional ("retail") investors. The latter mismatch is potentially caused by the **receipt of "inducements" by** investment advisors **from** investment firms to recommend a certain financial instrument or investment product **to** a retail client.

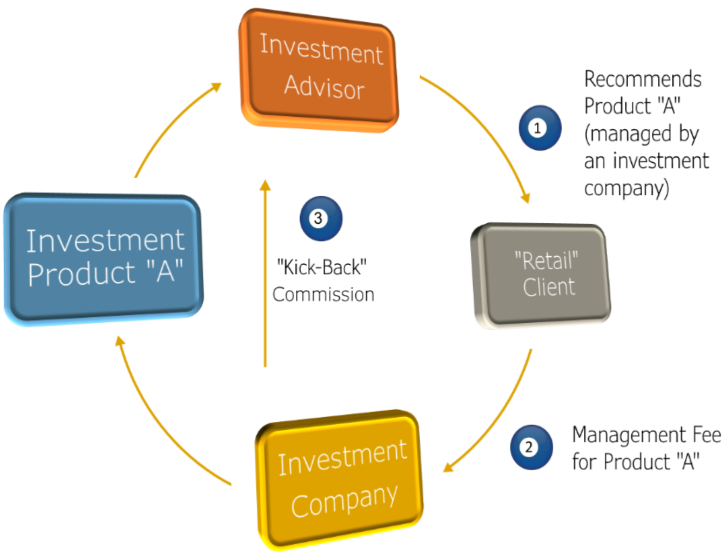
Before delving into the debate, a few terminological clarifications are necessary:

"Inducements"	The term is used by EU law to describe "*fees, commissions or any monetary or non-monetary benefits paid or provided by*" anybody else except the client to the investment advisor in relation to the provision of investment advice (Art. 24(7)(b) MiFID II).
"Fee-only", "Fee-based", or "Commission-based" advice	Depending on who is directly paying for the investment advice service, three categories are traditionally distinguished: • fee-only, where the only remuneration of the advisor is the fee chaged from the client; • fee-based, where the main remuneration of the adviser is the advice fee charged to the client, but minor "commissions" can also be provided by third-parties; • commission-based, where the advisor is entirely or mainly paid by third parties other than the client (through "inducements").
"Independent" advisor / advice	The term is used by EU law to describe any investment advisor that does not accept or retain "inducements" for the provision of the investment advice (Art. 24(4)(a)(i), read in conjunction with Art. 24(7) of MiFID II).

***Note**: The fact that an "independent" advisor does not charge the client does not mean the advice service is not paid for. The essential distinction between "independent" and "non-independent" advice relies in who is directly paying the advisor:*

- *if it's the client receiving the advice, the advice is considered "independent";*
- *if it's a third-party (such as investment product manufacturers), the advice is considered "non-independent"; however, in most cases it is still the client that ultimately bears the cost of advice, which is bundled in the total cost figure of the investment product.*

[56] Proposal for a regulation of the European parliament and of the council laying down harmonised rules on artificial intelligence (artificial intelligence act) and amending certain union legislative acts https://eur-lex.europa.eu/resource.html?uri=cellar:e0649735-a372-11eb-9585-01aa75ed71a1.0001.02/DOC_1&format=PDF
[57] Study requested by the ECON Committee, Robo Advisors, How the fit in the existing EU regulatory Framework, in particular with regard to investor protection? https://www.europarl.europa.eu/RegData/etudes/STUD/2021/662928/IPOL_STU(2021)662928_EN.pdf
[58] *Working Paper 109-2021, April 2021 Robo-advising Less AI and More XAI* https://www.icmagroup.org/assets/Uploads/Robo.pdf
[59] *Ibid.*
[60] Mateusz Grochowski, Agnieszka Jabłonowska, Francesca Lagioia & Giovanni Sartor (2001) Algorithmic Transparency and Explainability for EU Consumer Protection: Unwrapping the Regulatory Premiseshttps://papers.ssrn.com/sol3/papers.cfm?abstract_id=3826415
[61] ESMA report on trends, risks and vulnerabilities https://www.esma.europa.eu/sites/default/files/library/esma50-165-1842_trv2-2021.pdf
[62] BETTER FINANCE, A major enforcement issue: mis-selling of financial products https://betterfinance.eu/wp-content/uploads/publications/Misselling_of_Financial_Products_in_the_EU_-_Briefing_Paper_2017.pdf



A common model is that by which an investment product manufacturer ("Investment Company") distributes a product ("Investment Product A") through an investment advisor, under agreement to receive a commission if the latter recommends and sells product "A" to the retail client (1). The retail client will pay a periodical "management fee" to the investment company (2), of which the investment company will "kickback" a share (typically half or more of the "management" fee) to the investment "advisor" (3).

Source: BETTER FINANCE own composition

As shown in the ***Independent investment advice disclosure table*** most robo-advisors' business models do not involve the receipt of "inducements" (these are "fee-only"). Therefore, these can be deemed to deliver **independent investment advice**,[63] thus eliminating the issue of conflicts of interest in the retail distribution chain.

While BETTER FINANCE acknowledges that the debate on whether "inducements" do cause a conflict of interest is not one-sided, we believe that the receipt of incentives (fees, commissions, other types of benefits) from investment firms by investment advisors for recommending certain financial products is inconsistent with the obligation to act in the client's best interests (Art. 24(1) MiFID II).[64] Several other authors highlight that one of the key issues in financial advice is the "*conflict of interest arising from compensation schemes and lack of separation between sales and advice*",[65] or that "*a very particular type of conflicts of interest is the one caused by the receipt or payment of inducements*".[66]

Moreover, even EU law itself labels such practices as "non-independent" advice and seems to suggest that retaining inducements for investment advice to retail clients can be a **source of conflicts of interests** (Art. 23(1) MiFID II)[67] or even **impair with the** general **obligation to act in the client's best interests** (Art. 24(10) MiFID II).[68]

So far, EU law did not fully ban the receipt of inducements by investment advisors when dealing with **retail** clients, as the regulators in the UK and the Netherlands did. Since 2014, UK- or NL-based advisors advising "retail" clients are no longer allowed to be "remunerated" for their advice service by anybody else than the client itself.[69] Pursuant to MiFID II, investment advisors can accept inducements, but:

- if the advisor retains the *inducements*, he cannot call himself "independent";
- if the advisor passes on the remuneration to the client, or does not accept inducements, he will be deemed "independent".

In a perfect market without information asymmetry,[70] inducements could be adequately weighted by the investor in assessing the recommendation received from the advisor. However, the reality is different, and studies show that "retail" investors are unaware of this conflict of interests. For instance, in the Dutch market, between 92% and 95% of consumers **do not read** or **read superficially** the *services statement* or the *qualitative statement of costs* where

[63] See, for instance, PWC, "Robo Advisory Moves Forward in Italy", www.pwc.com/it, p. 23, available at: https://www.pwc.com/it/it/publications/assets/docs/robo-advisory-italy.pdf.

[64] BETTER FINANCE Response to the ESMA Consultation paper on inducements: https://betterfinance.eu/wp-content/uploads/BETTER-FINANCE-Response-ESMA-CE-06092019.pdf.

[65] Veerle Colaert, Thomas Incalza, 'Conflicts of Interest and Inducements in the Financial Sector' in Veerle Colaert, Danny Busch, Thomas Incalza (eds.), *European Financial Regulation: Levelling the Cross-Sectoral Playing Field* (2020) Hart Publishing, 377 – 394, 377.

[66] Michael Haliassos, Alexander Michaelides, 'Asset and Debt Participation of Households: Opportunities and Challenges in Eliminating Borders' in Ester Faia, Franklin Allen, Michael Haliassos and Katja Langenbucher (eds.), *Capital Markets Union and Beyond* (2019) MIT Press, 113 – 126, 118; See also Marie Eve-Lachance, Ning tang, 'Financial Advice and Trust' (2012) 21 Financial Services Review, 209-226, 209.

[67] The first paragraph of Article 23 MiFID II requires investment services providers to take "*all appropriate steps*" to prevent or manage conflicts of interest, including those "*caused by the receipt of inducements*".

[68] Paragraph 10 of Article 24 MiFID II obliges investment firms to not adopt remuneration arrangements, sales targets or other schemes that would incentivise its staff to recommend products if other more suitable products are available, being deemed to conflict with the duty to act in the clients' best interest.

[69] See, for the Dutch ban on inducements, De Brauw, 'New Ban on Inducements for Investment Firms' (De Brauw Blackstone Westbroek, 13 January 2014) available at: https://www.debrauw.com/legalarticles/new-ban-inducements-investment-firms/; see also Maria Nikolova, 'ESMA Does Not Recommend Complete Ban on Inducements for Retail Products Across the EU' (financefeeds.com, 1 April 2020), available at: https://financefeeds.com/esma-not-recommend-complete-ban-inducements-retail-products-across-eu/.

[70] Based on the neo-liberal economic theory according to which all capital market agents have access to the same information and act as "rational" agents, attempting to optimise their risk-adjusted returns; however, the rational behaviour of "retail" investors is hampered by the complexity and asymmetric access to information – see Alexander Kern, *Mis-selling of Financial Products: Marketing, Sales and Distribution* (June 2018), European Parliament, PE 618-996, p. 8.

inducements are disclosed.[71] Research on Italian households shows even grimmer results: 82% of respondents were **convinced** that advice is for free (37%) or did not know whether the adviser is paid or not (45%).[72]

Moreover, the issue becomes even more complex when distinguishing between securities and insurance-based investment products. In short, if the rule under MiFID II (securities markets) is that inducements are not allowed except for "non-independent" advice, in insurance distribution inducements are by default allowed, and exceptionally banned.[73]

To date, BETTER FINANCE has not found publicly available evidence of any robo-advisor receiving any monetary or non-monetary benefit ("inducements") for recommending a certain financial instrument or product. The research team analysed whether the robo-advisors selected for "mystery shopping" provide independent advice or not based on their regulatory disclosures.

However, an investment firm providing investment advice (in this case, Robo-advisors) **must** disclose whether the investment advice is provided on an independent basis or not (Art. 24(4)(a)(i) MiFID II)[74].
The table below summarises the research done on the MiFID II disclosures related to investment advice. Most Robo-advisors disclose (and, in a subjective interpretation, take pride in) the fact that no commissions, inducements, "kickbacks" or other incentives are retained to recommend certain investment products and that the product selection is "independent".

Most often, this information can be found on the website of the provider in the ***Costs*** section and only in one case the recommendation simulation (or advice) is accompanied by the same disclosure. No piece of EU law prescribes exactly where, or the moment when, the disclosure must be done, nor that it has to be done, i.e. to explicitly state that no inducements are retained. In this sense, we can assume that all platforms provide independent investment advice. However, we have observed that 2 out of 12 EU-based platforms do not clearly specify whether the investment advice provided is on an independent basis or not, in accordance with Art. 24(4)(a)(i) MiFID II. Unfortunately, four others (of those who do make a reference to non-receipt of commissions) do not adequately indicate that advice is independent and what this entails, as required by Art. 52 MiFID II DR. Finding such information proves, on many occasions, very difficult, as the research team had to "dig" deeply into legal documentation to access it.

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[71] See BEUC, *The Case for Banning Commissions in Financial Advice* (September 2019), p. 7, BEUC-X-2019-046, available at: https://www.beuc.eu/publications/beuc-x-2019-046_the_case_for_banning_commissions.pdf.

[72] Gruppo di Lavoro CONSOB, 'La Digitalizzazione Della Consulenza in Materia di Investimenti Finanziari' (n 28), p.14.

[73] In this sense, see Veerle Colaert, Thomas Incalza, 'Conflicts of Interest and Inducements in the Financial Sector' in Veerle Colaert, Danny Busch, Thomas Incalza (eds.), *European Financial Regulation: Levelling the Cross-Sectoral Playing Field* (2020) Hart Publishing, 377 – 394, 382.

[74] MiFID II does not create the assumption that advice is either independent or non-independent, save where it states otherwise. This means that platforms or traditional advisors that do not disclose whether the advice is independent or not are not taking into account a key disclosure requirement under MiFID II, but otherwise could provide both equally. Therefore, there are two possibilities when the robo-advisor does not specify what type of advice is provided:

- Assume that advice is independent, because otherwise it would imply that many more other disclosure requirements under MiFID II and MiFID II DA are breached (the robo-advisor must disclose the nature, exact amount or calculation method of the inducement, as well as the third-party that provides it, and must identify it under the conflicts of interest disclosure);
- Indicate that the platform does not specify what type of advice is provided, meaning it could be equally independent or non-independent.

Table 3 Independent advice disclosure table		
EU platforms	Website disclosure	Investment advice (results)
Easyvest	*"Easyvest does not receive any commission" "Life insurance: Management fees* (...) *on which the fund manager who does not pay any commission to Easyvest or its insurer".*	No additional information
Easyfolio	*"Because, unlike many banks or financial advisors, we are completely independent when it comes to product selection."*	No additional information
Growney	*"A reduction in the potential for conflicts of interest also follows the fact that we do not accept commissions or benefits from third parties also reduces the potential for a conflict of interest"*.	No additional information
Quirion	"(...) *We are guaranteed to receive no commissions and are completely independent.* (...) *without additional costs, hidden fees or commissions"*.	No additional information
Whitebox	(...) *No sales charges or hidden fees. We are completely independent in our investment decisions: We do not have any products of our own and do not accept kickbacks or other payments from third parties, neither from product manufacturers nor from our custodian bank"*.	No additional information
Indexa Capital	*"Indexa does not receive any commission for recommending products from* [index fund manager] *or other index fund managers"*	No additional information
Yomoni	No indication	No additional information
Investify	"Measures to avoid conflicts of interest: (...) Regulations on the acceptance, granting and disclosure of benefits as well as their disclosure to the client and their basic full forwarding to the client."	No additional information
Finanbest	No indication	*"At Finanbest we have ensured that the managers apply "institutional" or "clean" class fees, which are well below the average for the sector"*.
Nalo	« *Sans rétrocommission : "Nous investissons l'épargne de nos clients exclusivement sur des ETF, qui ne versent pas de rétrocommissions ou rétrocessions. Nous sommes donc totalement impartiaux dans la façon dont nous gérons les portefeuilles*".	No additional information
Finax	*"*no fees from the profit achieved *no hidden charges"*	No additional information
Euclidea	"*Independent by nature* (...) *select the best ETFs, no hidden cost* (...) *Transparent: our MiFID 2 reports will speak plain and simple* (...) *in total absence of conflict of interest and without hidden costs*".	No additional information

Source: BETTER FINANCE own composition based on mystery shopping

METHODOLOGY

This report intends to add to the existing research by testing Robo-advisors to analyse their features and by replicating the experience of two individual investors and their engagement with the different platforms. Since investing should not be a full-time job for EU citizens as savers and investors, the usability and understandability of the services on offer should not depend on, or involve, any research that could or would not be carried out by an individual investor. More specifically, this research aims to examine Robo-Investment providers for their reliability, user-friendliness, transparency, costs and suitability for retail investors through "mystery shopping". Algorithm testing was introduced as part of BETTER FINANCE's work in 2018 and, following its successful reception, continued to be part of the research in 2019, 2020 and 2021.

The criteria for the two profiles have been the same since the 2018 BETTER FINANCE Robo-advice research in order to provide consistency and comparability across the three years.

INVESTOR PROFILES

In order to perform the algorithm testing, we used two investor profiles with the following characteristics:

I. **Millennials,** with a shorter investment horizon but a higher-risk appetite,
II. **Baby-boomers**, with a long-term goal, more savings to invest but also a less risky approach

The initial investment amount is of €10,000 for the Millennial and €100,000 for the Baby-boomer[75]. Considering how many years an average employee in the European Union would need to save in order to accumulate the previously mentioned amount to be invested, we chose the age of the two profiles based on this criterion[76]. Hence, the millennial would accumulate around €10,000 by the age of 30[77] and the Baby-boomer would have accumulated €100,000 by the age of 50. The investment goal of the millennial is to raise money towards a real estate property over 5 years' time. Considering that the millennial is more financially literate, he is willing to take higher risks for higher returns in short-term markets.

Millennial

- Single
- No children
- Master's degree in banking and economics
- Financially literate[78]
- No practical experience with investments
- 10.000EUR

Baby-boomer

- Married
- With grown-up children
- Degree in engineering
- Not financially literate
- Some experience with investments (pension savings, life insurance)
- 100.000EUR

The investment goal of the baby-boomer is planning for retirement. She knows that the poor return of her occupational pension plan needs to be adjusted with additional savings.[79] She has an investment horizon of 20 years and aims for a more conservative investment with lower risk tolerance compared to the Millennial.

[75] Net of liabilities.
[76] Based on Eurostat data, the average monthly net income in the EU is 1,500 EUR – see here. In addition, we use an annual income increase rate of 2% based on an assumption used in the Bocconi study – see A. Berardi, C. Tebaldi, F. Trojani, 'Consumer Protection and the Design of The Default Investment Option of a Pan-European Pension Product' (2018) SDA Bocconi School of Management.
[77] Modest savings ratio of 1:9 of the income (10% per month).
[78] The objective degree of financial literacy can be different to the *self-assessment* described below.
[79] BETTER FINANCE Report on the Real Returns of Long-Term and Pension Savings, 2020 edition: https://betterfinance.eu/wp-content/uploads/The-Real-Return-Long-Term-Pension-Savings-Report-2020-Edition.pdf.

Additional details to our investor profiles have been added to correct the errors (divergences in recommendations) that may stem from filling out the questionnaires:

- risk tolerance:
  - *millennial*: redeem investments if the value suddenly drops by 50%;
  - *baby boomer*: redeem investments if the value suddenly drops by 20%;
- loss absorption capacity:
  - *millennial*: can sustain a 40% loss of his initial investment.
  - *baby-boomer*: can sustain a loss of 20% of her initial investment.
- self-assessment:
  - *millennial*: considers himself financially literate and an aggressive investor (that can take risks for higher rewards); wants to invest in equities;
  - *baby-boomer*: considers herself to have moderate knowledge of capital markets, wishes a balanced investment (not too much risk but not too low returns); wants more stable investments;
- propensity to follow advice: neutral.

Based on previous years' experience, the details prepared for each investor profile did not always suffice to answer all questions from the different Robo-advisors; whenever the questionnaires required additional information, it has been developed strictly aligned with each profile.

PRE-DETERMINED RECOMMENDATIONS

The algorithm testing aims to determine whether the investment advice received for the same profile differs from one platform to another. This edition improves the methodology and adds a pre-determined recommendation for comparison purposes. The research team used a *Model Investor Questionnaire* - developed by a team of academics and researchers behind the Orange Envelope project[80] (hereinafter "OE") – to determine our two investors' risk profiles and obtain a portfolio allocation that would serve as **a point of comparison** for each platform analysed (the ***reference allocation***).

Note*: The reference allocation based on the Model Investor Questionnaire* ***is not a benchmark*** *for the suitability or quality of the other recommendations received; in other words, if the asset allocation of a real robo-advisor differs from the reference allocation, it does not mean that one or the other is wrong. The reference allocation is used only for research purposes to help the research team put in a comparative light the portfolio allocations of each Robo-advisors and of the entire group. Moreover, the reference allocation* ***should not be understood as optimal, nor better than any other recommendation received,*** *nor should it be understood as an offer for or an actual investment, legal or fiscal advice for any person reading this report. The reference allocation is a mock one, based on mock profiles, and should be treated as such.*

Model Investor Questionnaire

The OE researchers found that questions that are dependent on previous answers can generate biased responses and incorrect statements, as the client is bound by his/her previous answers and not necessarily in an objective way. A solution lies in the combination of subjective (behavioural) and objective questions, which cross-check the client in a way adjusts to "*What I think and feel should fit to what I know and have*". The questionnaire uses cross-examination questions where "feelings" are adjusted by the "reality".[81] In terms of structure, the questionnaire comprises 10 questions (5 behavioural, "emotions" focused, and 5 objectives, examining the reality of the financial situation, knowledge and experience of a client).

[80] See Annex II describing in detail the Orange Envelope project; in short, it is a non-profit organisation set up by researchers and academics that will run a portal for pension savings tracking, providing research, dashboards, analyses, and simulations for individual pension savings; for more information, see https://www.oranzovaobalka.sk/web/en/; the Orange Envelope does not provide financial services as per Annex I, Section I, of MiFID II.

[81] This means that there are sequences of objective and subjective questions where the misalignment in the answers given by the respondent are reflected in the overall score, and risk profile, as "conditional" assessment; to give an example, if (a) the answer to the question "*What types of investments have you already owned?*" (objective question) is less than "funds", (b) the answer to the question "*How long will your intended investment take to reach investment goal?*" (subjective question) is less than 1 year and (c) the answer to the question "*What risk-return profile (class) on the scale 1 to 7 would You assign to the investment below?*" (objective question) is less than "SRRI 4", the profile should not be higher than "balanced" regardless of the scores given to the answers to other questions.

The investment questionnaire evaluates the risk-profile and financial knowledge of a client using 8 conditions to confirm the alignment between the subjective opinion and objective reality (cross-checking). The OE researchers determined, on the basis of this questionnaire, five investor profiles by risk-return class, described in the table below.

Table 4. Risk-return class and equity shares by investor profile				
Investment Profile	*Risk-Return Class - lower interval*	*Risk-Return Class - upper interval*	*Minimum equity share*	*Maximum equity share*
Conservative	*1*	*3*	*0%*	*20%*
Balanced	*2*	*4*	*10%*	*45%*
Dynamic	*3*	*5*	*35%*	*75%*
Aggressive	*4*	*6*	*60%*	*100%*
Speculative	*5*	*7*	*85%*	*100%*

Source: OE composition, 2019

As such, the two investor profiles have received the following risk-return class and portfolio composition:

Table 5. Investor profiles according to the Model Questionnaire			
	Profile	Risk-return class	Min-max equity shares
Millennial	Aggressive	4-6	60% - 100%
Baby boomer	Dynamic	3-5	35% - 75%

Source: BETTER FINANCE based on OE data

The two client profiles prepared by the research team were assigned a *Dynamic* (baby boomer, 3/5) and *aggressive* (millennial,4/6) investor profiles:

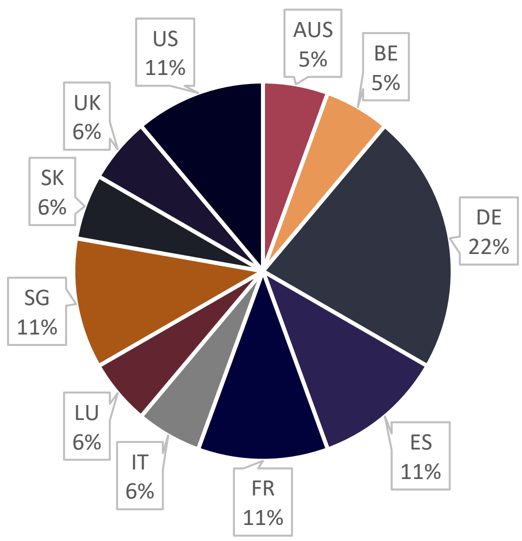
- the portfolio composition for the **millennial** should contain at least 60% equity exposure (direct or indirect, through funds); in terms of products, the summary risk-return profile (SRRI) should be between 4 and 6 (on a scale from 1 to 7);
- the portfolio composition for the **baby boomer** should comprise between 35% and 75% equities (direct or indirect) and the product's risk-reward profile should be between 3-5 (on a scale from 1 to 7).

SELECTION OF ROBO-ADVISORS

During the recent years of research, the BETTER FINANCE team noted that an increasing number of Robo-advice platforms are now requiring more details from potential investors than in previous years. This leads to potential investors having to give away sensitive personal data such as social security number, copy of ID card, phone number and bank account, just to do a test run of the platform.

BETTER FINANCE team has researched Robo-advisors in Europe, North America, Asia and Oceania. Of this first search, only platforms that comply with the following criteria have been selected:

Graph 6: Geographical distribution



- The Robo-Advice is **independent** from financial industries.
- The platform does not require to create an **account** with personal and sensitive data as (ID cards, social security number, bank account) in order to receive the investment advice.
- **Allows a minimum investment**, lower or equal to 10.000 EUR

As in any market with potential, start-ups eventually end up acquired by established players. For example, in 2019 **Goldman Sach**s took a stake in Robo-adviser **Nutmeg** as part of a funding round,[82] and **BlackRock** bought a minority equity stake of **Scalable Capital**.[83] Earlier in 2016, the private bank **Hauck & Aufhauser** acquired a stake in **Easyfolio**,[84] and **Allianz** bought a stake in **Moneyfarm**.[85] Moneyfarm, now a pan-European Robo-advisor already active in the UK and Italy, acquired the German platform Vaamo, covered in the 2018 BETTER FINANCE Robo-advice report.

During the recent years of research, the BETTER FINANCE team noted that an increasing number of Robo-advice platforms are now requiring more details from potential investors than in previous years. This leads to potential investors having to give away sensitive personal data such as social security number, copy of ID card, phone number and bank account, just to do a test run of the platform.

This report continues to test Robo advisors analysed in the previous report editions. This "mystery shopping" research comprises*: Easyfolio (DE),Easyvest (BE), Endowus (SG),Euclidea (IT),Finanbest (ES),Finax (SK),Growney (DE),IIndexa Capital (ES), Investify (LU),Nalo (FR), Quirion (DE),Sigfig (US),Sixpark (AUS),StashAway (SG),White box (DE),Yomoni (FR)* However, *TrueWealth (CH)* it has been removed from the scope of this research because the platform now requires the creation of an account with sensitive personal data. Therefore, *TrueWealth (CH)* has been replaced by *SoFi (US)* in this year's edition of the report. In order to enlarge the scope for Robo advisors based in Europe, we have introduced another platform: Evestor (UK).[86]

The selected platforms are supervised by national authorities in **11 countries of which 13 in Europe, 1 in Australia, 2 in Singapore and 2 in the US (graph 6).**

ALGORITHM TESTING AND EVALUATION CRITERIA

Mystery shopping

The research team accessed the Robo-advisors' platforms and went through the questionnaire process to generate an investment recommendation twice: once for the "millennial" profile and once with the "baby boomer" profile. Through this process, the research team analysed and aggregated data on several elements and reported them under the "*What we found*" section. **This report does not aim to single out the best Robo-advice platforms, but to establish whether Robo-advice lives up to its promises to individual investors and delivers suitable recommendations**. The factors scrutinised while testing the Robo-advisors are designed to determine to which extent the Robo-advisors satisfy 5 important indicators for the individual investors: **suitability, fees, transparency, sustainability and user-friendliness**. In addition to the 5 indicators, the research team has also looked at potential **divergences in terms of equity allocation and future performance**. Therefore, the analysis comprises 6 crucial aspects of Robo advisors in order to determine weaknesses and strengths of these automated services for individual investors.

The scope of this research is to carry out the "mystery shopping" from the perspective of the layman investor. Therefore, the scores provided to each platform for each indicator should not be considered as an objective observation of Robo advisors' performance.

For additional information on the methodology applied to test the Robo-advisors per each category (user-friendly interface, transparency, fees, suitability and sustainability options). *Please see ANNEX I.*

[82] Elliot Smith, 'Glodman Sachs Takes Stake in Nutmeg' (Citiwire.co.uk, 22/01/2019) available at: https://citywire.co.uk/new-model-adviser/news/goldman-sachs-takes-stake-in-nutmeg/a1193965

[83] David Ricketts, 'BlackRock Acquires Stake in Robo-advisor' (FN London, 20/06/2020), available at: https://www.fnlondon.com/articles/blackrock-acquires-stake-in-robo-adviser-20170620

[84] Hauck & Aufhäuser, 'Future Market Robo-Advisory' (accessed 10/12/2020), available at: https://www.hauck-aufhaeuser.com/en/about-us/easyfolio-and-hauck-aufhaeuser

[85] Attracta Mooney, Hugo Greenhalgh, 'Allianz Buys Stake in Robo-Adviser MoneyFarm' (FT.com, 6/09/2016) available at: https://www.ft.com/content/f140a26c-8182-11e6-8e50-8ec15fb462f4.

[86] According to the webpage of Evestor, it is a trading style of OpenMoney Adviser Services Ltd. The research team did not analyse the relationship between the two and which entity provide advice.

ALGORITHM TESTING & COMPARISONS

Note: For transparency purposes, BETTER FINANCE disclosed in the previous section (see Selection of Robo-advisors) the names of the European and non-European platforms subject to mystery shopping in this report. However, in order not to disadvantage robo-advice platforms, this section censors the names of the Robo-advisors and focuses on the actual results of our mystery shopping exercise.

1. SUITABILITY

Being held at the same legal and professional standards as "human" advisors, automated platforms must fulfil certain criteria in order to deliver investment advice. These criteria, concerning the *information that needs to be collected* about the investor and the characteristics of the proposed investment, sum up the ***suitability*** with the client's profile and needs.

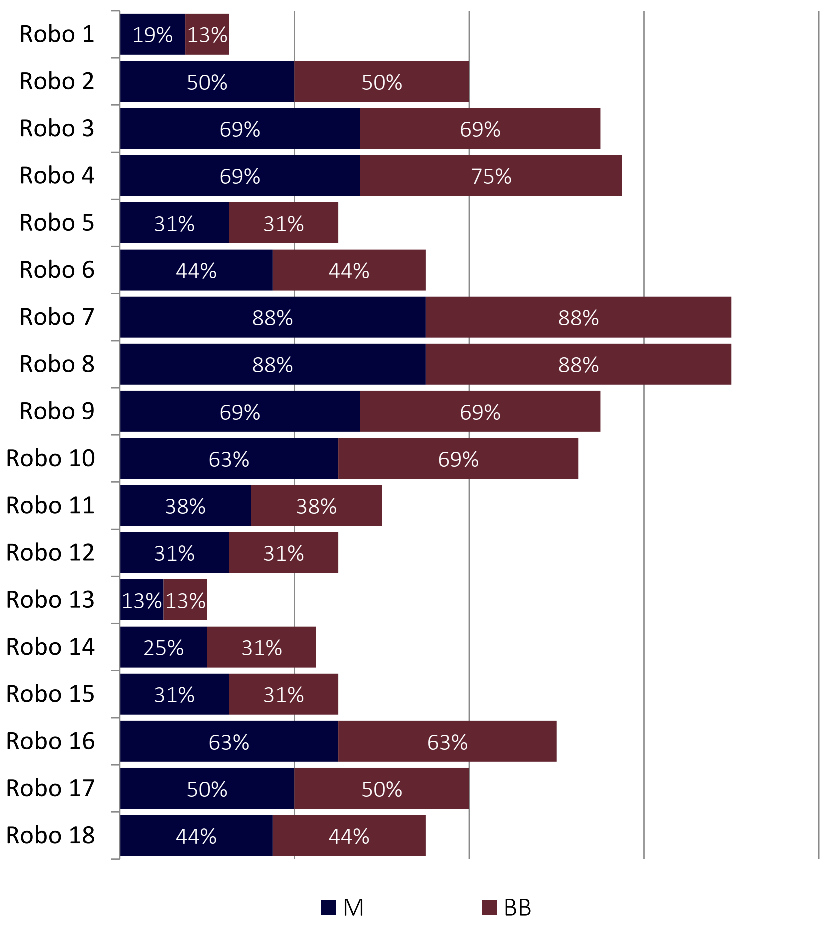
The suitability assessment is divided in two parts: 1) **suitability of the questionnaire** and the 2) **suitability of the investment advice**.

For additional information on the methodology to assess the suitability of the questionnaire and the investment advice, please look at the Annex I under the section suitability.

Suitability of the questionnaire

First, looking at the Figure 7 below, we can observe the degree of suitability of the questionnaire of the Robo-advisors. The research team checked whether Robo-advisors ask about the **financial education, personal situation, financial literacy and the risk leve**l of their clients.

Figure 7: Questionaire Suitability 2021



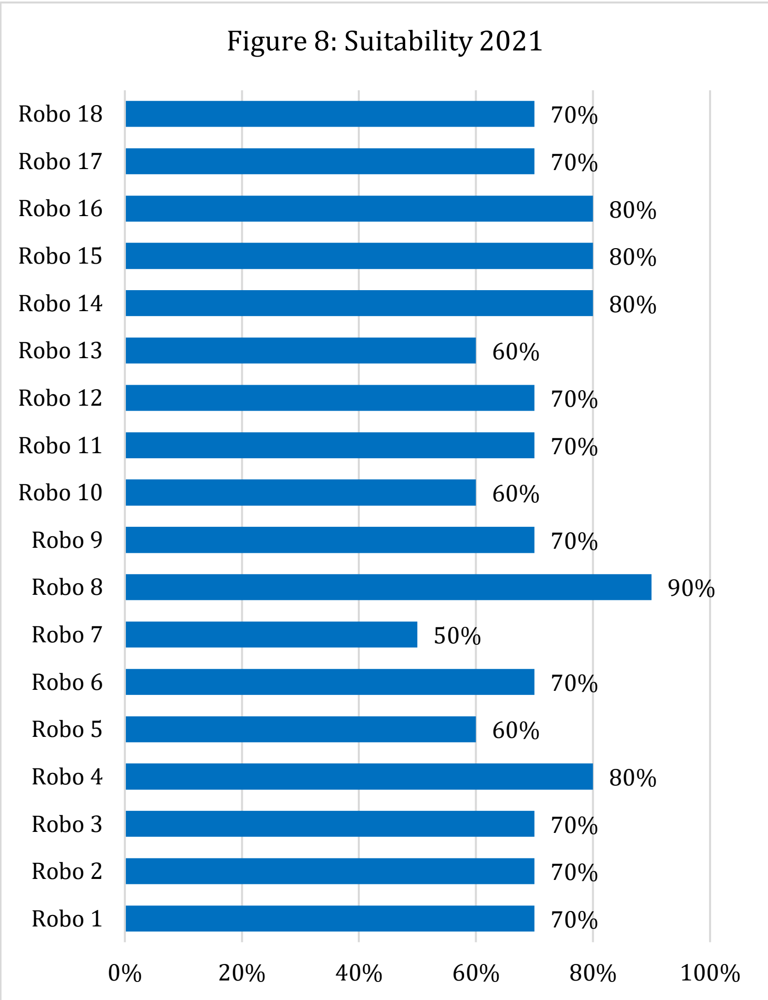
Apparently, the least represented question in the Robo-advisors questionnaire is the personal situation of the client. Even if almost every platform asks about the personal situation (1or 2 questions), only few platforms focus on these aspects. Financial literacy is also not well represented in the questionnaire of Robo-advisors. Only 2 platforms received maximum score on the financial literacy (2 points. We are also surprised to note that some platforms do not ask about the financial situation of the prospect client.

It is important to note that scores among the Millennial and the Baby boomer (Figure 8 below) might be different for the same platform. The reason for these differences lays in the different investment objective between the Millennial and the Baby Boomer, thus generating changes on the type and number of questions asked by the platform.

Suitability of the investment advice

Second, the research team also analysed whether the investment recommendations are suitable for each "mystery shopper" risk profile. However, it is up to each provider to decide how to design the questionnaire (how many questions, how complex) in order to obtain the information needed to perform the *suitability assessment* available products with the client's needs, objectives, risk tolerance etc.

Thus, the suitability assessment is based on the investment propositions made to the two "mystery shoppers". This assessment is simplified for three reasons: first, only one of the Robo-advisors provides sufficient information as to perform a thorough, in-depth assessment of the recommendation (SRRIs of the underlying investments, volatility, ability to reach the intended results and alignment with the holding period); second, to enable an overall comparison among the platforms.



The scoring system awards either 0 or 1 point for each criterion above, except for diversification, for which from 0 to 2 points are awarded. The results are then averaged at platform level (results for the baby boomer and millennial mystery shopper) and calculated as % of the maximum points available. The chart below presents the results of each platform.

It should be noted that, in comparison with the asset allocations calculated internally for our mystery shoppers (see *Methodology p.23*), the research team observed a systematic misalignment in the case of the millennial mystery shopper: none of the European platforms proposed an equity-bond allocation that would fit, in our view, in the interval[87] that would be suitable for that type of investor; instead, all US-based platforms fitted the allocation. For the baby boomer the majority of European platforms did propose a suitable asset allocation, whereas the US-based ones did not.

In terms of complexity, in our view, none of the investment and portfolio recommendations were too complex (based on available data), with one exception. In terms of diversification, all platforms propose fairly diversified portfolios, but (based on our available data and in accordance with our methodology) **only three out of sixteen obtained the maximum score**.

[87] see *Methodology p.23*

2. DIVERGENCES IN PORTFOLIO COMPOSITION AND EXPECTED RETURNS

In our view, the differences in investment advice should be qualitative and reveal the knowledge and experience of an advisor in the **choice of concrete investments**, **holding strategy** and **diversification**. As such, the same client should be recommended by any advisor a portfolio that falls under the same risk-return parameters since it must be suitable and aligned with his investor profile.

However, this year again the research shows that there is a significant divergence between the investment advice provided for the two profiles. In this section we are going to analyse the following indicators for the two profiles (the Millennial and the Baby-boomer):

1. **Proposed portfolio allocation,** further distinguishing whether the instruments are:
    a. direct investments (equities, bonds, RETIS)
    b. Indirect Investments (UCITS, AIFs etc.)
2. **Expected returns on investment & risks**
3. **Correlation between the expected return on investment and the equity allocation.**

As highlighted above, in the subsection on inducements, algorithm-based advice engines can be corrupted for many purposes, especially in the pre-contractual phase (before the client commits any money). One of the reasons can be to present high profit estimations to attract the client to subscribe. MiFID II does not prescribe any parameters or estimation formulae, only requires estimations to be "economically sound".
The purpose of the ***expected returns*** analysis is not to calculate how precise or methodologically sound the growth rates are – as there is no possibility to accurately predict the future – but only to give an objective point of comparison for the return estimations made by the Robo-advisors.

In addition, we are going to compare the results of this year with the results of the previous year's Robo-advice report (2020 and 2019) in order to assess whether the divergencies remain for the same platforms.

Proposed Portfolio Allocation

As a reminder, the research team used a model investor questionnaire developed by a team of academics and obtained a generic risk profile and portfolio allocation for each investor (see **Methodology** at page 23):

Table 9. Investor profiles

	Type	Risk-return class	Min-max equity shares
Millennial	Aggressive	4-6	60% - 100%
Baby boomer	Dynamic	3-5	35% - 75%

Source: BETTER FINANCE composition based on MBU data

Our comparison portfolio compositions recommend an equity allocation between **60% and 100%** for the millennial and between **35% and 75%** for the baby boomer. Moreover, the **risk-return** class of the portfolio should be between **4 and 6 (out of 7) for the millennial** and between **3 and 5 (out of 7) for the baby boomer.**

One of the first aspects the research team observed is that, seemingly, **none of the Robo-advisors recommend investing directly in financial instruments (such as equities and bonds)** but use a strategy or indirect exposure to these asset classes through packaged products, generally ETFs. The only direct holdings – apparent from the available information – are in cash reserves.

Second, we observed that some of the European Robo-advisors in this sample recommend alternative investments (*note: alternative to equities and fixed income*), such as property, infrastructure, commodities or gold. While a few robo-advisors recommend to the millennial investor to hold some cash reserves, others recommend using the cash reserves on the money market (through money market funds) to obtain additional interest for that capital.

Table 10: Portfolio composition - Millennial				
Europe				
	Equity	Fixed income	Other	Cash
Robo 1	59%	39%	-	2%
Robo 2	50%	50%	-	-
Robo 3	30%	70%	-	-
Robo 4	40%	60%	-	-
Robo 5	50%	49%	-	1%
Robo 6	46%	54%	-	-
Robo 7	33%	27%	40%	-
Robo 8	41%	46%	12%	-
Robo 9	50%	50%	-	-
Robo 10	35%	37%	27,67%	-
Robo 11	50%	50%	-	-
Robo 12	94%	3%	-	3%
Robo 13	51%	21%	28%	-
Robo 14	51%	49%	-	-
Non-European				
Robo 15	84%	16%	-	-
Robo 16	71%	21%	-	10%
Robo 17	80%	19%	1%	-
Robo 18	100%	0%	-	-

Source: BETTER FINANCE own composition based on Robo-advisors' recommendations

In terms of equity-bond shares, we can observe that 13 out of the 14 European Robo-advisors recommended an equity exposure below or equal to 51% of the investment. In our view, such an approach is quite prudent, which does not reflect the *aggressive* risk profile of the millennial investor. Although, theoretically, Robo1 does recommend close to 60% of equity investments, we can consider it almost the same (59% vs 60% min) as our *reference allocation*. The non-European Robo-advisors, all are aligned with our comparative equity allocation.

No financial advisor, including robots, can be expected to recommend the exact same portfolio allocation (equities %, bonds %, other %, cash %). Nevertheless, in generic terms, the research team finds it surprising that the recommended equity exposure varies from 30% to 94% for the same investor profile.

Unfortunately, our report is not the only one to have found such a divergence: a FINRA report[88] in the US (2015) comparing seven "digital advisers'" recommendations for the same 27-year-old investor profile (saving for retirement) observed:

- equities: from 51% to 90%.
- fixed income (bonds): from 10% to 40%
- other (real estate, cash, commodities): from 0% to 16%.

However, the particularity of Robo-advisors is that they also offer to the client the possibility to change its allocation and investment strategy, to tweak it to its predefined preferences and even tweak it until the return estimations match its desired outcome.

[88] See FINRA Report on Digital Investment Advice (n 39), Fig. 2, p. 4.

Table 11: Portfolio composition - Baby boomer				
Europe				
	Equity	Fixed income	Other	Cash
Robo 1	90%	8%	2%	-
Robo 2	50%	50%	-	-
Robo 3	50%	50%	-	-
Robo 4	35%	65%	-	-
Robo 5	25%	74%	1%	-
Robo 6	45%	55%	-	-
Robo 7	22%	18%	60%	-
Robo 8	41%	47%	12%	-
Robo 9	50%	50%	-	-
Robo 10	95%	5%	-	-
Robo 11	40%	60%	-	-
Robo 12	30%	67%	-	3%
Robo 13	22%	52%	33%	-
Robo 14	80%	20%	-	-
Non-European				
Robo 15	67%	28%	5%	-
Robo 16	70%	20%	-	10%
Robo 17	21%	79%	-	-
Robo 18	0%	100%	-	-

Source: BETTER FINANCE own composition based on Robo-advisors' recommendations

The research team expected to see an equity allocation ranging between 35% and 75%, **but 7 out of the 14 platforms recommend an equity exposure outside those intervals**. The extremities, present here as well, are 22% and 95% for the equity allocation.

However, compared to the millennial it seems that in the baby boomer there is more convergence with range composition recommended by our methodology.

Return Forecasts and risks

One important aspect the research team paid attention to during the "mystery shopping" exercise were the return estimations presented by Robo-advisors. As explained above, **the purpose** of this section **is not to invalidate** the return estimations, just **to provide a simple comparison** between Robo-advisors.

This comparison is important considering conduct of business rules in the pre-contractual phase towards retail investors. BETTER FINANCE stresses the importance of not exaggerating or overestimating returns for commercial purposes. Moreover, as some platforms disclose *performance scenarios* (optimistic, pessimistic), and some do not, it is important to be able to compare such figures.

Table 12 Return estimation comparison						
	Portfolio composition - Millennial (5 Years)			Portfolio composition- Baby Boomer (20 years)		
Europe						
	Equity	Projection	Risk	Equity	Projection	Risk
Robo 1	59%	5,6%	6 /10	90%	5,9%	9/10
Robo 2	50%	4,7%,	/	50%	4,7%	/
Robo 3	30%	2,40%	3/7**	50%	3,76%	4/7**
Robo 4	40%	4,00%	/	35%	2,04%*	/
Robo 5	50%	4.6%	Balanced	25%	3,80%	Safety oriented
Robo 6	46%	1,90%	5/10	45%	1,92%	5/10
Robo 7	33%	5,64%*	SRRI 4	22%	3,19%*	SRRI 3
Robo 8	41%	4,56%*	/	41%	4,76%	/
Robo 9	50%	4,20%	Medium risk	50%	4,20%	Medium risk
Robo 10	35%	3,90%		95%	7,10%	
Robo 11	50%	1,07%*	/	40%	4,68%*	/
Robo 12	94%	5,0%	Level 3(3)	30%	1,95%	Level 1(3)
Robo 13	51%	8,97%	6 (high)	22%	3,19%	4 (low)
Robo 14	51%	11,69%*	Moderately conservative	80%	N/A	Moderately conservative
Non-European						
Robo 15	84%	N/A	/	67%	N/A	/
Robo 16	71%	6,8%	Medium risk	70%	6,80%	Balanced
Robo 17	80%	2,41%*	/	21%	1,45%*	/
Robo 18	100%	8,24%*	/	0%	5,33%	/

Source: BETTER FINANCE own composition based on Robo-advisors' recommendations
**BETTER FINANCE computation based on the investment returns (Millennial Y5, Baby boomer Y20)*
*** the risk level is calculated as weighted average of the risks per each ETFs in the portfolio recommended*

In addition, this part of the analysis is not meant to assess in detail the return estimations and the correlation with the portfolio composition, but instead to give a clear picture of how divergent and misleading return forecasts can be. In fact, the two platforms with almost the same equity allocations present four, very different, return estimations (Millennial); same stands for the baby-boomer results. These results are very misleading for the individual, non-professional investor as it can be observed that a cautious risk-reward profile with 51% of capital invested in equities is expected to return – on the same period – more than twice than a portfolio with 90% of its capital invested in equities.

It is notable that there are instances of strong divergences in terms of expected returns and associated risk between platforms for the same investor profile. **Annual growth rates vary from 1.90% to 11.69% for the Millennial, and from 1.45% to 7.10% for the Baby Boomer thus confirming the incoherent expected returns for the same investor profiles**.

As regards the risk associated with investment advice, the results show clear divergences on how the Robo-advisors evaluate the risk of the investor. For the Millennial we can find investment advice from very low risks (3/7) to "*high"* risk. The same considerations are valid for the Baby Boomers, with platforms that suggest "*safety oriented"* investment or at "low" risk to highly risky portfolio (9/10).

Interestingly, one Robo-advice (Robo9) provides exactly the same equity allocation, annual growth and portfolio risk for the two different profiles (Millennial and Baby Boomer). This raises the question of whether the platform takes into account the characteristics of the client in its investment advice[89].

To conclude this section, we observed once again that there is a clear disassociation between the equity allocation in the portfolio, risk and the expected investment gain for the Millennial and the Baby Boomer. This stands as clear proof that, not only future performance scenarios are based on the discretionary assumptions of financial advisors, but that performance forecasts have the potential of being highly misleading for investors.

[89] Another research based on Robo-advisors located in Germany also demonstrated similar findings on divergences across asset allocation and performance of the investment advice. The study reveals that similar portfolio allocation with 50% equities and 50% bonds has a high degree of differences in terms of performance among different platforms.[89]

Table 13. Return estimation comparison (2018 – 2021)								
	2018		2019		2020		2021	
	M	BB	M	BB	M	BB	M	BB
Robo 1	4,86%	6,14%	4,28%	6,10%	5,59%	6,10%	5,60%	5,90%
Robo 2	5,65%	3,37%	N/A	N/A	N/A	N/A	4,70%	4,70%
Robo 3	4,80%	2,05%	3,37%	6,12%	2,43%	2,81%	2,40%	3,76%
Robo 4	2,40%	1,47%	6,08%	4,14%	4,95%	2,96%	4,00%	2,04%*
Robo 5	4,37%	1,53%	2,01%	0,92%	4,30%	1,60%	4.6%	3,80%
Robo 6	2,35%	4,54%	2,72%	2,77%	2,13%	2,17%	1,90%	1,92%
Robo 7	2,11%	3,95%	10,91%	5,80%	5,02%	3,33%	5,64%*	3,19%*
Robo 8	6,20%	6,77%	13,70%	6,21%	4,54%	4,74%	4,56%*	4,76%
Robo 15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: BETTER FINANCE own composition (data from previous reports)

Table 21.1 Equity allocation comparison (2018 – 2021)								
	2018		2019		2020		2021	
	BB	M	BB	M	BB	M	BB	M
Robo 1	80%	48%	90%	48%	90%	59%	90%	59%
Robo 2	N/A	N/A	50%	70%	60%	50%	50%	50%
Robo 3	70%	50%	70%	30%	50%	30%	50%	30%
Robo 4	60%	60%	30%	60%	35%	50%	35%	40%
Robo 5	48%	66%	28%	64%	30%	70%	25%	50%
Robo 6	20%	46%	46%	46%	45%	46%	45%	46%
Robo 7	45%	36%	45%	36%	22%	22%*	22%	33%
Robo 8	27%	75%	64%	47%	32%	32%	41%	41%
Robo 15	67%	87%	64%	84%	67%	84%	67%	84%

Source: BETTER FINANCE own composition (data from previous reports)

Also looking at the comparative table on annual growth rates among the 9 platforms analysed across 4 years (2018-2021) it is possible to observe different projections for the same investment profiles (M and BB). Even if market conditions and changes on equity allocation for the proposed investment can affect the calculation of the expected returns each year, the comparative table confirms that individual investors cannot rely on future performance as very high differences and divergent expected returns are provided by the same platforms for the same investor profile. However, it is interesting to note that there is much more convergence in terms of expected annual growth rates between 2020 and 2021 compared to an higher dispersion observed in the previous years (2018-2019). Also, in terms of asset allocation (table 21.1) high divergences are identified across the years 2018-2019 and less divergences between the years 2019 and 2020. On the contrary, between the years 2020 and 2021, Robo advisors seems to provide very similar equity allocations for both profiles.

3. FEES

While there are many pros and cons of Robo-advice, the success of the concept also hinges on its ability to keep costs low. In this respect, Robo-advisors do not fall short! By any measure, Robo-advisors continue to be far less expensive than the equivalent services provided by more traditional players such as banks financial advisors and asset managers.

Table 14. Robo-advisors' fees									
Platforms	Source	Annual asset-based management fees		Annual Underlying ETF fees		Custodian, depositary, or other recurrent fees		Total annual fees	
		M	BB	M	BB	M	BB	M	BB
Europe									
Easyvest	Results	1,00%	0,60%	0,30%	0,30%	N/A	N/A	1,30%	0,90%
	Website	1,00%	0,60%	0,30%	0,30%	N/A	N/A	1,30%	0,90%
Easyfolio	Results	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Website	0,72%	0,72%	0,23%	0,23%	N/A	N/A	0,95%[c]	0,95%[c]
Growney	Results	0,53%	0,26%	0,17%	0,18%	0,15%	0.15%	0,85%	0,56%
	Website	0,68%	0,38%	0,19%	0,19%	N/A	N/A	0,87%[b]	0,57%[b]
Quirion	Results[d]	0,48%	0,68%	0,16%	0,22%	N/A	N/A	0,64%	0,90%
	Website[d]	0,48%	0,68%	0,17%	0,19%	N/A	N/A	0,65%	0,87%
Whitebox	Results	0,40%	0,40%	0,21%	0,23%	N/A	N/A	0,61%	0,63%
	Website	0,35%	0,35%	0,18%	0,18%	N/A	N/A	0,53%[b]	0,53%[b]
Indexa Capital	Results	0,42%	0,39%	0,14%	0,14%	0,24%*	0,24%*	0,80%	0,77%
	Website	0,42%[a]	0,39%[a]	0,13%	0,13%	0,24%*	0,24%*	0,79%	0,76%
Yomoni	Results	N/A	N/A	N/A	N/A	N/A	N/A	1%-1,2	Total 1%
	Website	0,70%	0,70%	0,30%	0,30%	0,6%[e]	0,6%[e]	1,60%	1,60%
Investify	Results	0,60%	0,43%	0,14%	0,14%	0,40%	0,37%	1,16%	0,94%
	Website	1%[f]	1%[f]	0,16%	0,16%	N/A	N/A	1,16%[b]	0,96%[b]
Finanbest	Results[g]	0,39%	0,39%	0,41%	0,41%	0,13%	0,13%	0,93%	0,93%
	Website[g]	0,39%	0,39%	0,33%	0,33%	0,11%	0,11%	0,83%	0,83%
Nalo	Results	0,85%	0,85%	0,25%	0,25%	0,55%[e]	0,55%[e]	1,65%[l]	1,65%
	Website[h]	0,85%	0,85%	0,25%	0,25%	0,55%[e]	0,55%[e]	1,65%	1,65%
Finax	Results	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Website	1,2%[i]	1,05%[i]	0,20%	0,20%	N/A	N/A	1,40%	1,25%
Evestor	Results	0,35%	0,35%	0,13%	0,15%	N/A	N/A	0,48%	0,50%
	Website	0,25%	0,25%	0,24%	0,24%	0,10%	0,10%	0,59%	0,59%
Euclidea	Results	N/A	N/A	0,36%	0,34%	N/A	N/A	N/A	N/A
	Website	0,6%[j]	0,6%[j]	N/A	N/A	N/A	N/A	N/A	N/A
USA/AUS/SG									
SoFi	Results	0,00%	0,00%	0,00%	0,00%	N/A	N/A	0,00%	0,00%
	Website	0,00%	0,00%	0,00%	0,00%	N/A	N/A	0,00%	0,00%
SigFig	Results	0,00%	0,25%	N/A	N/A	N/A	N/A	N/A	N/A
	Website	0,00%	0,25%	0,11%	0,11%	N/A	N/A	0,11%	0,36%
Sixpark	Results	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Website	Fixed	0,50%	0,25%	0,25%	N/A	N/A	N/A	0,75%
StashAway	Results	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Website	0,80%	0,60%	0,20%	0,20%	N/A	N/A	1,00%	0,80%
Endowus	Results	0,60%	0,60%	0,46%	0,50%	N/A	N/A	1,06%	1,10%
	Website	0,60%	0,60%	0,45%	0,45%	N/A	N/A	1,05%	1,05%

*Source: BETTER FINANCE own composition; [a] The annual management fees vary depending on the investment sum - the figure displayed corresponds to the "mystery shopper" profile; see provider website for details; [b] Sum of all available fees on the website, according to the "mystery shopper" profiles; [c] The researchers found a difference between the total ongoing charges figure presented on the website for the product and its KIID; [d] The first year is free of charges (management fees); [e] Wrapper fees (charged by the insurer or account holder); [f] All-in service cost (incl. custody fees); [g] Two types of fee models applied: one based on a performance fee and one "flat fee"; the research team reports the flat fee figures; [l] The researchers found two different total fee figures in the simulation; [h] Disclosed for a portfolio allocation of 50% capital guaranteed funds and 50% ETFs (unit-linked); [i] Includes costs of portfolio management and administration (administration fee and custody of financial instruments; [j] The advisor offers to service offers, the research team chose the cheaper one; the fees are net of VAT; [k] Custody fees and other charges included in the management fee; [l] Annual management fee ranges between 0.25% and 0.5% *Depositary and custody fees differ depending on the jurisdiction; the fees displayed are for Belgium.*

Most of our sample of Robo-advisors covered in this study provide potential customers with simple and easily understandable fee structure that typically combines an "all-in-one management fee", supplemented by an average cost of the underlying fund fees. The overall adoption of such simple fee structures also entails lower fees than those charged by "human" financial advisors or private bankers. As such, these web-based investment advisors are quick to draw comparisons with traditional players to promote the competitive advantage of their services.

However, robo-advisory fees often remain based on the amount of money managed ("assets under management") to incentivise new inflows, rather than relying on an actual performance-driven system. For platforms that are independent from financial institutions, greater alignments with clients' interests are observed, thanks to the absence of conflicts of interest, enabling for the selection of low-cost investment options (such as index ETFs), albeit those are not entirely consistent (see suitability).

Barring a few exceptions, Robo-advisors typically do not charge other subscription fees such as entry, performance, or wrapper fees, etc. – which are often to be found in standard "face to face" financial advice and private banking services. However, most of those automated investment platforms pass on custody fees or transaction fees to the client (when applicable), either by including those into their "packaged fee" or by featuring a specific "third party" or "running/other costs" section, identified as additional costs. The disclosure of these costs are often either featured in the investment advice breakdown, but others are opting for a dedicated section of their website. In two occasions, this may not be directly apparent to investors, as management fees may be highlighted at the expense of third-party fees shown on a separate page. Since Robo-advisors are usually considered to be "fees-only" instead of "fee-based", an "automated advisor" (when independent) is compensated only by the fees charged to clients, and not by additional commissions gained by selling a specific product[90]. Although, several Robo-advisors distinguish themselves from "traditional advisor"[91,92] for being fees-only, it is difficult to verify concretely whether the platform is receiving commissions or not. In rare exceptions, however, Robo-advisor platforms display the potential bid/ask spread that an investment product may bear.

Broadly speaking, the automation of their advice process allows for lower, fixed costs, thus generating a competitive pricing. Yet the real trick to keeping costs down is that most platforms use low-cost exchange-traded (usually indexed) funds (ETFs). Since ETFs are publicly traded financial instruments that replicate the evolution of a stock market index in real time, their fees remain minimal.

Overall, fees (management fee + average underlying fund) vary between 0.48% and 1.60% in Europe and between 0.11% (or in specific cases even zero) and 1.10% in the US, Australia and Singapore, thus placing Robo-advisors in a very favourable position against traditional players who typically charge well over 1%. Moreover, **a constant downward trend in overall fees charged by Robo-advisors is still observed over time, especially in Europe where the lower-end fees kept going down this year 2021 (Table 15).**

[90] Barclay Palmer, 'Fee-Based vs Commission-Based: What's the Difference?" (Investopedia.com, 11/11/2021) available at: https://www.investopedia.com/articles/basics/04/022704.asp
[91] See https://smartasset.com/.
[92] Kevin Voigt, 'Fee-Only Financial Planner vs. Fee-Based: What's the Difference?' (Nerdwallet.com, 24/09/2021), available at: https://www.nerdwallet.com/blog/investing/fee-only-fee-based-financial-planner-difference/.

Table 15 : Fees variation		2019-2020		2020-2021	
		M	BB	M	BB
Robo 1	Results	N/A	N/A	0,00%	0,00%
	Website	0,00%	0,00%	0,00%	0,00%
Robo 2	Results	N/A	N/A	N/A	N/A
	Website	N/A	N/A	0,01%	N/A
Robo 3	Results	0,01%	0,01%	-0,03%	-0,02%
	Website	-0,07%	-0,07%	-0,02%	-0,02%
Robo 4	Results	N/A	N/A	N/A	N/A
	Website	0,44%	0,23%	0,00%	0,00%
Robo 5	Results	0,05%	0,05%	-0,63%	-0,25%
	Website	-0,02%	-0,02%	-0,60%	-0,25%
Robo 6	Results	-0,02%	0,00%	0,00%	0,00%
	Website	-0,27%	-0,22%	0,24%	0,21%
Robo 7	Results	-0,40%	-0,60%	-1,00%	-1,00%
	Website	0,00%	0,00%	0,00%	0,00%
Robo 8	Results	-0,02%	-0,03%	-0,02%	-0,02%
	Website	N/A	N/A	0,00%	0,00%
Robo 15	Results	N/A	N/A	N/A	N/A
	Website	0,00%	0,00%	0,00%	0,00%

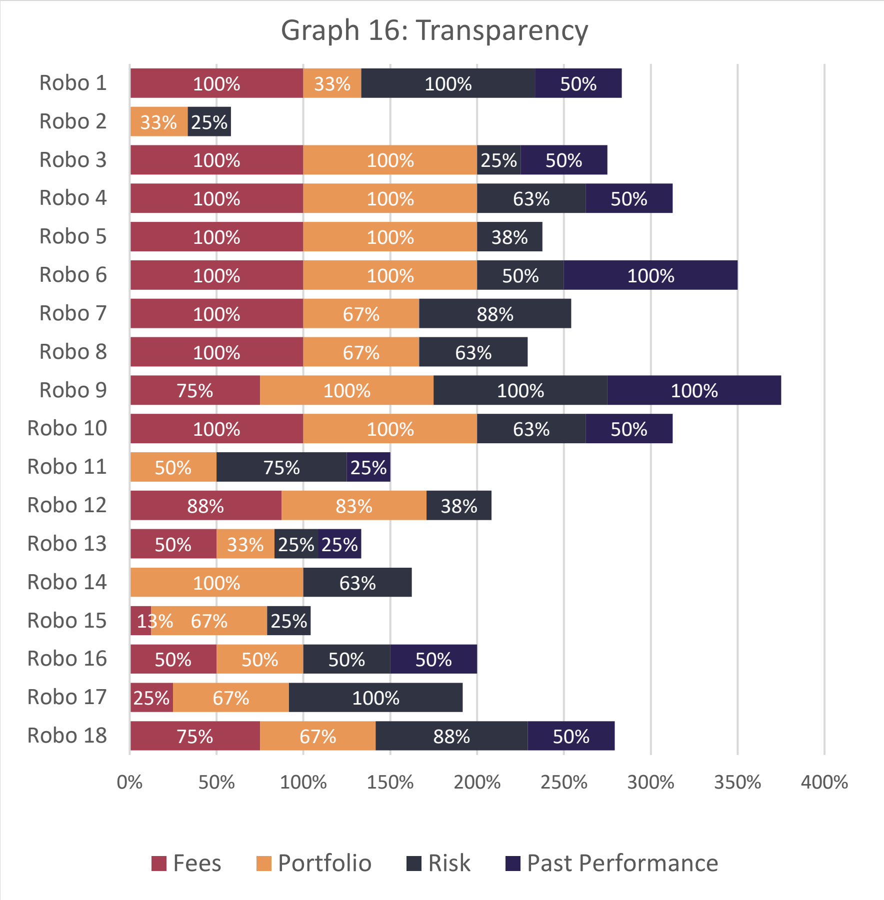
Source: BETTER FINANCE's own computation based on information provided by the Robo advisors in their website and investment recommendation. The comparison is performed on a smaller group of platforms due to lack of data for previous years.

It is interesting to note that in 2021, Robo advisors have again reduced their fees. Of the nine platforms sampled for the variation, five actually reduced their costs compared to last year. The highest decrease is observed for Robo 7, decreasing fees of 1 percentage point for both the Millennial and the Baby Boomer. Other platforms have variations between - 0.02 points and 0.63 points.

However, small increases are also observed in few Robo advisors: between 0.01 and 0.44 percentage points.
Overall, the reduction of costs of Robo-advisors is an ongoing trend that has been also confirmed this year. As previously mentioned, this characteristic is the main advantage of the automated advice which potentially can offer better value for money to individual investors.

4. TRANSPARENCY

The cornerstone of a sound financial industry, transparency, has been tested in 4 areas: **fees, portfolio allocation, risk and past performance**. As with our 2018 and 2019 reports, this year's study analyses the extent to which clear and intelligible information on these 4 key areas is disclosed to potential investors. This would also allow for a comparison among the 9 Robo-advisors analysed in the previous 3 years.



For additional information on the methodology applied to determine the score of the platforms please see Annex I under the section transparency.

Looking at the platforms analysed this year (Graph 16) we observed that a consistent number of Robo-advisors under scope present overall a high degree of transparency. It is interesting to note that the mystery shopping reveals higher transparency in Europe compared to non-European platforms.

Even if the non-European market is underrepresented in respect to the EU market (in terms of Robo-advisors analysed in this report), the possible reason for this increased transparency could lie in a better consideration of EU requirements on information disclosure to retail investors. However, 4 European platforms (*Robo 2, Robo11, Robo 12 and Robo 13*) score very low in the ranking with *Robo-advisor 2* having the lowest degree of transparency among all platforms.

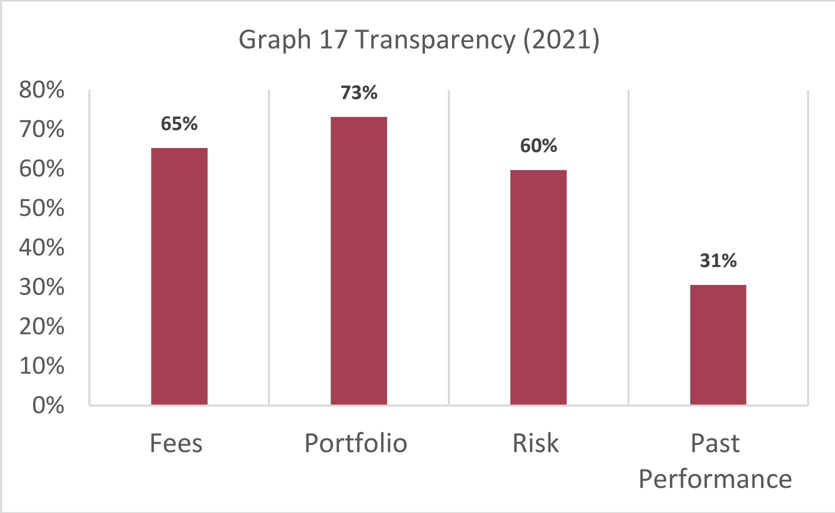
Transparency of Risk

In order to ensure that the risk levels of the proposed investments by the Robo-advisors are clearly disclosed to the potential investor – all the more important taking into consideration the “Do-It-Yourself” approach of most Robo-advisors included – this study explores the risk transparency of the different Robo-advisors. The financial literacy level of the investor, crucial to their ability to assess and analyse the information on risk provided by the Robo-platforms in question, plays an important role and is further developed under the chapter on user-friendliness. In estimating risk transparency, the research team has analysed if the investment recommendation shows the following information:

- the risk-level of the advised investment strategy.
- future performance scenarios or estimates include best- and worst-case scenarios alongside the investment advice.
- a clear and visible warning on the potential loss of value of the initial investment alongside the investment advice.
- a clear and visible warning on the unreliability of past/future performance scenarios alongside the investment advice.

For additional information on the methodology applied to determine the score of the platforms please see Annex I under the section transparency.

The (Graph 17) shows the average score of all Robo-advisors per each category (fees, portfolio allocation, risk and past performance). It is quite concerning that all platforms reach on average 60% regarding the disclosure of **risks of the investment proposed** and only 31% on past performance disclosure.



Source: BETTER FINANCE own composition.

Looking in more detail, only **9 European Robo-advisors out of 18 platforms clearly disclose the risk level of the advised strategy,** though the underlying details of what the risk level contains in practice varies greatly and leaves much to be desired. In cases where the potential investors themselves set the risk-level, not based on specific tests of risk-carrying ability or preferences through scenarios, such information becomes all the more important. In line with BETTER FINANCE's findings, fair, clear and non-misleading information remains one of the least enforced investor protection rules in the EU.

A **prominent warning** on the unreliability of future performance scenarios is required by law, as is a clear warning on potential loss of value. This study thus verified to what extent such warnings are presented with the results, and whether they are presented with the investment advice and expected projections of return on the initial investment.

Although it is the responsibility of the potential investor to go over the information provided on the website in order to make an informed investment decision, BETTER FINANCE believes that the responsibility to provide clear and non-misleading information falls squarely on the suppliers of financial services. For this reason, it is not sufficient for the platform to limit itself to providing information somewhere on the website. Consequently, essential information should also be provided as part of the results of the questionnaire. However, **11 platforms out of 18 issue an unreliability warning of past or future performance scenarios and 13 platforms show worst and case scenario in the future performance of the investment recommended.**

Transparency of the portfolio composition

The research team has also investigated the degree of disclosure with regards to portfolio allocation including the split between stocks and bonds, further asset class specifications, geographical spread and detailed overview of underlying funds. Overall, the portfolio allocation seems to reach the highest degree of transparency (73%) compared to fees, past performance and risk as illustrated in the Graph 17.

All 18 platforms provide the potential investor with a simple overview of the content and allocation of their investment portfolio. While the degrees to which details are provided vary considerably. For example, 15 Robo advisors provide information on asset class allocation and only 7 also give funds specifications and detailed information. Overall, the level of transparency of the portfolio allocation seems to reach the highest degree of transparency compared to fees, past performance and risk.

Transparency of Past Performance

Central to the investment advice presented to potential investors by Robo-advisors is the projection of forecasted returns of the investment in question, often referred to as "future performance scenarios". The reliance on past performance data in such estimates is unfortunate. In addition to being inherently misleading, MiFID II clearly states that "…such forecasts are not a reliable indicator of future performance". A clear warning of their inherent unreliability is therefore deemed absolutely necessary by BETTER FINANCE, as required by the EU financial framework to accompany future performance forecasts (and tested in this study under the risk transparency section). Unfortunately, such warnings are missing from the majority of the Robo-advisors covered in this study. They are either completely left out or presented through vague, unsatisfactory formulations or not clearly visible.

BETTER FINANCE strongly disagrees with the usage of future performance scenarios and finds the inclusion of the past performance of a proposed portfolio, or of a comparable fund, to be far more useful, enabling the potential investor to assess whether the fund achieved its objectives and take informed decisions.

The level of transparency of past performance takes into consideration if the Robo advice shows the past performance alongside with the investment recommendation. Additional points are provided if the past performance is presented against a benchmark for comparison. It is not surprising that information on past performance is the less transparent compared to the other indicators (Graph 17) reaching on average 31% score of all platforms under scope**. Only 9 out of 18 disclose past performance and only 1 Robo disclose past performance against a benchmark.**

Transparency of fees

One of the comparative advantages Robo-advisors have over more traditional providers of investment advice is lower fees on average. While an exact overview and comparison of fees has been outlined earlier in this research report, this section will focus on the transparency of fees as presented to the investors. The degree of transparency is given by the following aspects:

- Fees are disclosed alongside the investment advice provided at the end of the questionnaire.
- Allocation of fees: split between service or management fees and underlying fund fees.
- The expected returns include fees.
- Easy access to the information on fees and non-misleading presentation of fees

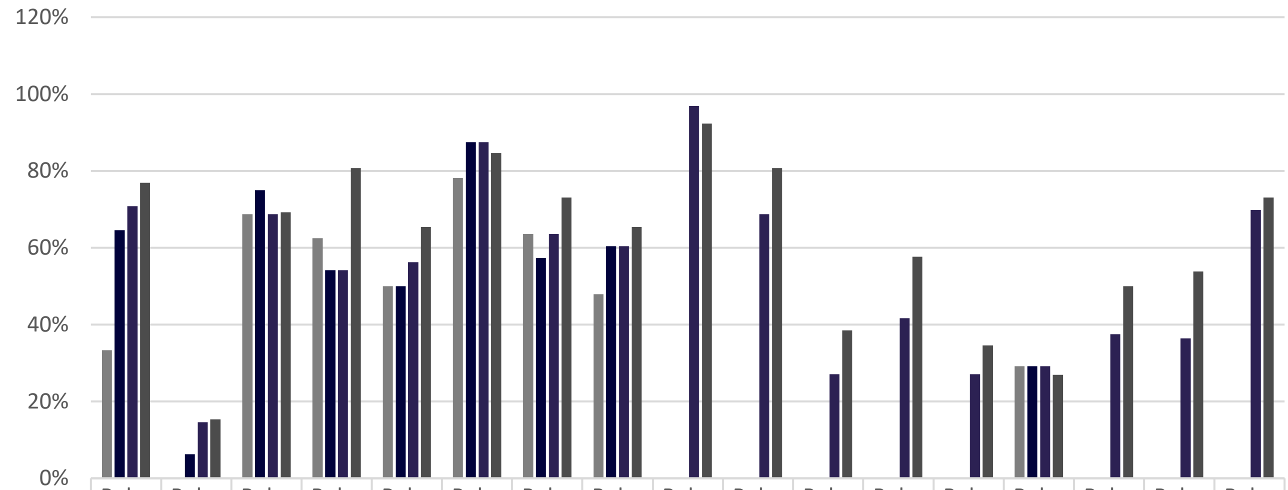
BETTER FINANCE is not alone in bringing up the important issue of transparency on fees, already mentioned by **the European Commission's Study Distribution systems of retail investment products across the European Union** [93].

Looking at the platforms analysed this year, we observed that 72% of the platforms disclose fees after the questionnaire once the investment advice is presented to the investor. A smaller group of platforms (61%) provides detailed fees information, specifying the composition of the total fee. Less than half of the platforms (54%) specifies that their future scenario projections and expected returns are after fees. However, not always information on fees is easy to find and to understand for retail investors, thus the degree of clarity and presentation of fees change considerably across platforms.

[93] European Commission, 'Distribution Systems of Retail Investment Products Across the European Union: Final Report' (2018) European Commission, available at: https://ec.europa.eu/info/sites/info/files/180425-retail-investment-products-distribution-systems_en.pdf.

Comparison

Graph 18: Transparency Comparison



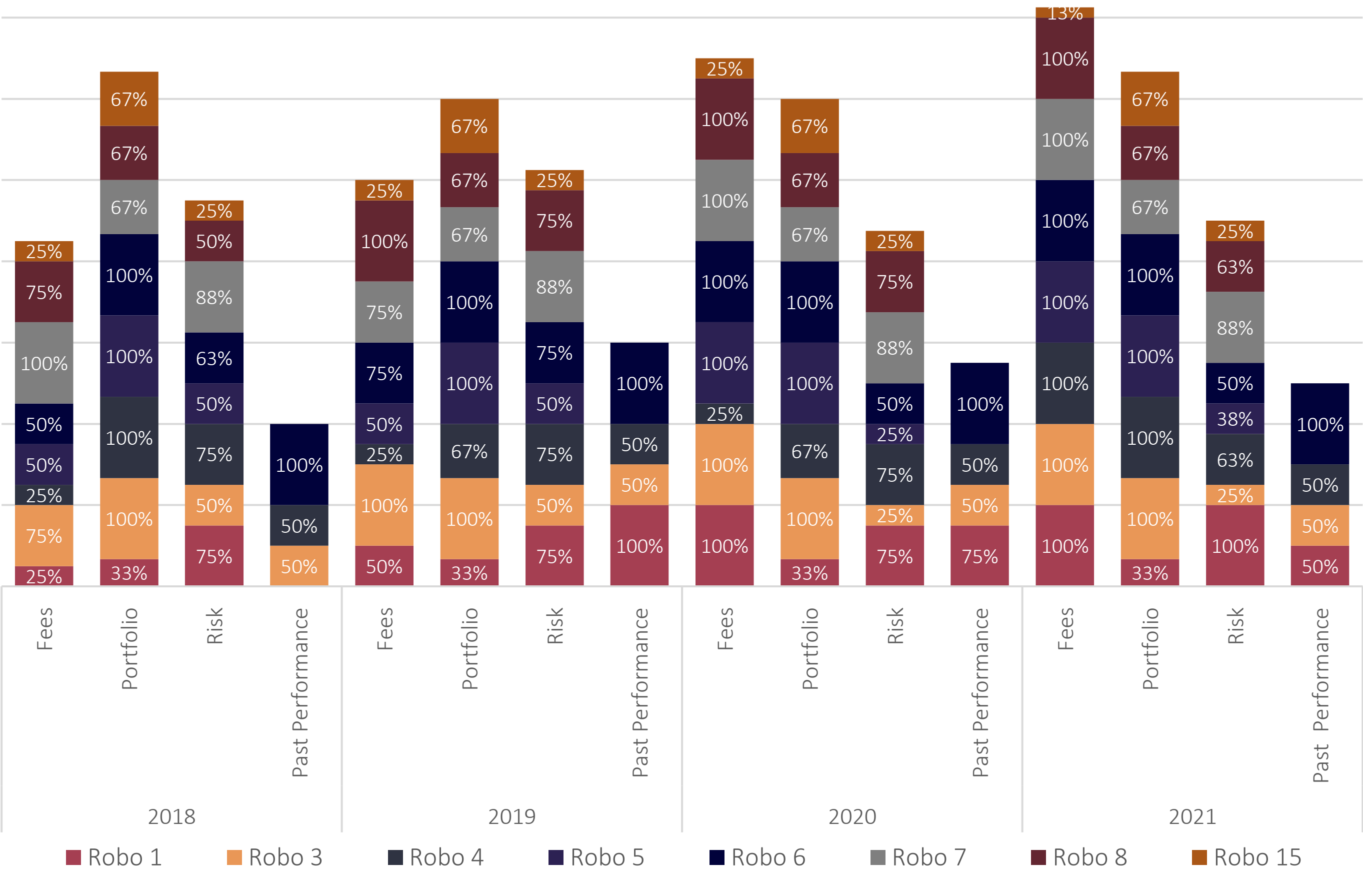
	Robo 1	Robo 2	Robo 3	Robo 4	Robo 5	Robo 6	Robo 7	Robo 8	Robo 9	Robo 10	Robo 11	Robo 12	Robo 13	Robo 15	Robo 16	Robo 17	Robo 18
2018	33%	0	69%	63%	50%	78%	64%	48%	0	0	0	0	0	29%	0	0	
2019	65%	6%	75%	54%	50%	88%	57%	60%	0	0	0	0	0	29%	0	0	0
2020	71%	15%	69%	54%	56%	88%	64%	60%	97%	69%	27%	42%	27%	29%	38%	36%	70%
2021	77%	15%	69%	81%	65%	85%	73%	65%	92%	81%	38%	58%	35%	27%	50%	54%	73%

2018 2019 2020 2021

The Graph 18 shows the comparison of weighted average scores given to each platform from 2018 to 2021. Even if some Robo-advisors made some efforts to improve their degree of transparency, there are no outstanding changes overtime.

The Graph 19, showing the combined score of a group of Robo advisors per each category (Fees, Portfolio, Risk and Past Performance) from 2018 to 2020, reveals that Robo advisors have slowly improved their scores. The transparency of fees seems to improve in 2021, but transparency of past performance which is the least performing indicator has slightly decreased.

Graph 19: Transparency criteria per year (Fees, Portfolio, Risk & Pas performance)



5. SUSTAINABLE INVESTING

We have known for a while that "retail" investors have a growing preference for sustainable investments. Evidence comes both from industry and consumer representatives' sides. First, we can observe the steep increase in the market share of sustainable investments. The total sustainable assets worldwide increased from 30,6 trillion in 2018 USD to 35,3 trillion USD in 2020. It is interesting to note that Europe is no longer the main region in terms of sustainable assets under management. In 2020, US caught up with Europe reaching 17.8 trillion USD in sustainable AUM, followed by Europe with 12 trillion USD.[94]

Second, market trends are backed by qualitative assessments: a 2° Investing Initiative report reveals that between 65% and 85% of individual investors in Germany and France wish to invest more sustainably,[95] which is consistent with industry findings: around 70% of surveyed investors showed an interest in sustainable investments.[96]

Research paper[97] on individual investors' sustainability preferences surveyed a Dutch pension fund's participants showing that 67.9% favoured an increased focus on investments meeting sustainability criteria, using a combination of engagement and divestment as an approach.

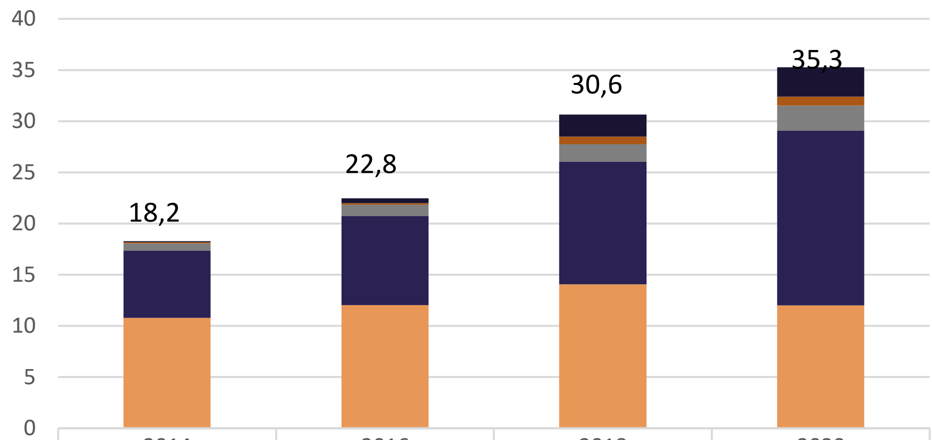
[94] Value of sustainable investment assets worldwide 2014-2020 https://www.statista.com/statistics/742097/sri-assets-value-by-region/

[95] Stanislas Dupre, Constanze Bayer, Thierry Santacruz (2° Investing Initiative), 'A Large Majority of Retail Clients Want to Invest Sustainably: Survey of French and German Retail Investors' Sustainability Objectives' (March 2020), available at: https://2degrees-investing.org/wp-content/uploads/2020/03/A-Large-Majority-of-Retail-Clients-Want-to-Invest-Sustainably.pdf.

[96] According to the report produced by 2° Investing Initiative the surveys were conducted by: Natixis, 'Mind Shift: Getting Past the Screens of Responsible Investing' (2016), available at: https://www.im.natixis.com/us/resources/mind-shift-getting-past-the-screens-of-responsible-investing; Schroders (2017), Morgan Stanley, 'Sustainable Signals: New Data from The Individual Investor' (2017) Morgan Stanley Institute for Sustainable Investing, available at: https://www.morganstanley.com/pub/content/dam/msdotcom/ideas/sustainable-signals/pdf/Sustainable_Signals_Whitepaper.pdf; see also Taha Lokhandwala, 'Retail Investors Find Comfort in ESG Investing' (FTAdviser.com, 28 February 2018), available at: https://www.ftadviser.com/investments/2018/02/28/retail-investors-find-comfort-in-esg-investing/.

[97] Rob Bauer, Tobias Ruof, Paul Smeets, 'Get Real! Individuals Prefer More Sustainable Investments' (February 24, 2018), available at: https://ssrn.com/abstract=3287430.

Graph 20: Sustainable assets worldwide (2014-2020) in trillion USD



	2014	2016	2018	2020
Japan	0,07	0,47	2,18	2,87
Australasia	0,14	0,16	0,73	0,90
Canada	0,72	1,08	1,69	2,42
United States	6,57	8,72	11,99	17,08
Europe	10,77	12,04	14,07	12,01

Source: Statista Value of sustainable investment assets worldwide from 2014-2020, by region (2021)[98]

However, in the last decade, the increased importance given to environmental considerations and social responsibility by retail investors, has generated strong incentives for producers to market products as sustainable, establishing specific standards, compliance rules and criteria. As in other industries, the financial sector has seen a significant increase of sustainable financial products, and the proliferation of different approaches on which to build the composition of these products. Due to the lack of common standards and criteria on sustainable investment products, retail investors struggle to fully understand to what extent the product is actually sustainable or has an environmental and/or societal impact.

Therefore, the lack of information and awareness could mislead the investors to invest in sustainable products that are not in line with their needs. Robo-advisors can be an important tool to address this, by facilitating access to this market for investors with social and environmental preferences and by addressing the lack of awareness. The simplicity and the user -friendliness of the online platform can potentially help individual investors to navigate the complexity of sustainable financial products rising awareness on the characteristics of these products.

Table 21 : Robo-advisors' sustainable options

	Risk		Fees		Growth rate		equity quota	
	M	BB	M	BB	M	BB	M	BB
Robo 3	3(7)	4(7)	0,18%*	0,19%*	2,43%	3,76%	30%	50%
Robo 4	/	/	0,68%	/	4,4%	/	50%	/
Robo 5	Balanced	/	0,57%	/	4,80%	/	50%	/
Robo 7	N/A	SRRI	1,20%	1%	/	/	32,9%	22%
Robo 8	/	/	/	/	4,37%	4,57%	23%	23%
Robo 9	General overview of green portfolio from the website (Medium-high risk, 32% equity allocation)							
Robo 10	/	/	1,40%	1,65%	3,50%	7,10%	28%	95%
Robo 13	/		1,20%		3,40%		19,99%	

Source: BETTER FINANCE composition from Robo advisors' websites.
**Based only on ETFs costs*

Looking at the Robo advisors under scope (table X), this year only **8 out 18 platforms provide sustainable options** (only 2 platforms more compared with the previous year). It is interesting to note that most of the platforms allow to tweak the investment from a "classical" to a "sustainable" investment once the user reaches the investment recommendation (after the questionnaire). However, 5 of them also include the sustainability option to be selected during the

[98] https://www.statista.com/statistics/742097/sri-assets-value-by-region/

questionnaire. 2 platforms show the sustainability option only on the website, allowing selecting the sustainability option separately without going through the main questionnaire.

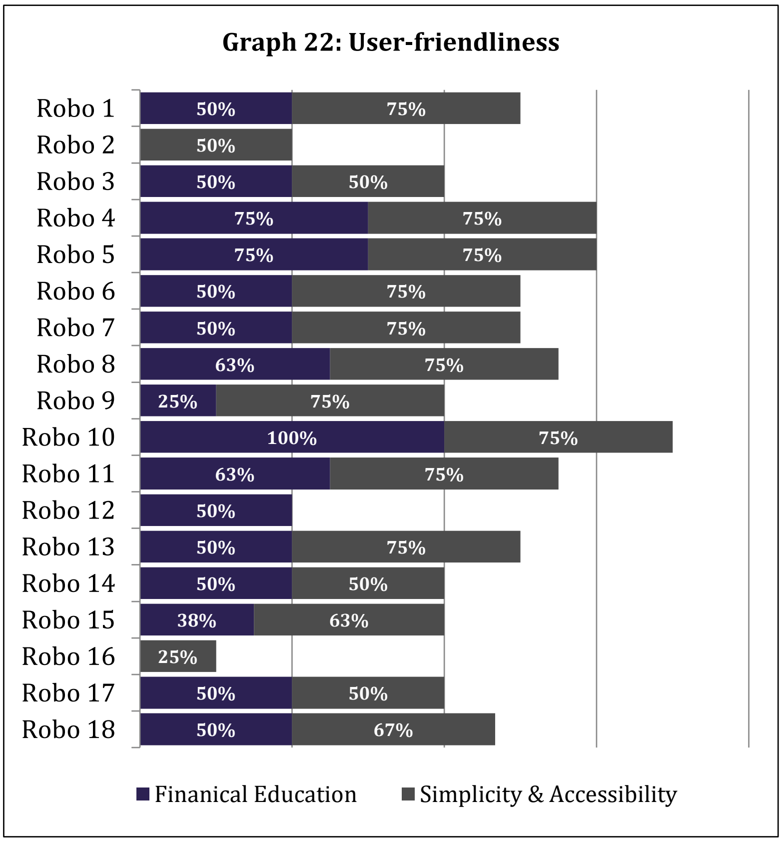
Once again, **we observed that the platforms, do not make specific questions regarding the sustainability preferences of their potential clients**. Only one Robo advisor allows to choose a series of thematic options during the questionnaire such as "Ethical" and "Energy of the future". However, it is not clear how these are represented in the portfolio allocation. The platform only shows an allocation of 50% of the portfolio to the selected thematic.

Also, the differences between a classical and a sustainable portfolio are minimal. However, one Robo-advisor has major differences among the two. Tweaking the portfolio, the **equity allocation** decreases from 43% to 23% for both the millennial and the baby boomer (same asset allocation for both profiles). On the opposite, one Robo advisor increase the equity allocation from 35% to 50%.

In terms of **costs**, switching from a classical to sustainable investment generates a change of fees. Some of these changes are quite small such as 0.01 points reduction or increase, but for some Robo advisors the change is quite relevant. One platform increases the level of fees from 0.48% to 0.68%.

Finally, looking at the **growth rate**, the research team has observed minimal changes in the performance of sustainable investment options compared to the proposed "traditional investment". Although, the platform that shows a more consistent change sees a reduction of the performance from 9,28% to 8,29% for the millennial and from 5,33% to 4,07% for the Baby Boomer.

6. USER-FRIENDLINESS



In this section we want to take a deeper look at the extent to which the 18 Robo-advice platforms are user-friendly and can be easily understood by an average individual investor. We analysed the degree of engagement with the investors combined with information provided by the platform in terms of financial literacy. The platform should provide clear and non-misleading information to help the users through the questionnaire process. **The main challenge for the Robo-advice platforms is to reach a balance between having enough questions to establish the most customised investment advice possible with the need to keep the questionnaire short and simple**. Whereas online client engagement is relatively easy and less time consuming than face-to-face interviews, online clients might easily lose interest in a long online questionnaire and lose focus on some questions.[99]

In addition, considering the differences in terms of financial knowledge among individual investors the Robo-advisor should provide definitions of financial concepts which can be easily understood by a layman investor. Financial literacy can be an important tool if integrated in Robo advice platforms, fostering financial inclusion of households and help less financially literate households to invest in the capital market.

For additional information on the methodology applied to categorise platforms in terms of their user-friendliness, please see Annex I.

[99] See Kaya, 'Robo-Advice: A True Innovation in Asset Management' (n 7).

Looking at the level of user-friendliness from the Graph 22, it is possible to observe that Robo-advisors perform slightly better in terms of accessibility and simplicity of the platforms (average score 61,8%) and reach a lower score when it comes to provide educative videos and access to a "human" advisor to their clients (average score 49,3%).

Looking at platforms individually, Robo 10 stands out obtaining the highest score for user-friendliness.

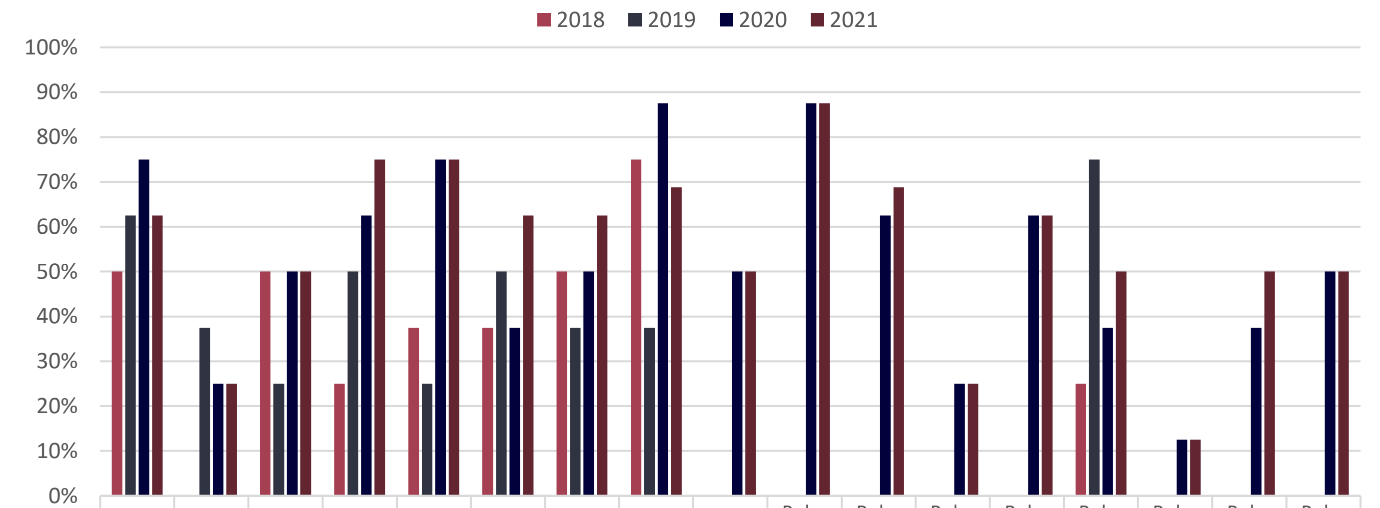
It is also interesting to note that 14 platforms allow the client to get in contact with a human advisor generally via a chat box or by phone. This feature has been gradually integrated in Robo advisors and represents a good. Unfortunately, only 6 platforms out of 18 provide videos, webinars on investing and financial concepts. Even if financial education is not the main objective of these platforms, the lack of human interaction and the possibility to explain financial concepts as "human" advisors should be compensated by educational videos, webinars and blogs.

Another important consideration is the accessibility for the investor to receive an investment advice before having to register or creating an account.

4 platforms out of 18 require "simple"[100]registration (name, email and password) in order to receive the investment advice. The registration might seem a less relevant indicator compared to the others, nevertheless we consider that one of the positive features of the services offered by Robo-advisors is the possibility to obtain investment advice and other important information (disclosure of fees, portfolio characteristics, etc.) before having to commit to sing up to any sort of contract. This enhances transparency and the possibility for the investor to better choose among different automated advice services.

Comparison
As part of the research, we also intend to analyse whether Robo-advisors implement changes every year and to study the direction of their improvements (or not) across the same time frame. For comparative purposes, the research team takes into consideration the platforms that have been analysed under the same methodology from 2018 to 2021.

Graph 23: User-friendliness comparison



	Robo 1	Robo 2	Robo 3	Robo 4	Robo 5	Robo 6	Robo 7	Robo 8	Robo 9	Robo 10	Robo 11	Robo 12	Robo 13	Robo 15	Robo 16	Robo 17	Robo 18
2018	50%	0	50%	25%	38%	38%	50%	75%	0	0	0	0	0	25%	0	0	0
2019	63%	38%	25%	50%	25%	50%	38%	38%	0	0	0	0	0	75%	0	0	0
2020	75%	25%	50%	63%	75%	38%	50%	88%	50%	88%	63%	25%	63%	38%	13%	38%	50%
2021	63%	25%	50%	75%	75%	63%	63%	69%	50%	88%	69%	25%	63%	50%	13%	50%	50%

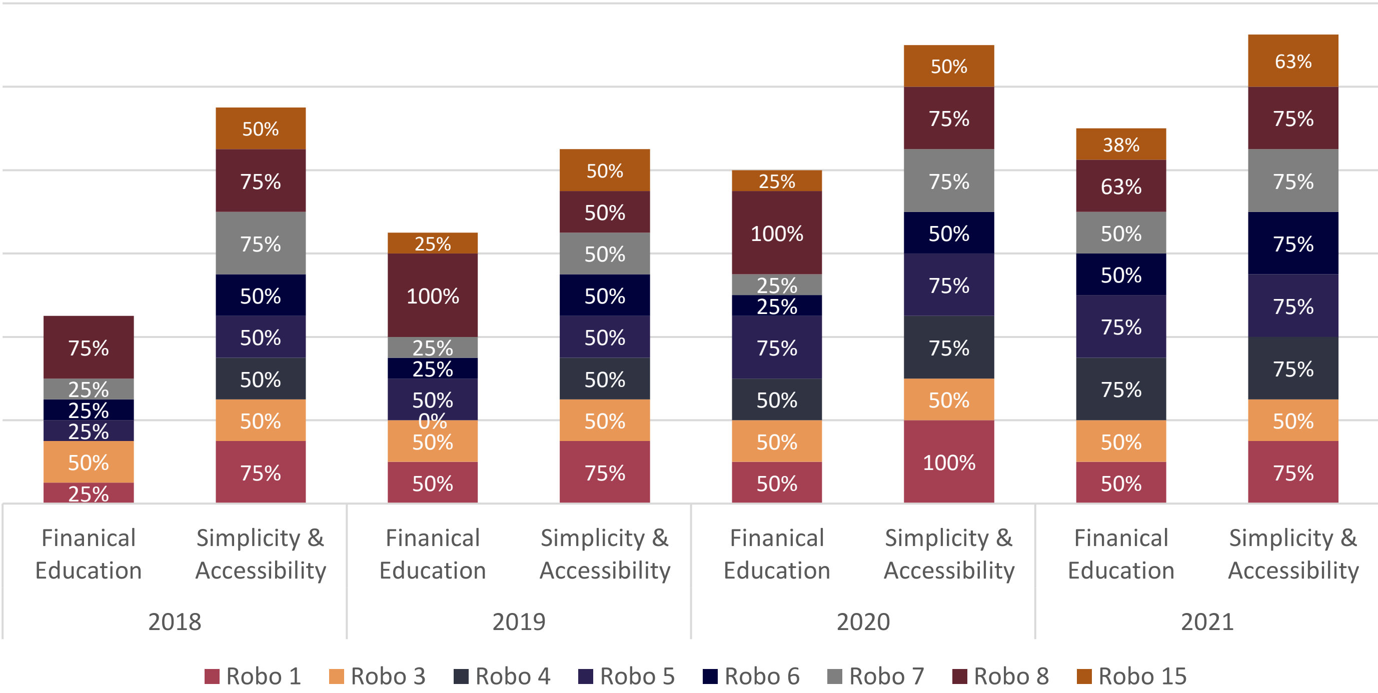
100 We define this registration as "simple" because it does not require sensible and personal information of the clients in order to receive the financial recommendation compared to the Robo-advisors out of our scope as explained in the methodology section.

In order to observe the evolution in terms of user-friendliness, the BETTER FINANCE team has collected data and scores from previous years report. The graph 23[101]below shows the evolution of each platform from 2018 to 2021. The majority of platforms shows a general improvement in terms of user-friendliness. 7 Robo advisors out of 17 clearly show an improvement across the 4 years' timeframe. The rest has registered a constant scoring and only few exceptions have experienced a considerable decreasing in terms of their user-friendliness evaluation.

However, we have observed that only 3 platforms have improved their questionnaire including new questions regarding the financial literacy and investment preferences of the potential client compared to the previous year. The questionnaire is one of the most important elements of the service, allowing for the formulation of tailor-made portfolios based on sufficient and adequate questions to the layman investor.

Graph 24 also confirms that Robo-advisors have constantly improved in providing financial education and further enhancing the accessibility and simplicity of their platforms. It is possible to observe that these 2 indicators (f*inancial education and simplicity and accessibility*) have gradually received higher scores for the same platforms from 2018 to 2021. [102]

Graph 24: Trends on financial education & accessibility



Source: BETTER FINANCE own composition

Therefore, these results represent an important improvement for individual investors who are in need of easy to use and informative tools in order to gain access to the capital market.

101 The graph X1, does not include the new Robo 14, included in this year analysis, due to lack of historic data. Some other platforms have been introduced in later stages such as Robo 2, Robo 9, Robo 10, Robo 11, Robo 12, Robo 13, Robo 16, Robo 17 and Robo 18. Therefore, data for 2018 and 2019 are missing.

102 Graph X2 has a limited representation of platforms, as it considers only platforms that have been researched constantly in the edition of BETTER FINANCE Robo-advice research applying the same methodology (from 2018-2020). Other platforms have come into the scope of the research in 2020, therefore in order to observe the quantitative evolution of the 2 indictors the graph shows the scoring of the following platforms: Robo 1, Robo 2, Robo 3, Robo 4, Robo 5, Robo 6, Robo 7, Robo 8, Robo 15.

POLICY RECOMMENDATIONS

Following four consecutive years of research on Robo-advice by BETTER FINANCE, four main areas of concern stand out: **(i) investor protection awareness (ii) investment advice (iii) disclosure** and **(iv) sustainable investing.**

1. RAISE AWARENESS OF INVESTOR PROTECTION REGIMES

The propensity of "retail" investors to seek advice and take financial action (invest) is determined by the level of financial literacy and trust in capital markets. These two factors act more as complements and can reduce the vulnerable position of "retail" savers and their perceived lack of protection.

However, we believe that EU citizens have little knowledge of the regulatory framework protecting their rights and interests. As such, many may feel deterred or demotivated to invest being unaware of the body of EU and national laws balancing their weak position towards finance professionals. If EU households would feel more protected and empowered, the willingness to seek advice and take financial action – formal investments into capital markets – would significantly increase.

> *"Respondents who trust the European Union are more likely to invest in capital markets and diversify their savings"*.[103]

The European Securities and Markets Authority ("**ESMA**") and the European Commission ("**EC**") have already taken action to improve the level of financial literacy of EU individual investors and their trust in capital markets.

In addition to these efforts, ESMA should consider coordinating a pan-EU investor protection awareness programme, aimed at informing "retail" investors of the sets of rights that protect them when seeking advice and investing in capital markets and citing examples of successful enforcement cases. The programme would simply reassure "retail" investors that investment services are regulated and that they benefit from a good investor protection regime that is being enforced.

The programme could copy the successful project of the EC on passenger rights ("**Your Passenger Rights**") and duplicate the mobile application with simple, user-friendly interfaces and descriptions of the main rights EU citizens have when using investment services or investing in capital markets.

"***People need to know what their rights are!***"[104]

However, such a campaign would not supplement adequate regulations and enforcement tools, public and private: it would merely complement the investor protection framework at EU level.

2. INVESTMENT ADVICE

For the fourth time in a row, the findings of our robo-advice report show that several platforms provide investment advice The European Commission should consider adopting the CESR Guidelines on investment advice under the MiFID II Delegated Regulation (EU) 2017/565, in particular to clarify that:

- both explicit and implicit advice fall under the scope of Arts. 4(1)(4), 24(1), 24(7) and 25(1);
- implicit advice can take either the form of actions or behaviour, including written and oral communications, which by their purpose or reasonable impression, amount to investment advice as regulated under the abovementioned provisions
- practices meant to circumvent the rules applicable to investment advice are explicitly banned and sanctioned;

[103] Elisabeth Beckmann, Davide Salvatore Mare, 'Formal and Informal Household Savings: How Does Trust in Financial Institutions Influence the Choice of Saving Instruments?" (1 August 2017) https://mpra.ub.uni-muenchen.de/81141/1/MPRA_paper_81141.pdf.
[104] European Commission, *Passenger Rights Campaign* (ec.europa.eu, accessed 2 November 2020) available at: https://ec.europa.eu/transport/themes/passengers/campaign_en.

For the purpose of implicit advice, the Level 2 MiFID II regulation should clarify the two circumstances, i.e.:

- **purpose**: if the nature and aim of the communication is to guide or steer the client's investment decision in a certain direction through the power of the "*value judgment on its relevance*" towards the client;
- **reasonable impression**: if the communication/behaviour of the advisor makes the client believe that the recommendation is (a) made in consideration of his/her personal circumstances and (b) it is suitable for him/her.

The European Commission, with the advice of ESMA, EIOPA, and EBA, should harmonise the definition and applicable rules for financial advice across all EU categories of retail financial products.

3. ALGORYTMS APPROPRIATENESS AND AI FRAMEWORK

If, on the one hand, the use of algorithms and Artificial Intelligence (AI) and automated decision-making (ADM) produce several advantages as increased accuracy, speed and reduced costs, on the other hand, the risk associated with these new technologies can create financial and non-financial damages to consumers. The use of these technologies in finance without meaningful human control and oversight can trigger significant loss of transparency, accountability and arbitrary discrimination. These risks could further undermine EU citizens low trust in the financial system and financial services. The element of trust is also underlined in the general comments of the *Draft Report with recommendations to the Commission on Digital Finance*[105] in the context of ensuring that operators, consumers and supervisors are able to have confidence in digital finance.

BETTER FINANCE strongly supports the proposal for an AI framework that allows providing legal and ethical clarity on the use of Artificial Intelligence. We have raised on several occasions in our policy recommendations and research on Robo advisors that in order to regain the trust of consumers it is necessary propose a legislative framework for Artificial Intelligence and to ensure that the use of algorithm is fair, transparent and accountable to consumers and does not harm EU citizens' fundamental rights. In addition, we have for long advised undertaking an in-depth fitness check of all relevant EU legislations in the insurance and financial sector in order to propose legislative updates where necessary.

However, requirements on the use of AI should cover entirely the EU financial services. The provision on the voluntary creation and application of codes on the use of AI in other financial services (other than credit directive and credit institutions) will not be enough to address potential risks and consumer detriment caused by the use of AI in the retail financial market. Findings of this research show that there are persistent issues in terms of reliability of the algorithms when used to propose investments to financial services users.

As we have observed, new FinTech platforms as Robo-advisors, operate as an alternative to more traditional financial advisors, with comparatively lower fees and offering access to simpler and cheaper products such as ETFs. However, due to lack of "human" intervention the use of the algorithms may cause risks to consumers concerning e.g., the level of suitability of the investment advice:

EU COMMISSION PROPOSAL ON ARTIFICIAL INTELLGENCE ACT

The European Commission has proposed *a Regulation laying down harmonised rules on artificial intelligence (artificial intelligence act) and amending certain union legislative acts.* The purpose of this regulation is to provide a uniformed legal framework for the internal market regarding the marketing and the use of Artificial intelligence (AI).

The proposal establishes requirements for the use of AI in several activities and sectors. Regarding financial services, the proposal tackles the use of AI on the assessment of creditworthiness and credit scores. Individuals should be informed that they are interacting with AI. These transparency requirements also include chatbots.

The credit institution will also need to observe a series of requirements based on "high risk" criteria and to complement AI deployment with human oversight.

However, the requirements for the deployment of AI address only in part financial services and do not cover the use of AI in the entire financial sector. The proposal only encourages financial firms to establish (voluntarily) and apply a code of conducts on the use of AI in other financial services.

Link to the EU Commission proposal and EU commission consultation.

BETTER FINANCE Response to the consultation

[105] Report of the Economic and Monetary Affairs Committee (ECON) on Digital Finance: Emerging Risks in Crypto-assets - Regulatory and Supervisory Challenges in the Area of Financial Services, Institutions and Markets, https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2020/2034(INL)&l=en.

a. investment advice inconsistent with the investor and risk profile of the mystery shoppers.
b. strong discrepancy in terms of investment gains and high dispersion of asset allocation for the same investor profile.

We call EU Commission and ESMA to investigate on the algorithms used by Robo advisors in order to test their appropriateness and the suitability for retail investors. As previously, mentioned Robo advisors do not disclose information regarding the alghorytm, or the asset allocation technique used to propose retail investments. Therefore, an investigation from EU authorities in necessary in order to establish the appropriateness of Robo advisor's algorithms.

4. ACTUAL COST, RISK AND PERFORMANCE DISCLOSURE

Once more, the investment recommendations display very high divergences in return estimations, which can be misleading. EU law should require investment advisors to present the main characteristics of the advice (risk, fees, past performance of the portfolio) in a way similar to that of the current UCITS KIID.
Such disclosure is all the more important as – probably – in one-year time the UCITS KIID disclosure regime, which is actual and accurate, may disappear and be replaced with the PRIIPs KID regime.
Through the disruptive power of FinTech, market inefficiencies can be addressed and more diversification, including alternative providers, can be brought in a quite oligopolistic market. The EU Commission should consider the following initiatives for EU financial service users:

- **Establishing independent savings products databases which imply standardised Key Information on actual costs, performances and risks** ("garbage in garbage out").
- These independent databases (ideally designed and operated by EU and national supervisors) will enable, in turn, the development of **independent web comparative tools** that would allow and facilitate the comparison of – and choice between different investment products; such as what has been achieved by the Norwegian platform FinansPortalen (now many web comparing tools feed on this Portal).
- **Rethinking mandatory disclosure documents like KIID for online/ smart phone adaptation**, for example using drawdowns for more detailed information.
- **Enabling individual shareholder engagement within the EU by voting or giving power to a proxy with one's smartphone**. At the moment, the voting process is monopolised by financial intermediaries. Such a platform would facilitate access and exercising voting rights for individual shareholders. These recommendations have also been discussed at the "HLF CMU", which released its report on 10 June 2020.

5. SIMPLICITY AND COMPARABILITY

Robo-advice platforms still deal with products and services that require clients to be relatively financially literate to really understand the value of their offers. Unfortunately, as proven by the European Authorities' reports on cost and past performance, long-term retail savings are the only EU consumer products for which consumers and Public Supervisors not only don't have a clue as to their future performance, but they don't even know what their past performance has been[106]. Therefore, BETTER FINANCE again calls on EU Authorities to fulfil their legal duty to promote **simplicity** and transparency of investment products.

6. SUSTAINABLE INVESTING

At EU level several initiatives have been pursued in order to improve sustainable finance framework. These initiatives should in the future address some issues and risks related to sustainable investment products such as lack of sustainability data from corporates and lack of transparency of sustainable investment products:

1. **Corporate sustainability reporting**: The EU law should require large companies to disclose information on the sustainability of their activities and how they manage environmental and social risks.*"*[107]
2. **EU taxonomy**: A classification system that lists all environmentally sustainable economic activities and sectors. The taxonomy will have a central role in helping investors, policymakers and companies to identify sustainable

[106] See BETTER FINANCE's press release and assessment of ESAs reports on cost and past performance.
[107] https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

economic activities. The classification will serve as a basis to reorient the capital market towards more sustainable assets. [108]

3. **Sustainable Disclosure Regulation:** This regulation lays down requirements for financial products manufacturers and financial advisors on financial products that pursue environmental objectives. The EU law also defines the disclosure of adverse impact on sustainability matters for the same financial products. [109]
4. **MIFiD II changes on integration of sustainability factors, risks and preferences into certain conditions for investment firms**: The final text was approved and published on the OJ on 2 August 2021.[110] With these amendments on MIFID II, From 2 November 2022, financial advisors shall ask their clients about their sustainable preferences and take into consideration their sustainability preferences into the suitability assessment. [111]

We have observed that Robo advisors do not ask any sustainability preferences to their clients. Generally, the sustainable investment can be selected once the investment advice is proposed (tweaking the investment from classical to sustainable). Few ask about the preference for a sustainable investment during the questionnaire. Even if European Robo advisors that provide an investment advice under MIFiD II will be obliged to ask the sustainability preference to their retail clients from November 2022, it will be interesting to understand the level of appropriateness of the question(s) and whether this requirement will be translated into a mere "tick a box exercise" or on an appropriate exercise to effectively determine the suitability assessment of the client. Robo advisor will need to ask comprehensive questions to their clients in order to carry out a meaningful suitability test according to their environmental, social and governance preferences.

However, we have concerns that the amendments introduced in MIFID II and IDD delegated acts are not granular enough to ensure that the sustainability preferences of individual investors are taken into account. ESMA's revised guidelines on the suitability assessment based these new changes should be granular and detailed as possible and include templates to ensure that financial advisors ask comprehensive and granular questions to their clients. This will help to improve compliance to the new rules and reduce the degree of liabilities.

We would welcome ESMA's mystery shopping exercise to assessing how financial advisors (including Robo-advisors) implement the new requirements and the type of sustainable financial products (portfolio composition, sustainability strategy, etc).

[108] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en
[109] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/sustainability-related-disclosure-financial-services-sector_en
[110] https://www.simmons-simmons.com/en/features/sustainable-financing-and-esg-investment/ck10j4ryg5pw70b23iwm68w1m/suitability-assessments-under-mifid-and-idd
[111] https://www.simmons-simmons.com/en/features/sustainable-financing-and-esg-investment/ck10jio7dnlu50b784cw3lq4f/other-developments---eu

ANNEX I

Fees

In order to analyse the costs associated with Robo-advisors, we collected data on different types of fees from the main pages on the website of Robo advisors and on the investment advice results (when the platform present the investment advice at the end of the questionnaire). Regarding the data on fees collected from the investment advice, the research team collected the data according to the 2 risk profiles (Millennial and Baby Boomer).

- looked for the total ongoing charges (i.e. the total amount of fees deducted by the Robo-advisor on an annual basis) in the resulting investment advice proposal from the questionnaire for both investor profiles;
- looked for the average underlying fund fees in the resulting investment advice;
- looked for the total ongoing charges (generic or others) on the Robo-advisor website;
- looked for the average underlying fund fees and/or underlying wrapper fees on the website;
- looked for a breakdown of fees, to ensure all fees (management fees, ETF or underlying funds' fees, custodian fees, etc.) are taken into account;
- added up all relevant fee information (total Robo-advisor' own ongoing charges + average underlying fund and/or underlying wrapper fees) to provide an overview of the costs of Robo-advice for each platform.

User-friendliness

In order to observe the user-friendliness of the Robo-advisors BETTER FINANCE has developed a scoring system based on 2 fundamental blocks: the simplicity and the accessibility of the online platform and functionalities related to the financial education of the investors. The table below represents the characteristics observed for each platform that determined the final score in terms of user-friendliness.

The simplicity and accessibility of the platform	Financial education
• Is the process self-explanatory? • Is the questionnaire easy to use? • Is the website multilingual? • Does the platform provide tutorials on how to use it? • Do users need to register?	• Is there easily accessible information on terms and explanations for the layman investor? • Are definitions and clarifications provided during the questionnaire? • Does the platform include webinars or videos? • Is there a human advisor available for help and questions?

The research team gave scores for each block explained above (simplicity/accessibility and financial education) according to the performance of the platforms. Each platform can gain a maximum of 4 points per each block.

Transparency

Regarding the transparency of the information provided by Robo -advisors. The research team has developed 4 main blocks to assess this indicator:1) transparency of fees, 2) transparency of portfolio composition, 3) transparency on past/ future performance and 4) transparency of risks:

a) Transparency of fees

One of the comparative advantages Robo-advisors have over more traditional providers of investment advice is lower fees on average. While an exact overview and comparison of fees has been outlined earlier in this research report, this section will focus on the transparency of fees as presented to the investors:

1. Does the platform in question inform the investor about fees alongside the investment advice provided?
2. Are the fees presented in detail? Are they showing the split between service or management fees and underlying fund fees?
3. Do the future performance scenarios and or expected returns take fees into account?
4. Are the fees presented with the result aligned with the fees presented on the website? Do the platforms ensure that fees presented with the results are in line with actual fees presented in "fine print" of through conducting further research on the website?

b) Portfolio Composition Transparency

We have checked the degree of disclosure with regards to portfolio allocation along the following criteria:

1. Does the platform in question present information on the portfolio composition, including the split between stocks and bonds, further asset class specifications, geographical spread and detailed overview of underlying funds?

c) Past/ Future Performance

When looking at the Robo-advisors' transparency as pertaining to historical data, this study has focused on the criteria below:

1. *Does the platform show past performance alongside the investment advice presented to the potential investor?*
2. *Does the platform show past performance against a benchmark for comparison alongside the results?*

d) Risks

In estimating risk transparency, disclosure of said risk on the different platforms has been researched based on the following criteria:

1. Does the platform clearly disclose the risk-level of the advised investment strategy, either set by the Robo-advisor based on input provided by the potential investor, or determined directly by the investor alongside the investment advice?
2. If presented, do future performance scenarios or estimates include best- and worst-case scenarios alongside the investment advice?
3. Does the platform present a clear and visible warning on the potential loss of value of the initial investment alongside the investment advice?
4. Does the platform present a clear and visible warning on the unreliability of future performance scenarios alongside the investment advice?

The maximum score that each platform can obtain by considering all 4 blocks is 13 points. The result final score of the platform determines the level of transparency. In the graphs each, 4 blocks are considered separately in order to provide an overview of each assessment.

Suitability

The methodology of suitability is divided in 2 parts: **the suitability of the questionnaire** and **the suitability of investment advice.**

Regarding the suitability of the **suitability of the questionnaire**, the research team has analysed whether the investor questionnaires do collect certain categories of information about the client, i.e.:

1. **Financial Situation**: Income, expenses, liquid and illiquid assets, debt and actual risk carrying ability, etc.
2. **Personal Situation**: Level of education, age, marital status, dependence persons (children), years until retirement, etc.
3. **Levels of financial literacy**: Previous knowledge and experience with investing and the products on offer, etc.
4. **Desired level of risk**

The scoring system awards 0-1 or 2 for each of the 4 points disclosed above. The results are then averaged at platform level and risk profile (Millennial and Baby Boomer) and calculated as % of the maximum points available.

Regarding the **investment recommendations** whether it is suitable for each "mystery shopper" risk profile, meaning the following criteria are applied:

1. the portfolio allocation is suitable for the risk profile of the investor.
2. the recommended investments are diversified.
3. whether the portfolio (incl. instruments) is aligned with the investor's ability to bear losses.
4. whether the proposed investments are complex or not.

The scoring system awards either 0 or 1 point for each criterion above, except for *diversification*, for which from 0 to 2 points are awarded. The results are then averaged at platform level (results for the baby boomer and millennial mystery shopper) and calculated as % of the maximum points available. The chart below presents the results of each platform.

The scoring system awards either 0 or 1 point for each criterion above, except for *diversification*, for which from 0 to 2 points are awarded. The results are then averaged at platform level (results for the baby boomer and millennial mystery shopper) and calculated as % of the maximum points available.

ANNEX II

About the Orange Envelope

https://www.oranzovaobalka.sk/web/en/

The Orange Envelope (in Slovak, "Oranžová obálka") is the operator of the web portal on the domain "oranzovaobalka.sk" and related web portals, and is a civic association, with its registered office at: Závada 71, 99121 Závada, Slovak Republic, ID 52446841, registered by the Ministry of the Interior of the Slovak Republic under number: VVS / 1-900 / 90-56703.

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