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The EDHEC European ETF, Smart Beta and Factor Investing Survey

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with the support of Amundi ASSET MANAGEMENT | ETF Indexing Smart Beta

EDHEC-RISK Institute

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We thank Amundi ETF, Indexing & Smart Beta for its support for our research.

Foreword

The latest edition of the EDHEC European ETF, Smart Beta and Factor Investing Survey was conducted as part of the "ETF, Indexing and Smart Beta Investment Strategies" research chair at EDHEC-Risk Institute, in partnership with Amundi.

With this survey, we aim to provide insights into investor perceptions of exchange-traded funds (ETFs) and of smart beta and factor investing strategies, with a strong focus on investor interest in SRI (Socially Responsible Investing)/ESG (Environmental, Social, Governance), building on the analysis of this year's responses and relating them to past results of our annual survey. In a nutshell, the 2021 survey results show a slowdown in the use of smart beta and factor investing strategies, and a growing interest for the integration of an SRI/ESG component into investment.

The data shows an increase in the use of ETFs to invest in SRI/ESG (67% of respondents in 2021, versus 55% in 2020). Achieving broad market exposure still tops the list of reasons for using ETFs, with 74% of respondents using them frequently for this purpose. Cost and quality of replication remain the two primary drivers for selecting ETF providers. 60% of respondents would like to see further developments in SRI/ESG-based ETFs and/or low-carbon ETFs, compared to 50% in 2020.

In terms of sustainable investing, the survey reveals that 51% of respondents invest in SRI/ESG and another 33% plan to do so in the near future. Respondents mainly use ESG in the equity (82%) and fixed-income (57%) asset classes. 64% of respondents incorporate ESG into their investment decisions to facilitate a positive impact on society, and 61% to reduce long-term risk. However, the majority (65%) do not want this to be done at the expense of weaker performance. More respondents (44%) favour a best-in-class (positive screening) approach to SRI/ESG implementation over the thematic approach (34%) and the negative screening approach (22%). 80% of respondents plan to increase their portfolio exposure to ESG in the near future, and 78% believe that improvements in ESG regulation across Europe will enable them to make better ESG allocations.

The survey further reveals that improving performance and managing risk are the two main motivations for using smart beta and factor investing strategies. However, 73% of respondents dedicate less than 20% of their total investments to these strategies, and only 37% plan an increase of more than 10% in terms of assets in their use of smart beta and factor investing products in the near future. SRI/ESG and fixed income are the main expectations for future development of smart beta and factor investing products. Survey participants would also like more customised smart beta and factor investing solutions to be developed.

We would like to express our warmest thanks to our partners at Amundi for their ongoing support of our research. Special thanks also to Véronique Le Sourd for her leadership in this research project and Laurent Ringelstein for his contribution in producing the final publication.

We wish you a useful and informative read.

Lionel Martellini
Professor of Finance,
Director of *EDHEC-Risk Institute*

The Authors

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Lionel Martellini is Professor of Finance at EDHEC Business School and Director of EDHEC-Risk Institute. He has graduate degrees in economics, statistics, and mathematics, as well as a PhD in finance from the University of California at Berkeley. Lionel is a member of the editorial board of the *Journal of Portfolio Management* and the *Journal of Alternative Investments*. An expert in quantitative asset management and derivatives valuation, his work has been widely published in academic and practitioner journals and he has co-authored textbooks on alternative investment strategies and fixed-income securities.

Executive Summary

The present survey aims to provide insights into investor perceptions of exchange-traded funds (ETFs), ESG and smart beta and factor investing strategies, building on the analysis of this year's responses and relating them to past results of our annual survey.

Our 2021 survey gathered information from 202 European investment professionals concerning their practices, perceptions and future plans. Our respondents are high-ranking professionals within their organisations (39% belong to executive management and 31% are portfolio managers),[1] with large assets under management (37% of respondents represent firms with AUM exceeding €10bn).[2] Respondents are distributed across different European countries, with 13% from the United Kingdom, 67% from European Union member states, 15% from Switzerland and 5% from other countries outside the European Union.[3] Below, we provide a summary of our results, emphasising the key conclusions of our survey.

1. How Do Investors Select and Use ETFs and What Are their Expectations of Future Developments?

1.1. The dominant purpose of ETF usage

Long-term buy-and-hold investment overtakes tactical allocations again

This year we observe dominant usage of ETFs for long-term investment, as in our successive surveys from 2009, except in 2019, where the use of ETFs by respondents was fairly balanced between long-term buy-and-hold investment and tactical allocations. This year sees the lowest percentage of respondents using ETFs for tactical bets (37%), as well as the widest gap between long-term and tactical use since 2009.

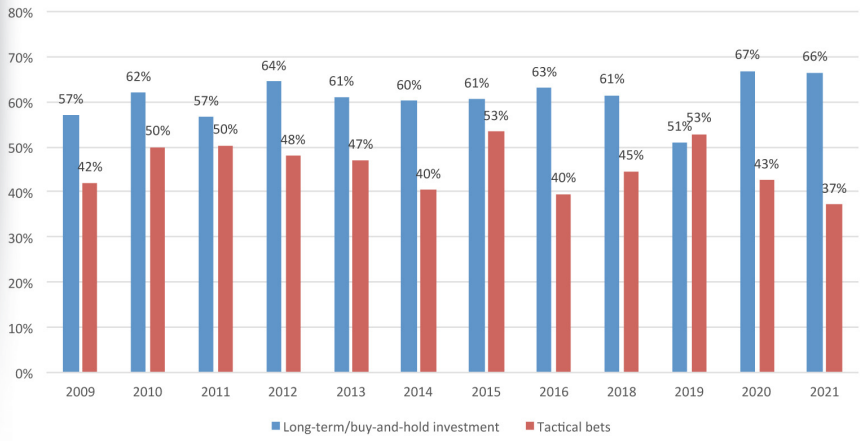


Exhibit 1: Use of ETFs for Long-term Investment vs. Tactical Allocation
This exhibit indicates the frequency of respondents' use of ETFs for each of the purposes mentioned. Respondents were asked to rate their usage frequency from 1 to 6. The "frequent" category displayed here includes ratings from 4 to 6. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2009 to 2021.

1 - See Exhibit 3.3 in Section 3 (Methodology and Data).
2 - See Exhibit 3.5 in Section 3 (Methodology and Data).
3 - See Exhibit 3.1 in Section 3 (Methodology and Data).

Room to further increase use for specific sub-segment exposure

Moreover, gaining broad market exposure remains the main focus of ETF usage for 74% of users, compared to 53% of respondents using ETFs to obtain specific sub-segment exposure (see Exhibit 2). This last result is also linked to intense product development, which has led to the introduction of new products for a multitude of market sub-segments (sectors, styles, etc.).

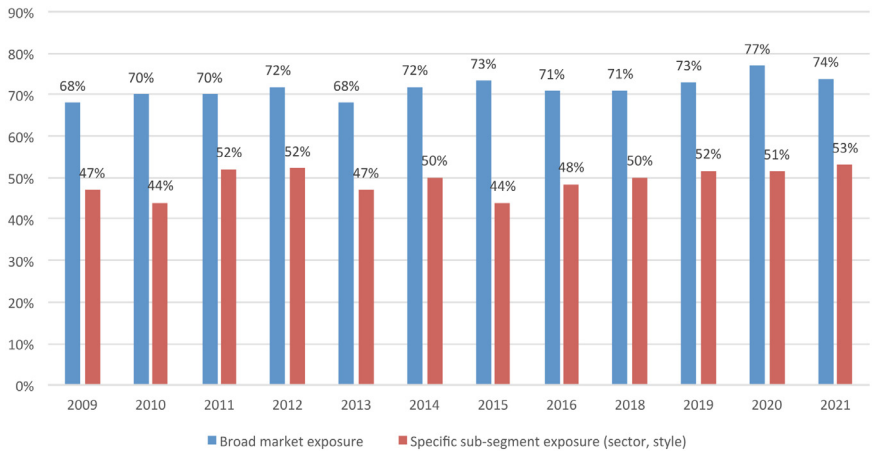


Exhibit 2: Use of ETFs for Broad Market Exposure vs. Specific Sub-segments
This exhibit indicates the frequency of respondents' use of ETFs for each of the purposes mentioned. Respondents were asked to rate their usage frequency from 1 to 6. The "frequent" category displayed here includes ratings from 4 to 6. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2009 to 2021.

Significant increase in the use of SRI/ESG ETFs

Among the sub-sample of respondents using ETFs, 17% were investing in SRI/ESG in 2011, compared to 55% in 2021. 67% have used ETFs to invest in SRI/ESG in 2021, and ETFs have accounted for 27% of total investment in SRI/ESG in 2021 (see Exhibit 3). The proportion of respondents who include a share of SRI/ESG in their investment has increased significantly since 2019. Whereas this was rather a niche investment a few years ago, it is now aimed at a majority of investors and ETFs are widely favored for accessing this type of exposure.

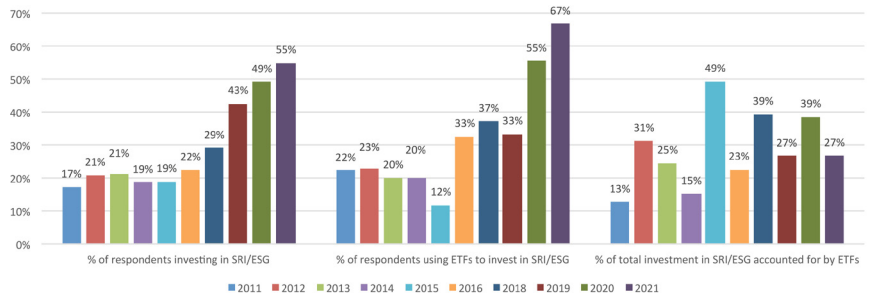
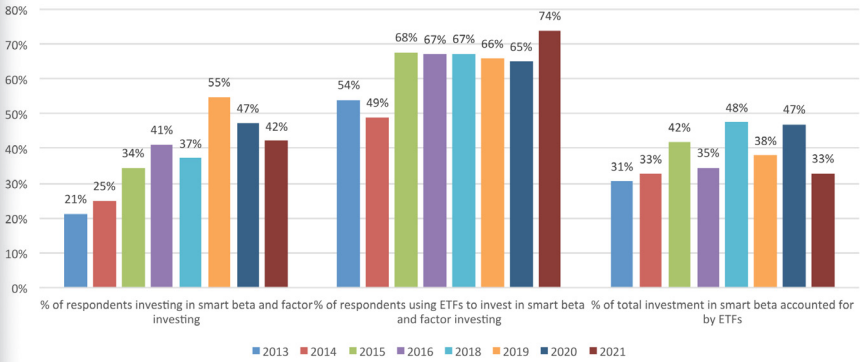


Exhibit 3: SRI/ESG ETF Usage
This exhibit indicates the use of SRI/ESG ETFs. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2011 to 2021.

High adoption of ETFs to invest in smart beta and factor investing, but investment in this asset class is declining

Among the sub-sample of respondents using ETFs, 21% were investing in smart beta and factor investing in 2013, compared to 55% in 2019, and 42% in 2021. About three-quarters of respondents (74%) use ETFs or ETF-like products to invest in smart beta and factor investing in 2021, a considerable increase on the 49% reported in 2014. 33% of smart beta and factor investing has been made through ETFs in 2021, compared to 31% in 2013 and 48% in 2018 (see Exhibit 4).

Exhibit 4: Smart Beta ETF Usage
This exhibit indicates the use of smart beta ETFs. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2013 to 2021.



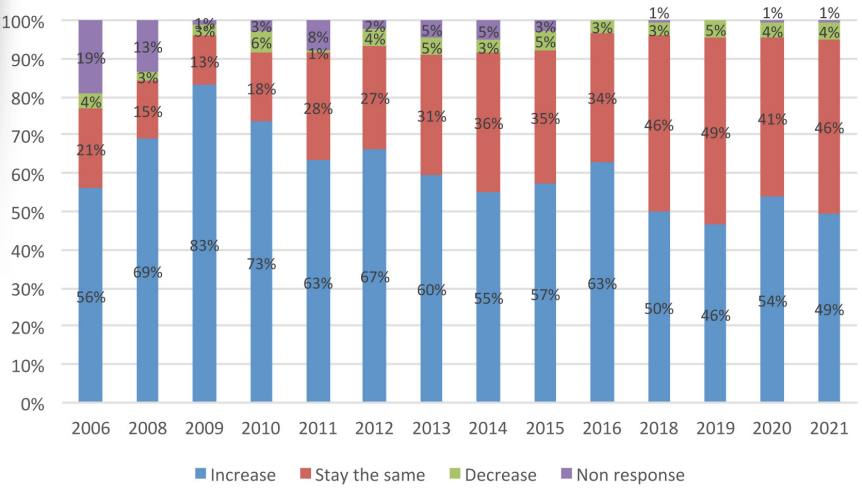
1.2. Future ETF growth drivers

The European ETF market has seen tremendous growth in recent years. At the end of December 2020, the assets under management (AUM) within the 1,820 ETFs constituting the European industry stood at $1,194bn (€982bn), compared with 273 ETFs amounting to $94bn at the end of December 2006 (ETFGI, 2020). Our survey allows us to assess the drivers of such growth and respondents' intentions to adopt ETFs in the future.

Further increases in ETF usage in the future

From our survey, it appears that a high percentage of investors (49%) still plan to increase their use of ETFs in the future, despite the already high maturity of this market and high current adoption rates (see Exhibit 5).

Exhibit 5: Future Evolution of the Use of ETFs
This exhibit indicates the potential of changes in ETF usage by investors over time. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2006 to 2021.



Lowering costs is the main motivation for increasing the use of ETFs

Lowering investment cost is the primary driver behind investors' future adoption of ETFs (85% of respondents in 2021). In addition, investors are not only planning to increase their ETF allocation to replace active managers (70% of respondents in 2021), but are also seeking to replace other passive investing products through ETFs (48% of respondents in 2021) (see Exhibit 6).

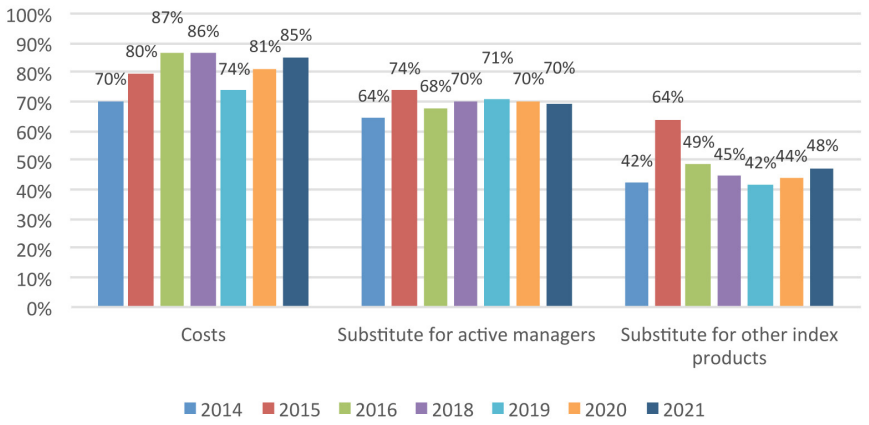


Exhibit 6: Motivations for Increasing the Use of ETFs

This exhibit indicates the reasons given by respondents for planning to increase their use of ETFs. More than one response could be given. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2014 to 2021.

1.3. Cost and quality of replication are the two main drivers for selecting ETF providers

Two criteria dominate investors' preoccupations. The first is costs, cited by the vast majority of respondents (90%). The second is the quality of replication, with 84% of respondents considering this criterion when selecting an ETF provider (see Exhibit 7).

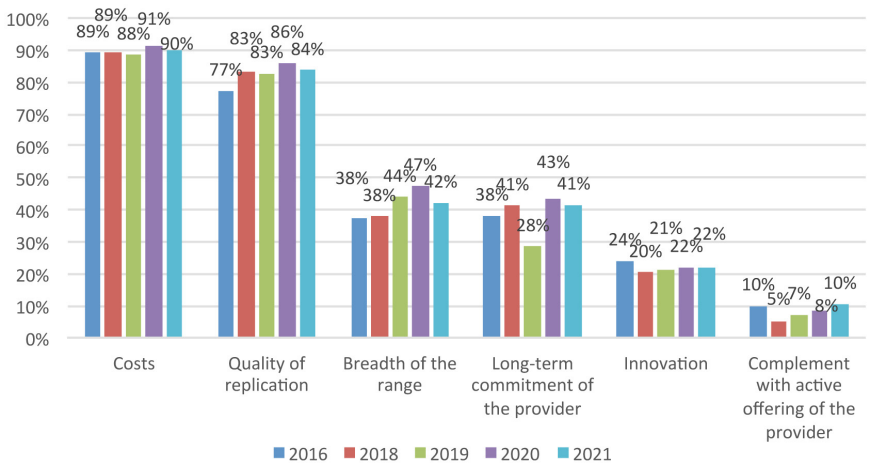


Exhibit 7: What Criteria Do you Consider when Selecting an ETF Provider?

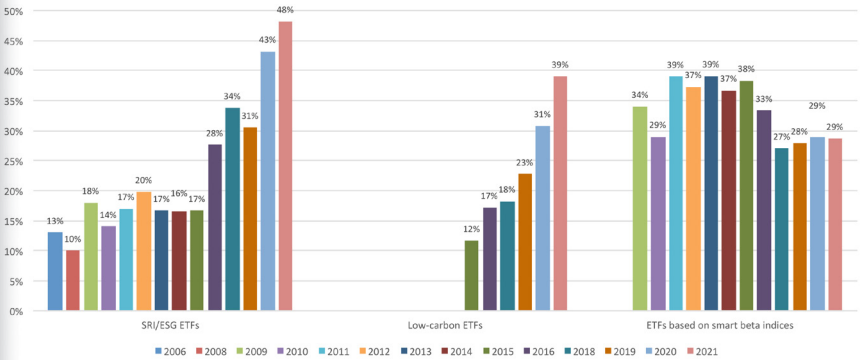
This exhibit indicates the criteria respondents consider when selecting an ETF provider. More than one response could be given. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

1.4. SRI/ESG and low carbon are the main expectations for further developments of ETF products

Our survey allows us to define the type of market segments where investors would like to see further ETF product development. As shown in Exhibit 8, the top concern for 48% of respondents is currently the further development of SRI/ESG ETFs. In second position, 39% of respondents called for more development of low-carbon ETFs. Additionally, for ETFs related to smart beta indices, 29% of respondents called for further developments. If we then aggregate the responses concerning SRI/ESG and low-carbon ETFs, we see that 60% of respondents would like to see further developments in at least one of the two categories, compared to 50% in 2020. In the same way, if we aggregate the responses concerning smart beta indices, single-factor indices and multi-factor indices, we see that 45% of respondents would like to see further developments in at least one category related to smart beta equity or factor indices, compared to 43% in 2020.

Exhibit 8: What Type of ETF Products Would You Like to See Developed Further in the Future?

This exhibit indicates the percentage of respondents who would like to see different ETF products further developed in the future. Respondents were able to choose more than one product. We only display SRI/ESG and Low-carbon ETFs, as well as ETFs based on smart beta indices, which were among the top five of the list. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2006 (where available) to 2021.



2. What is the Present and Future Investor Approach to ESG?

A significant proportion of respondents already invest in SRI/ESG or consider investing in it in the near future

More than half of respondents (51%) indicate that they already invest in SRI/ESG and an additional 33% plan do to so in the near future. Only 16% of respondents neither invest nor are considering investing in SRI/ESG in the near future (see Exhibit 9).

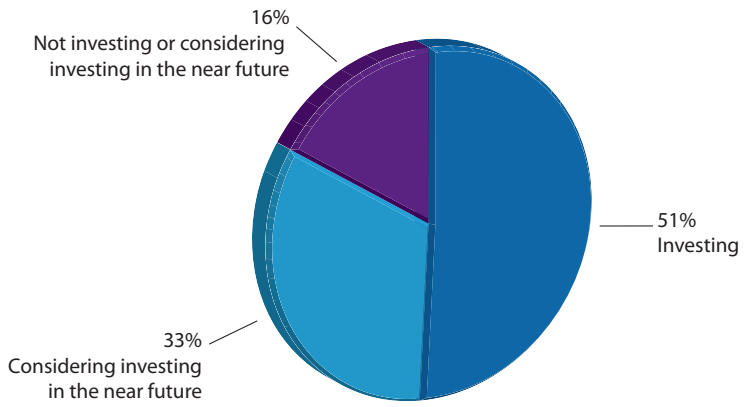


Exhibit 9: Position of Investors with Regard to SRI/ESG
This exhibit indicates the percentage of respondents already investing in SRI/ESG among the whole sample of 202 respondents, as well as the percentage of respondents who do not invest in SRI/ESG yet, but are considering doing so in the near future.

SRI/ESG holds a significant place in investor assets, with prospects for further developments

71% of respondents integrate SRI/ESG considerations into more than 20% of their assets and 21% of them integrate SRI/ESG into more than 80% of their assets (see Exhibit 10).

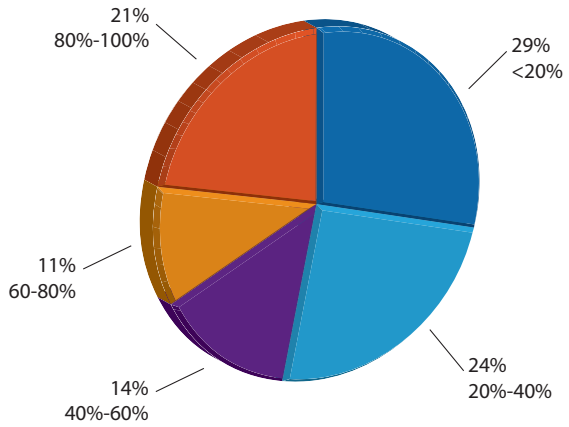
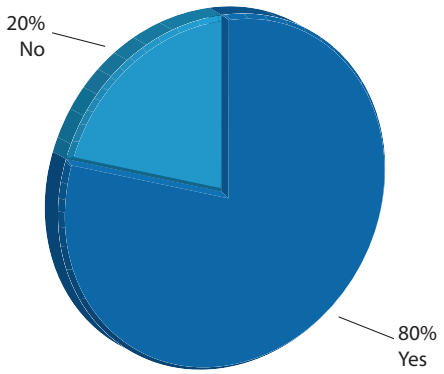


Exhibit 10: Percentage of Overall Assets Incorporating ESG
This exhibit indicates the average percentage of total investment already invested in SRI/ESG. We only consider respondents who already invest in SRI/ESG. Non-responses are excluded.

In addition, 80% of respondents plan to increase their portfolio exposure to ESG in the near future (see Exhibit 11).

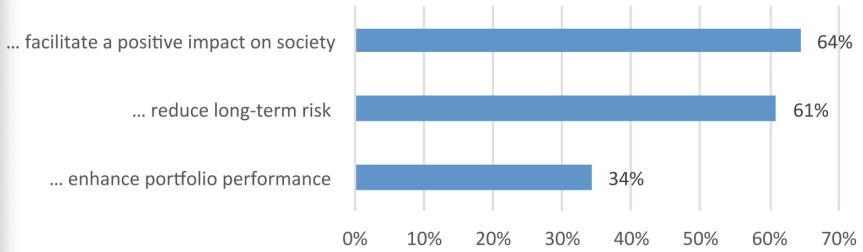
Exhibit 11: Do you Plan to Increase your Portfolio Exposure to ESG?
This exhibit indicates the percentage of respondents planning to increase their portfolio exposure to ESG. Non-responses are excluded.



Incorporating ESG facilitates a positive impact on society and reduces long-term risk

The two main reasons for respondents to incorporate ESG into their investment decisions is to facilitate a positive impact on society (64%), as well as to reduce long-term risk (61%). Only about a third of them (34%) think that incorporating ESG will serve to enhance portfolio performance (See Exhibit 12). However, more than a third of respondents (35%) say they are willing to accept a lower performance in exchange for a better ESG score.[4]

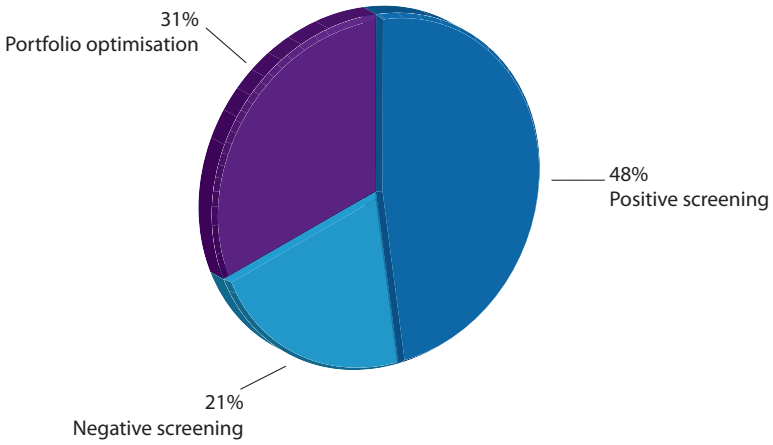
Exhibit 12: Do you Think Incorporating ESG Considerations Is Important in Investment Decisions to ...
This exhibit indicates respondent motivations to incorporate ESG into their investment decisions. More than one response could be given.



The perceived best approach to reduce the carbon footprint of a portfolio is positive screening

Almost half of respondents (48%) consider positive screening to be the best approach for aligning their investments with the objective of a 1.5°C temperature rise under the Paris Agreement. Portfolio optimisation comes in second position (31% of respondents). Lastly, only 21% of respondents consider negative screening to be the best approach (see Exhibit 13).

Exhibit 13: Best Approach to Reduce the Carbon Footprint of a Portfolio
This exhibit indicates the approaches respondents consider the best to reduce the carbon footprint of a portfolio. Non-responses are excluded.



4 - See Exhibit 4.26 in Section 4 (Results).

ETFs will mainly serve to improve the overall sustainability of the portfolio and to incorporate ESG across the passive allocation

When asked how they intend to use ETFs for incorporating SRI/ESG into their portfolio, 48% respondents indicate that ETFs will serve to improve its overall sustainability, and 45% indicate that they will serve to incorporate ESG across the passive allocation. Incorporating innovative ESG exposures came in last position, with 30% of respondents citing this purpose (see Exhibit 14).

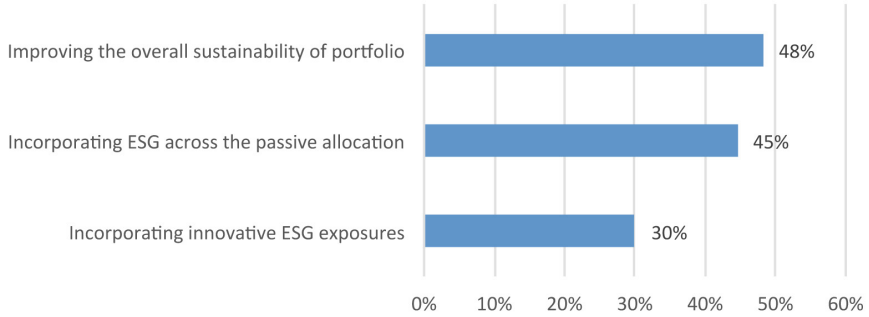


Exhibit 14: Use of ETFs for Incorporating SRI/ESG into the Portfolio
This exhibit indicates how respondents intend to use ETFs for incorporating SRI/ESG into their portfolio. More than one response could be given.

Improvements in ESG regulation across Europe will help investors to make better ESG allocations

Not surprisingly, 78% of respondents believe that improvements in ESG regulation across Europe will enable them to make better ESG allocations (see Exhibit 15).

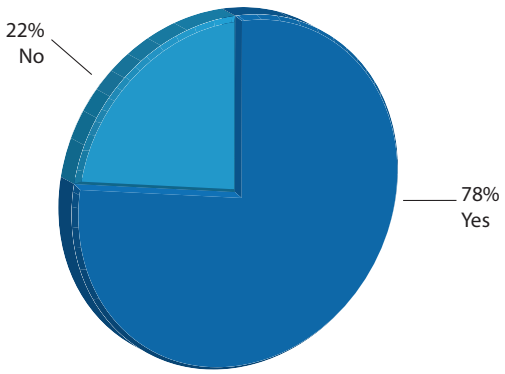


Exhibit 15: Do you Believe that Improvement in ESG Regulation across Europe will Enable you to Make Better ESG Allocations?
This exhibit indicates the percentage of respondents who believe that improvement in ESG regulation across Europe will enable them to make better ESG allocations. Non-responses are excluded.

3. What Are the Key Objectives Driving the Use of Smart Beta and Factor Investing Strategies and their Future Developments?

3.1. Motivations and growth prospects for smart beta and factor investing strategies

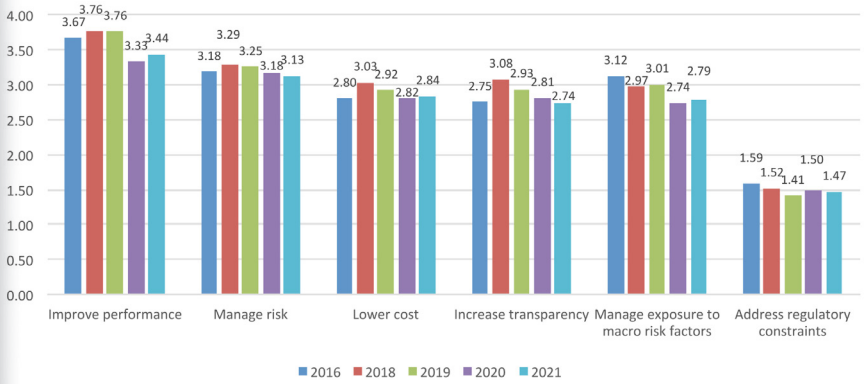
Our survey sheds light on the drivers behind this interest and the actual usage of smart beta and factor investing strategies among investors.

Improving performance is the main motivation for using smart beta and factor investing strategies

The most important motivation behind the adoption of smart beta and factor investing strategies is to improve performance. On a scale from 0 (no motivation) to 5 (strong motivation), respondents gave an average score of 3.44 to 'Improve performance'. 'Manage risk', which is in second position among key motivations (score of 3.13), is also an important element of choice when it comes to smart beta and factor investing strategies (see Exhibit 16).

Exhibit 16: Motivations to Use Smart Beta and Factor Investing Strategies in the Portfolio

This exhibit indicates the key motivations to use smart beta and factor investing strategies in the portfolio on a scale from 0 (no motivation) to 5 (strong motivation). More than one response could be given. Non-responses are excluded. The scores are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

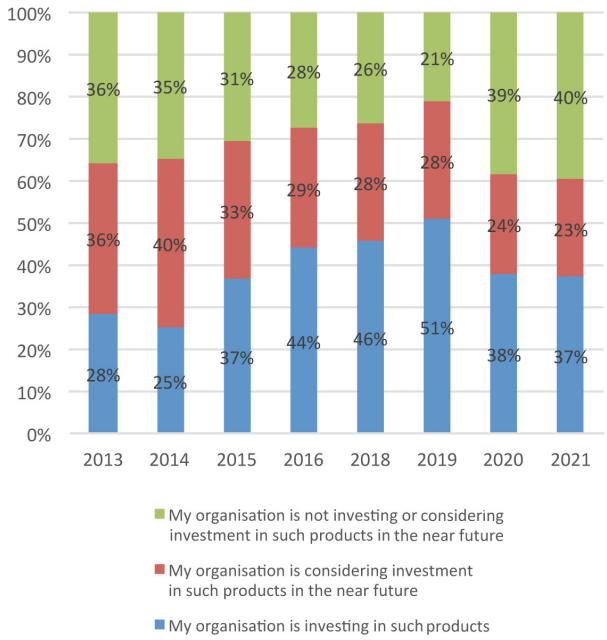


More than one-third of participants currently invest in smart beta and factor investing strategies, but for a limited share of holdings

37% of respondents currently invest in smart beta and factor investing strategies, while another 23% do not but are considering adopting such strategies in the future (see Exhibit 17).

Exhibit 17: Use of Smart Beta and Factor Investing Solutions

This exhibit indicates the percentage of respondents who reported using smart beta and factor investing solutions. Non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2013 to 2021.



However, these investments typically make up only a small fraction of portfolio holdings among those respondents who have made investments in these strategies. Almost three-quarters of respondents (73%) dedicate less than 20% of their total investments to smart beta and factor investing strategies and only 10% invest more than 40% (see Exhibit 18).

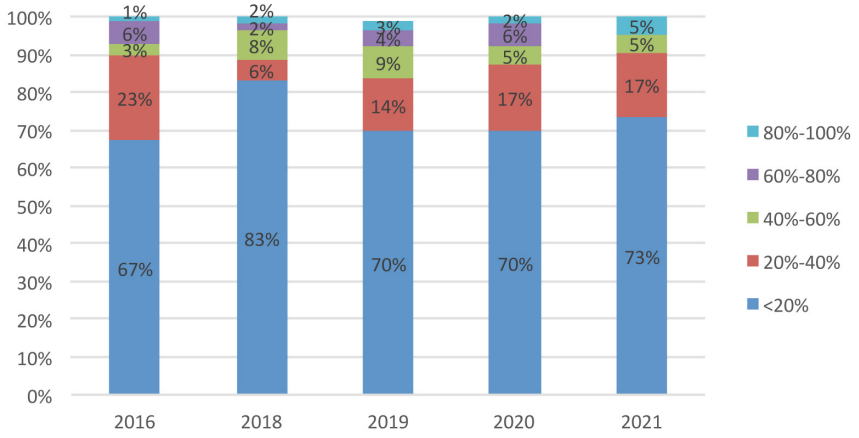


Exhibit 18: Percentage of Total Investment Already Invested in Smart Beta and Factor Investing Solutions
This exhibit indicates the average percentage of total investment already invested in smart beta and factor investing solutions. We only consider respondents who already use smart beta and factor investing strategies. Non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

More respondents plan a moderate than a substantial increase for smart beta and factor investing strategies

The majority of respondents (53%) plan an increase of less than 10% in their use in terms of assets in the near future, while about a third (35%) plan an increase of between 10% and 50%. 10% indicate they plan a decrease (see Exhibit 19).

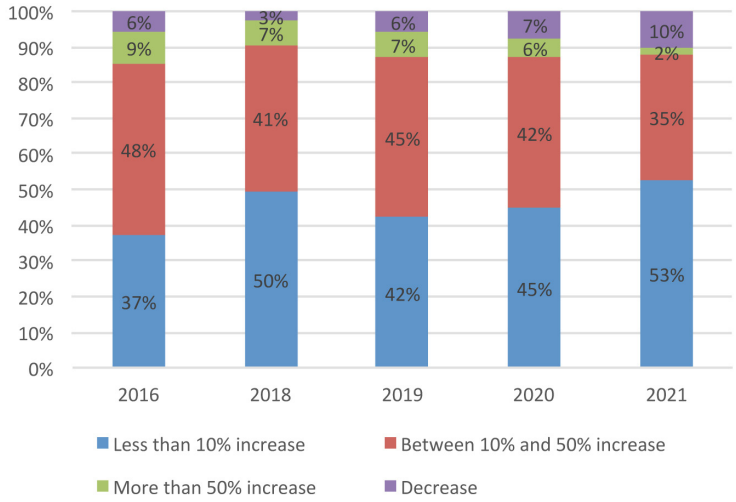


Exhibit 19: Planned Changes in the Use of Smart Beta/Factor-based Investment Products in Terms of Assets in the Near Future
This exhibit indicates whether respondents plan to increase or decrease their use of smart beta/factor-based investment products (in terms of assets) over the next three years. Non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

3.2. Implementation of smart beta and factor investing strategies

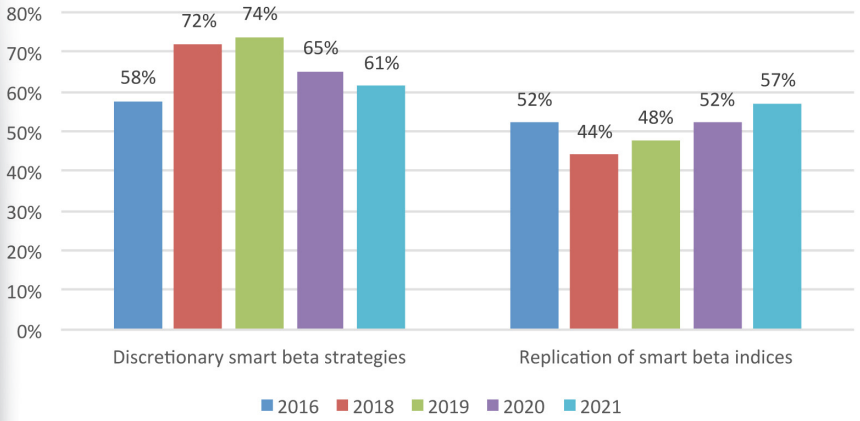
Our survey generates several insights into how investors implement their smart beta and factor investing strategies.

Discretionary strategies are preferred over replication indices

More respondents are using discretionary smart beta and factor investing strategies (61% in 2021), rather than replicating smart beta indices (57% in 2021), with a gap that has narrowed between the two, compared to other years (see Exhibit 20).[5]

Exhibit 20: Strategies Used to Invest in Smart Beta and Factor Investing Solutions

This exhibit indicates the categories of smart beta and factor investing strategies in which respondents invest. The percentages are based only on respondents who already use smart beta and factor investing strategies. More than one response could be given. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

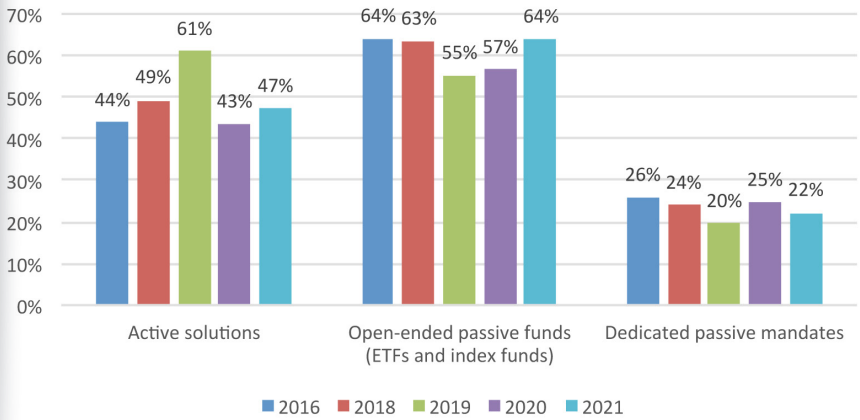


In terms of wrappers, passive funds are preferred over active solutions

In terms of the actual product wrapper used for smart beta and factor investing exposure, respondents currently favour passive funds that replicate smart beta and factor investing indices (64% of respondents), ahead of active solutions, i.e. approaches including a significant amount of discretion (47% of respondents) (see Exhibit 21).

Exhibit 21: Wrappers Used to Invest in Smart Beta and Factor Investing Solutions

This exhibit indicates the categories of wrapper respondents use to invest in smart beta and factor investing strategies. The percentages are based only on respondents who already use smart beta and factor investing strategies. More than one response could be given. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.



3.3. Position of investors in smart beta and factor investing strategies for fixed income

Use of smart beta and factor investing strategies for fixed income still limited ...

The results of our survey show that 15% of the whole sample of respondents currently use smart beta and factor investing for fixed income (see Exhibit 22, left). However, about two-thirds (67%) of this

5 -A detailed comparison of the advantages of each strategy is presented in Section 4 (Results, Exhibits 4.40 to 4.42).

sub-sample of respondents invest less than 20% of their total investment in smart beta and factor investing for fixed income (see Exhibit 22, right).

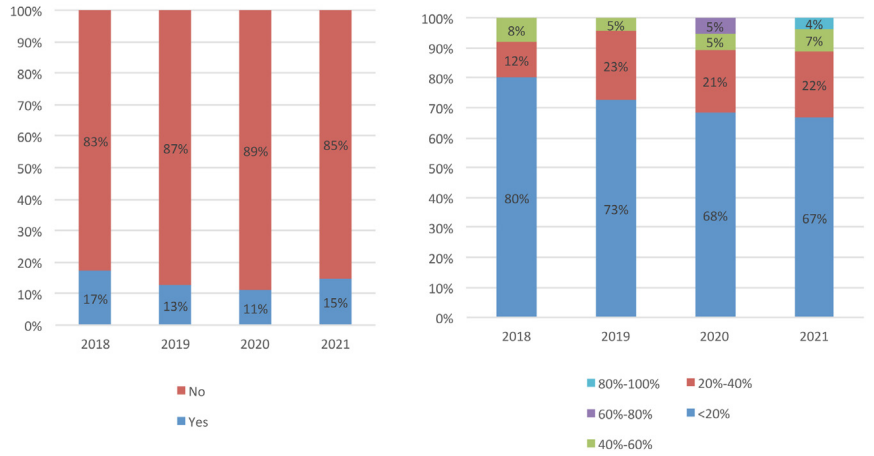


Exhibit 22: Investment in Smart Beta and Factor Investing Strategies for Fixed Income
The exhibit on the left indicates the percentage of respondents who reported investing in smart beta and factor investing strategies for fixed income, while the one on the right indicates the percentage of total investment already invested in smart beta and factor investing solutions for fixed income. For this latter result, non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2018 to 2021.

The reasons given by the additional 85% of respondents for not investing in smart beta and factor investing products for fixed income are detailed in Exhibit 23.

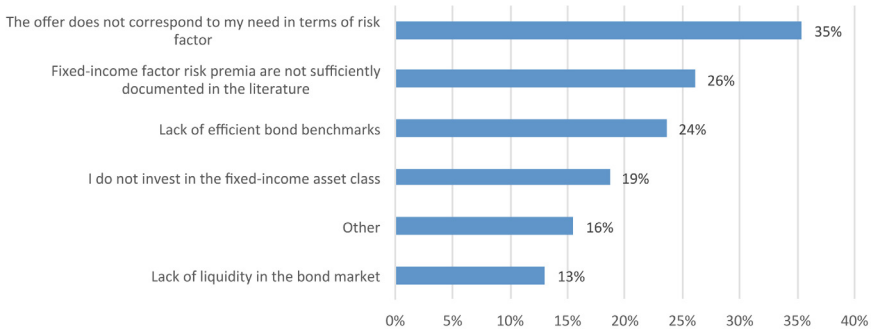


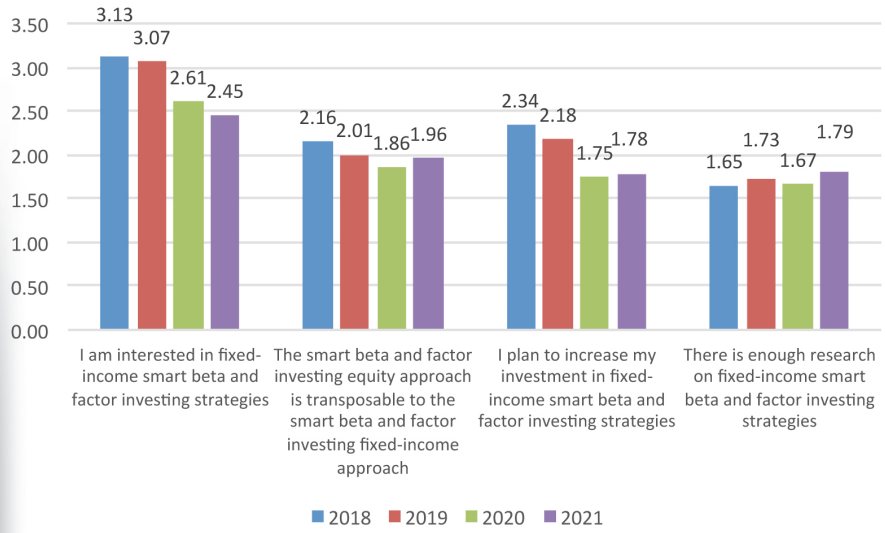
Exhibit 23: Main Reasons for not Using Fixed-Income Smart Beta and Factor Investing Products
This exhibit indicates the reasons why respondents do not invest in smart beta and factor investing strategies for fixed income.

... though there is some interest and favourable opinions about them

Those respondents who already invested in smart beta and factor investing for fixed income are quite satisfied, with a score of 2.93 on a scale from 0 (not at all satisfied) to 5 (highly satisfied).

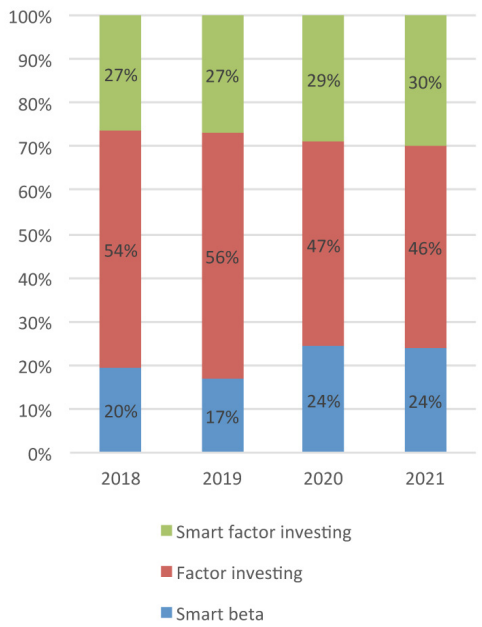
Furthermore, it appears that all respondents, including those who already invest in smart beta and factor investing for fixed income, and those who do not yet invest, show some interest, albeit decreasing since 2018, in smart beta and factor investing for fixed income, with an average score of 2.45 in 2021 on a scale from 0 (strongly disagree) to 5 (strongly agree). However, the average score for plans to increase investment in smart beta and factor investing for fixed income is only 1.78, indicating a significant gap between levels of interest in this investment and expectations of an increase in it (see Exhibit 24).

Exhibit 24: Respondent Opinions about Statements Concerning Smart Beta and Factor Investing for Fixed Income
This exhibit indicates the extent to which respondents agree with each statement on a scale from 0 (strongly disagree) to 5 (strongly agree). More than one response could be given. Non-responses are excluded. The scores are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2018 to 2021.



Implementing fixed-income strategies: a preference for factor investing
52% of respondents indicate that smart beta and factor investing bond solutions are useful in performance-seeking portfolios for harvesting additional risk premia (see Exhibit 4.48 in Section 4, Results). To achieve efficient harvesting, 46% of respondents (compared to 47% in 2020) think that the best solution is to use factor investing, i.e. selecting bonds according to rewarded attributes (value, momentum, credit, liquidity) (see Exhibit 25).

Exhibit 25: How Should Investors Achieve Efficient Harvesting of Risk Premia in Bond Markets?
This exhibit indicates what respondents feel is the best way to achieve efficient harvesting of risk premia in bond markets. Non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2018 to 2021



3.4. SRI/ESG and fixed income are the main expectations for future development of smart beta and factor investing products

Our survey results also show that respondents would like to see further development of the integration of ESG into smart beta and factor investing with a score of 3.14 on a scale from 0 (not required) to 5 (strong priority).

The development of smart beta and factor investing products in the area of fixed income closely follows with a score of 2.95 (see Exhibit 26). It is likely that the development of new products corresponding to this demand may lead to an even higher take-up of smart beta and factor investing solutions.

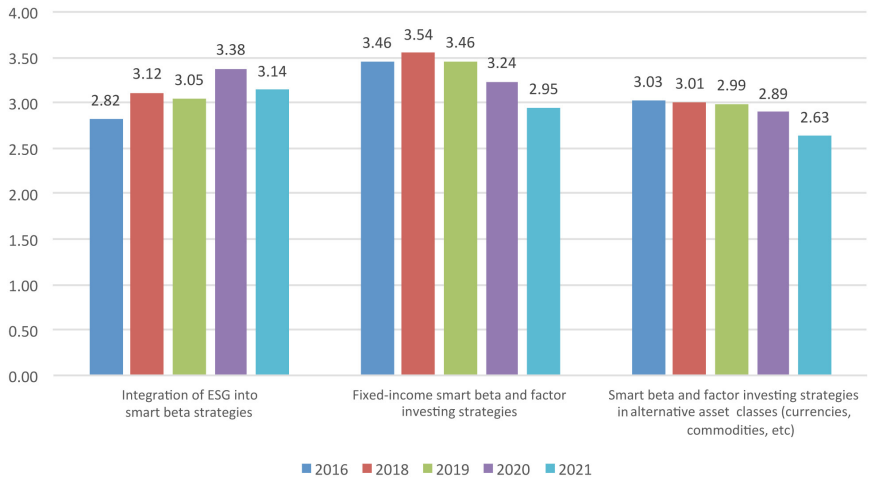


Exhibit 26: Which Type of Solutions Do You Think Require Further Product Development by Providers?
This exhibit indicates the types of solutions that respondents would like to see providers develop further, on a scale from 0 (not required) to 5 (strong priority). More than one response could be given. Non-responses are excluded. The percentages are based on the results of the EDHEC ETF, Smart Beta and Factor Investing surveys from 2016 to 2021.

The 2021 survey shows significant interest in SRI/ESG among respondents, who overwhelmingly answered all questions related to it. Many of them already include this component in their investment, and a large proportion of those who do not plan to do so in the near future. While their main motivation to incorporate ESG criteria into their investment is to facilitate a positive impact on society, the majority of them do not want this to be done at the expense of performance. We note that the proportion of respondents investing in SRI/ESG is a little higher among those who use ETFs than among those who do not. The same result is observed for investment in smart beta and factor investing strategies. While ETFs are widely used to invest in popular asset classes, such as equities and fixed income, we can see that they also facilitate integration of SRI/ESG and investment in smart beta and factor investing strategies.

Introduction

1. Introduction

Almost every year since 2006, EDHEC has conducted a survey on European investors' views and uses of ETFs. Since 2013, we have included a section dedicated to smart beta and factor investing strategies. In the present edition of the survey, we have added a full section dedicated to SRI (Socially Responsible Investing)/ESG (Environmental, Social, Governance) investing. Conducting a survey allows us to analyse current practices and perceptions among ETF users in Europe, as well as among users of smart beta and factor investing strategies. By comparing our results with those of our regular surveys, we aim to shed light on trends within the ETF market and within the smart beta and factor investing strategy offer.

Since the first European ETF came on the market in 2000, this market has developed significantly. Assets under management (AUM) of ETFs and other exchange-traded index products amounted to $1,194bn (€982bn) as at the end of December 2020 (ETFGI, 2020). While the first ETFs attempted to replicate the performance of broad equity markets, ETFs now exist for a wide range of asset classes. ETFs can also provide access to ESG exposure, as well as smart beta and factor investing strategies.

The EDHEC European ETF, Smart Beta and Factor Investing Survey 2021 took the form of an online questionnaire addressed to European professionals in the asset management industry. It targeted institutional investors as well as asset management firms and private wealth managers. We received answers from a sample of 202 respondents, 19% of whom do not use ETFs. As the questionnaire had three sections, one dedicated to ETFs, a second dedicated to ESG and the last one dedicated to smart beta and factor investing strategies, all respondents could contribute to at least part of the survey.

This survey proceeds as follows. Section 2 presents the Background to the survey and reviews the main figures concerning the European ETF market and smart beta and factor investing strategies. The methodology used to conduct the survey and some information about survey respondents are provided in Section 3. The results of the survey are detailed in Section 4, which is the core of the document, and includes an initial sub-section on ETFs, a second one fully dedicated to ESG and a third one entirely focused on smart beta and factor investing strategies. Below you will find the highlights of the main results presented in Section 4.

ETF Section (see Section 4.1)

Over the years, our surveys have shown a wide adoption of ETFs to invest in the main asset classes. In the present edition, ETFs based on the two asset classes, SRI/ESG and smart beta and factor investing, deserve special attention in terms of current use, satisfaction and future development.

Use of ETFs (see Sections 4.1.1 and 4.1.4)

- 55% of respondents were investing in SRI/ESG in 2021, versus 17% in 2011.
- 67% of respondents were using ETFs to invest in SRI/ESG in 2021, versus 22% in 2011 and 33% in 2019.
- ETFs accounted for 27% of total investment in SRI/ESG in 2021, versus 13% in 2011.
- 74% of respondents were using ETFs to invest in smart beta and factor investing in 2021, versus 49% in 2014.
- 33% of investment in smart beta and factor investing was made through ETFs in 2021, versus 31% in 2013 and 48% in 2018.

Role of ETFs in the Asset Allocation Process (see Section 4.1.2)

- 66% of respondents were using ETFs for long-term buy-and-hold investment, versus 37% for tactical allocation.
- 74% of respondents were using ETFs to achieve broad market exposure, versus 53% for specific sub-segment exposure.
- Cost and quality of replication are the two main drivers for selecting ETF providers (90% and 84% of respondents, respectively).

Future Development of ETFs (see Section 4.1.3)

- 50% of investors plan to further increase their use of ETFs in the future.
- Lowering costs is the main motivation for increasing the use of ETFs (85% of respondents in 2021).
- 65% of investors are planning to increase their ETF allocation to replace active managers, while 46% are also seeking to replace other passive investment products through ETFs.
- 60% of respondents would like to see further developments in SRI/ESG-based ETFs and/or low-carbon ETFs, versus 50% in 2020.
- 45% of respondents would like to see additional developments in at least one category related to smart beta equity or factor indices, versus 43% in 2020.

ESG Section (see Section 4.2)

- 51% of respondents invest in SRI/ESG and another 33% plan to do so in the near future.
- 82% of respondents use SRI/ESG in the equity asset class and 57% in the fixed-income asset class.

- 44% of respondents prefer the best-in-class approach (i.e. positive screening) for SRI/ESG, far ahead of the thematic approach (34%) and the negative screening approach (22%).
- 64% of respondents report incorporating ESG into their investment decisions to facilitate a positive impact on society and 61% to reduce long-term risk.
- 65% of respondents do not want the incorporation of ESG to be done at the expense of performance.
- Only 34% of respondents think that incorporating ESG will serve to enhance portfolio performance.
- 48% of respondents consider that the best approach to reduce the carbon footprint of a portfolio and meet the Paris Agreement benchmarks (limit global temperature increase to 1.5°C) is positive screening, 31% prefer portfolio optimisation, and only 21% negative screening.
- 44% of respondents consider ESG as a factor.
- 46% of respondents observe sector biases in ESG and 41% quality biases.
- 61% of respondents consider that sector or neutrality constraints are appropriate when using an ESG filter.
- 48% of respondents intend to use ETFs to incorporate SRI/ESG into their portfolio to improve its overall sustainability, 45% intend to use them to incorporate ESG into their passive allocation and 30% intend to use ETFs to incorporate innovative ESG exposures.
- 71% of respondents integrate SRI/ESG into more than 20% of their assets and 21% into more than 80%.
- 80% of respondents plan to increase their portfolio exposure to ESG in the near future.
- 78% of respondents believe that improvements in ESG regulation across Europe will enable them to make better ESG allocations.

Smart Beta and Factor Investing Strategies (see Section 4.3)

Use of Smart Beta and Factor Investing Strategies (see Section 4.3.1)

- 37% of participants currently invest in smart beta and factor investing strategies; 23% do not but are considering adopting such strategies in the future.
- 73% of respondents dedicate less than 20% of their total investments to smart beta and factor investing strategies. Only 10% of respondents dedicate more than 40% of their total investments to these strategies.
- 64% of respondents use passive funds that replicate smart beta and factor investing indices, while 47% use active solutions to invest in smart beta and factor investing.
- 61% of respondents use discretionary strategies to invest in smart beta and factor investing, while 57% use replication strategies.

Smart Beta and Factor Investing Strategies in Fixed Income (see Section 4.3.2)

- 15% of the whole sample of respondents currently use smart beta and factor investing for fixed income.
- 67% of this sub-sample dedicate less than 20% of their total investment to smart beta and factor investing for fixed income. Only 11% of respondents dedicate more than 40% of their total investments.
- The additional 85% of respondents said they do not invest in smart beta and factor investing products for fixed income mainly because the offer does not correspond to their needs in terms of risk factor (35%), because risk premia are not sufficiently documented in the literature (26%) and because there is a lack of efficient bond benchmarks (24%).
- Respondents are hesitant in their plans to increase their use of smart beta and factor investing for fixed income in the future, because they have doubts about the maturity of research results for fixed-income strategies.
- About three-fifths of respondents believe that the three typical factors of the credit risk market, namely slope of the yield curve, carry/level of the yield curve and credit are the most relevant rewarded factors in fixed-income markets (58%, 54% and 49% respectively).
- 52% of respondents indicate that smart beta and factor investing bond solutions are useful in performance-seeking portfolios for harvesting risk premia.
- 46% of respondents have a preference for factor investing, i.e. selecting bonds according to rewarded attributes (value, momentum, credit, liquidity) to achieve efficient harvesting.

Importance of Factors as Performance Drivers (see Section 4.3.3)

- Ease of implementation, the existence of a factor risk premium and academic evidence are the primary concerns when it comes to smart beta and factor investing strategy factors.

Future Developments for Smart Beta and Factor Investing Strategies (see Section 4.3.4)

- 37% of respondents plan an increase of more than 10% in terms of assets in their use of smart beta and factor investing products in the near future, while only 10% indicate a decrease.
- Improving performance and managing risk are the two main motivations for using smart beta and factor investing strategies.
- SRI/ESG and fixed income are the main expectations for future development of smart beta and factor investing products.
- Respondents would also like more customised smart beta and factor investing solutions to be developed.

- Respondents plan to make more frequent use of open-ended passive funds than active solutions to invest in equity products and in fixed-income products.

Background

2. Background

2.1. Overview of ETFs

Exchange-traded funds are open-ended investment funds traded on a stock exchange. The first ETFs appeared in the United States in 1989 and they started trading in Europe in 2000. As at the end of December 2020, there were 7,602 ETFs worldwide managing $7,737bn (€6,362bn) in assets (ETFGI, 2020). The AUM within the 1,820 ETFs that make up the European industry stood at $1,194bn (€982bn) from 77 providers on 29 exchanges in 24 countries (ETFGI, 2020). According to ETFGI (2015, 2020) figures, the amount invested in ETFs in Europe has been multiplied by 2.45 over the last five years. While the large number of ETFs means that a large variety of indices are tracked – including indices on niche markets and innovative index methodologies in traditional asset universes – there is also a large choice of different ETFs that track the same or very similar indices. For example, in Europe, there are currently 17 ETFs that track the Euro Stoxx 50 index.[6]

There has been a shift over the years in favour of physical rather than synthetic replication. While the respective shares of physical and synthetic replication were 60% and 40% 10 years ago, that of physical replication stood at 84% at the end of September 2020 (Vanguard, 2020).

The European ETF market is mostly institutional. Although there are no exact figures, industry estimates in terms of the percentage of retail AUM are around 20% according to Morningstar (2019a). The European Securities and Markets Authority (ESMA) Securities and Markets Stakeholder Group[7] notes that while ETFs are a "very low-cost alternative" to other Undertakings for Collective Investment in Transferable Securities (UCITS) funds, they are "very rarely, if at all, marketed for European individual investors" due to "differences in remuneration of the distribution channels".

In continental Europe, retail distribution has traditionally been controlled by banks, and to a lesser extent insurance companies, who have used their sales almost exclusively to market their in-house products. In 2015, 56% of the AUM in the European fund industry was controlled by third-party allocation and 44% by captive distribution channels (Giannotti and Maciver, 2016). However, the split is different from one country to another, with a dominance of captive distribution in Austria, France, Italy and Spain, while Sweden, the UK and the Netherlands use more third-party funds. In the UK, independent financial advisers (IFAs) dominate the retail market. Until the end of 2017, these institutions and intermediaries had no direct incentive to promote ETFs, which by nature do not pay them commissions, unlike comparable unlisted vehicles, UCITS included. However, the introduction of the second Markets in Financial Instruments Directive (MiFID II) in January 2018 considerably restricted this distribution

6 - https://www.justetf.com/en/how-to/euro-stoxx-50-etfs.html.
7 - ESMA Policy Orientations on Guidelines for UCITS exchange-traded funds and structured UCITS (2011).

commission policy for independent advisers, which benefits ETFs. MiFID II provides more transparency around ETF trading, which is helpful as many investors still have a relatively poor understanding of the trading and liquidity of ETFs (Morningstar, 2019a). Historically, about 70% of the trades in ETFs in Europe were done on an over-the-counter (OTC) basis (Morningstar, 2019a). Since the introduction of MiFID II, investors are required to report more information about their trades. This resulted in the European ETF industry launching an aggregate trading data service incorporating both over-the-counter (OTC) trades and those listed on exchanges such as the London Stock Exchange.[8]

ETF shares and the underlying securities are indeed subject to arbitrage activities that exploit price discrepancies when they arise, ensuring that the ETF share price closely mirrors the value of the underlying securities. In addition, ETF shares can incorporate information before it is reflected in the prices of the underlying securities, creating an information link through which ETFs can propagate shocks to them via this arbitrage activity. According to Shim (2020), this link has been especially observed since 2008, when ETF trading developed on a larger scale.

In the context of the large growth of ETFs, a collection of recent papers question the influence of the increase in ETF ownership on the liquidity of ETF component securities. They investigate the US market in particular, where the market share dedicated to ETFs is even higher than in Europe. An interesting and comprehensive review is provided by Ben-David, Franzoni and Moussawi (2017), as well as by Liebi (2020). It should be noted that there is a debate in this literature, as authors have provided evidence of both positive and negative effects of ETF trading on market liquidity and efficiency, and further research may be needed to explain the somewhat divergent views. Israeli, Lee and Sridharan (2017) note that ETFs constitute about 30% of the daily value traded on US exchanges. They evidence an increase in trading costs for these securities, associated with a decrease in liquidity. Similarly, Hamm (2014) reports an increase in illiquidity for securities that are part of ETFs subject to increases in ownership. In contrast, Glosten, Nallareddy and Zou (2016) document an increase in information efficiency for securities that are part of ETFs experiencing higher trading, resulting from increased ownership. Israeli, Lee and Sridharan (2017) justify this difference by the fact that different approaches were used: Glosten, Nallareddy and Zou (2016) consider the current effect of increasing ownership on liquidity, as they test ownership effect in the future. Hamm (2014) explains this phenomenon by the fact that uninformed investors tend to depart from investment in individual stocks when they have the opportunity to invest in diversified ETFs or index funds – a result evidenced by greater illiquidity for stocks that are part of the more diversified ETFs. This economic consequence of

8 - http://www.funds-europe.com/news/european-etf-industry-launches-aggregate-trading-data-service.

the large development of index trading was already evoked by Wurgler (2011) and Broman (2016).

Ben-David, Franzoni and Moussawi (2018) argue that securities with higher ETF ownership exhibit higher volatility and are more likely to depart from the random walk. They notice that during turbulent market periods, arbitrage activity, which is necessary to reduce price discrepancy between ETFs and underlying securities, is limited. Consequently, ETF prices tend to diverge from those of the underlying securities.

However, Madhavan (2016) and Madhavan and Sobczyk (2016) have another point of view and detail how ETFs improve financial market information. According to them, ETFs will reflect new information before underlying securities, as long as arbitrage is frictionless. This is in line with Glosten, Nallareddy and Zou (2016), who argue that stocks incorporate information more quickly as soon as they are part of ETFs, and also with Da and Shive (2018), who observe increasing co-movements in returns of stocks that are included in an index, and finally Wermers and Xue (2015), who report that ETFs enhance price discovery. Agarwal et al. (2018) document a correlation between the liquidity of ETFs and the liquidity of the security components of ETFs.

The growth of ETFs is explained by the fact that investors choose to replace investment in traditional index funds by investment in ETFs. Israeli, Lee and Sridharan (2017) point out that ETFs are increasingly replacing traditional passive investment vehicles, such as index funds, closed-end funds and index futures, as detailed in recent studies. For example, Madhavan et al. (2014) argue that ETFs are a superior alternative to index futures, because of the mispricing that often occurs around the futures' rolling dates.

As ETFs combine the diversification of index funds and the ease of trading and flexibility of stocks listed on exchanges, they should be analysed from both standpoints. Like traditional index funds, ETFs usually attempt to track or replicate a particular index of equities, debts or other securities. Like mutual funds, they are registered as open-ended funds, continuously offering new fund shares to the public and required to buy back outstanding shares on request and at a price close to their net asset value (NAV). Shares in ETFs can be traded on the market throughout the trading day, using the whole gamut of order types. Although the designs of ETFs and mutual funds are similar, investors can treat ETFs as normal stocks, buying or selling ETF shares through a broker or in a brokerage account, just as they would the shares of any publicly traded company.[9] ETFs give investors access to a wide array of asset classes and investment strategies. Hence, they are a type of investment vehicle and not an asset class in themselves.

9 - Sometimes ETFs are wrongly classified as closed-end funds, since both exhibit similar features, such as holding multiple securities and asset classes. Furthermore, both can be traded on exchanges. The most important difference is that ETFs always trade very closely to their NAV, since any deviation can be exploited by arbitrageurs redeeming and then buying new units. Closed-end funds, by contrast, rarely trade at their NAV.

2.2. The Development of ESG in the European ETF Market

Based on data provided by the TrackInsight *ESG Observatory*, a database and analytics platform recently rolled out by TrackInsight to provide ETF investors with ESG-related tools[10], there were 587 ESG ETFs globally with overall AUM of €144 billion, as of February 2021. The European ESG ETFs are dominant, with 401 funds representing AUM of €85 billion. The number of European ESG ETFs increased more than sixfold (from 61 to 401 funds) from 2016 to 2021, while the AUM of European ESG ETFs increased more than twelvefold (from €7bn to €85bn) during the same period. More details and analyses can be found in Le Sourd and Safae (2021).

2.3. Smart Beta and Factor Investing Strategies

For a few years, the standard practice of using a capitalisation-weighting scheme for the construction of indices has been the target of harsh criticism. The growing demand for indices as benchmarks for passive investment vehicles has led to innovations including new weighting schemes and alternative definitions of sub-segments. There are also many recent initiatives for non-cap-weighted ETFs. Since the first fundamental factor-weighted ETF launched in May 2000 (Fuhr and Kelly, 2011), there have been quite a number of ETFs introduced to track non-market cap-weighted indices,[11] including equal-weighted ETFs, minimum-variance ETFs, characteristics-weighted ETFs, etc.[12] These have been coined "Smart Beta ETFs" as they seek to generate superior risk-adjusted returns compared to standard market capitalisation-based indices. According to ETFGI[13], at the end of February 2021, there were 1,344 smart beta equity ETFs and ETPs globally and 192 providers of such funds, listed on 45 exchanges in 37 countries, amounting to US$1.05tn. According to Bloomberg[14], the AUM of European smart beta ETFs reached €69bn at the end of 2019 and an additional €33bn was invested in ESG strategies. In 2019, six new smart beta ETFs were launched in Europe, compared to 20 in 2018, and 83 in 2017, a sign that this market is reaching a certain level of maturity, and the share of smart beta ETPs represents 7.2% of the total European ETP market (ETF Stream[15]).

In the area of smart beta and factor investing for fixed income, the market share is currently small with only 3.7% of ETF assets at the end of December 2018 (Morningstar, 2019b). However, Kahn and Lemmon (2015), considering duration and credit factors for fixed income, and market, size, value and momentum factors for equity, evidenced that an even higher proportion of active risk could be explained by smart beta factors for the fixed-income asset class compared to the equity asset class (67% for fixed income versus 35% for equity). Further, for 38% of the fixed-income sample funds, 90% or more of the active risk can be explained by smart beta factors. This is an illustration of the benefits of smart beta strategies for the fixed-income asset class.

10 - https://www.trackinsight.com/en/esg-observatory?utm_source=TrackInsight&utm_medium=Header&utm_campaign=ESG_Observatory
11 - For instance, PowerShares adopted a fundamental index methodology and launched PowerShares FTSE RAFI ETFs that have covered both the US and global markets since 2005. Wisdom Tree introduced a series of ETFs weighted by different fundamental factors, such as dividends and earnings since 2006. RevenueShares launched revenue-weighted ETFs in 2008.
12 - Rydex introduced the first equal-weighted ETF in 2003. It tracks the S&P Equal Weight Index. iShares and Ossiam also launched equal-weighted ETFs in 2011. In May 2011, PowerShares launched the first beta and first volatility-weighted ETFs.
13 - ETFGI Press Releases, 17 March 2021.
14 - Bloomberg. 2020. Europe's Active Managers should Watch for ETF Smart-Beta Growth. 9 March 2020. https://www.bloomberg.com/professional/blog/europes-active-managers-should-watch-for-smart-beta-etf-growth/.
15 - Kenneth Lamont. 2020. "An Analysis of the Smart Beta Landscape in 2019". https://www.etfstream.com/feature/10900_an-analysis-of-the-smart-beta-landscape-in-2019/.

We now proceed to the presentation of the survey methodology and data (Section 3). The main results of the survey – European investors' views and use of ETFs and smart beta and factor investing strategies – are presented in Section 4.

Methodology & Data

3. Methodology & Data

3. Methodology and Data

3.1. Methodology

The EDHEC European ETF, Smart Beta and Factor Investing Survey 2021 was completed using an online questionnaire distributed to professionals within the European asset management industry, and subsequent e-mail communication. It targeted professional asset managers who have experience with ETF instruments and smart beta and factor investing strategies, including institutional investors, asset management companies and private wealth managers.

The questionnaire comprised three parts. In the first, participants were asked about the role ETFs play in their asset allocation decisions. We also invited them to tell us how they imagine their use of ETFs changing over the coming years and to indicate the type of ETF products they would like to see further developed. The second part of the questionnaire was fully dedicated to ESG. Respondents were asked about their present and future approach to ESG, how they intend to use ETFs to incorporate ESG into their portfolio, how they integrate ESG considerations into their smart beta and factor investing strategies, as well as about the progress in integrating an SRI/ESG component into investment. Finally, the third part of the questionnaire was dedicated to smart beta and factor investing strategies. Respondents were asked about their current use of smart beta solutions – whether equity or fixed-income – in their portfolio allocation. They were also asked about the difficulties they face and their needs in terms of further development of alternative beta and factor investing strategies.

3.2. Data

The e-mail containing a link to the questionnaire was sent out mid-February 2021. The first response was received on 17 February and the last on 7 April. In total, we received replies from 202 participants, of whom 19% (38) reported that they had never invested in ETFs. However, as a large part of the survey was dedicated to ESG and to smart beta and factor investing strategies, these participants were invited to skip the ETF section and directed to the second part, since our aim is to include only experienced ETF investors in the ETF section.

Our survey is aimed at European investment professionals. Thus, the 202 survey respondents are based in Europe, many of whom (64%) are from Switzerland, the UK, Italy, France and Germany. The exact breakdown of the respondents' countries is presented in Exhibit 3.1. We can see from these numbers that our sample is a fair geographic representation of the European investment market.

164
respondents

81%
invest in ETFs

64%
from Switzerland, the UK, Italy, France and Germany

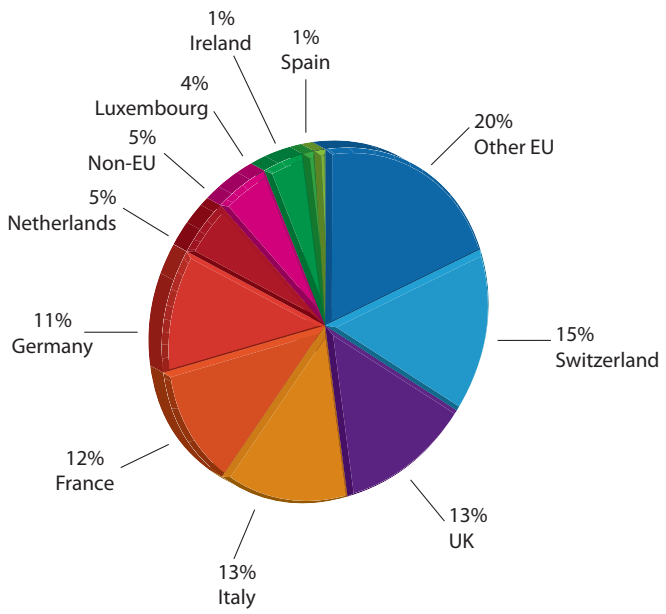


Exhibit 3.1: Country Distribution of Respondents
This exhibit indicates the percentage of respondents who have their activity in each of the listed countries. Percentages are based on the 202 replies to the survey.

We also asked participants about their institution's principal activity, allowing us to distinguish between professionals in institutional investment management and those in private wealth management. At 72% of the survey participants, institutional managers are the largest professional group represented in this study (the total of Asset owners and Other institutional investors as shown in Exhibit 3.2). About 20% belong to the private wealth management industry. Finally, the remaining 7% is made up of other professionals within the financial services industry, such as investment bankers or industry representatives.

Institutional Managers represent
72%

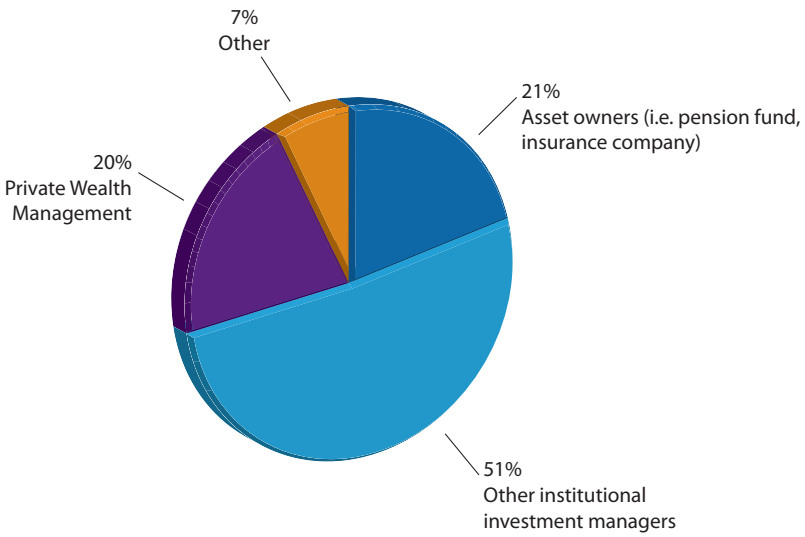
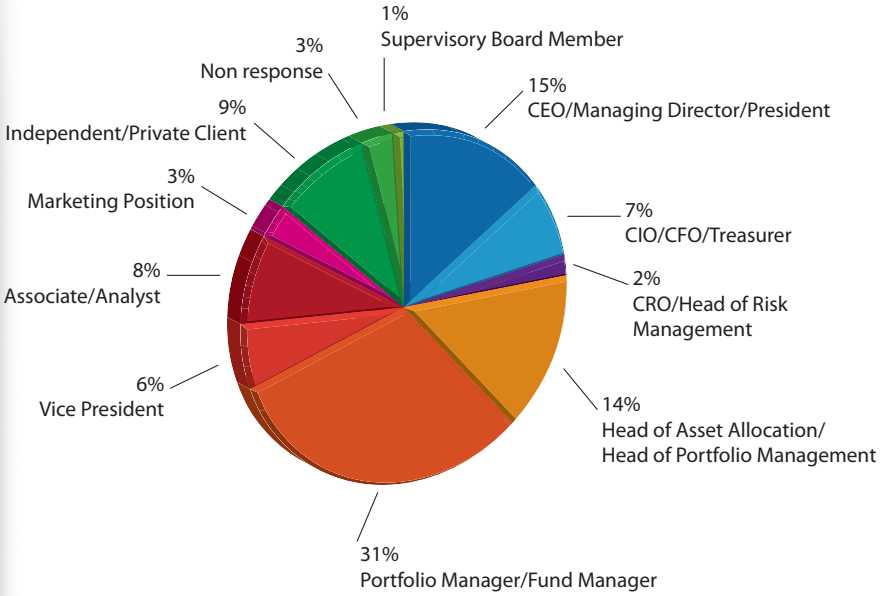


Exhibit 3.2: Main Activity of Respondents' Institutions
This exhibit indicates the distribution of respondents according to their institution's principal activity. Percentages are based on the 202 replies to the survey.

It is important to qualify respondents by their job function. We expected that given the importance for investment organisations of choosing investment instruments such as ETFs or competing index products, those most suitable to respond to our questionnaire would be

fairly high-ranked executives or portfolio management specialists. Many of the respondents do indeed occupy senior positions: 16% are either board members or CEOs, and 23% are directly responsible for the overall investments of their company (such as CIOs, CROs or Heads of Portfolio Management). 31% of participants are portfolio or fund managers (see Exhibit 3.3).

Exhibit 3.3: Functions of Survey Respondents
This exhibit indicates the distribution of respondents based on the positions they hold in the company. Percentages are based on the 202 replies to the survey. Non-responses are reported so that the percentages for all categories add up to 100%.

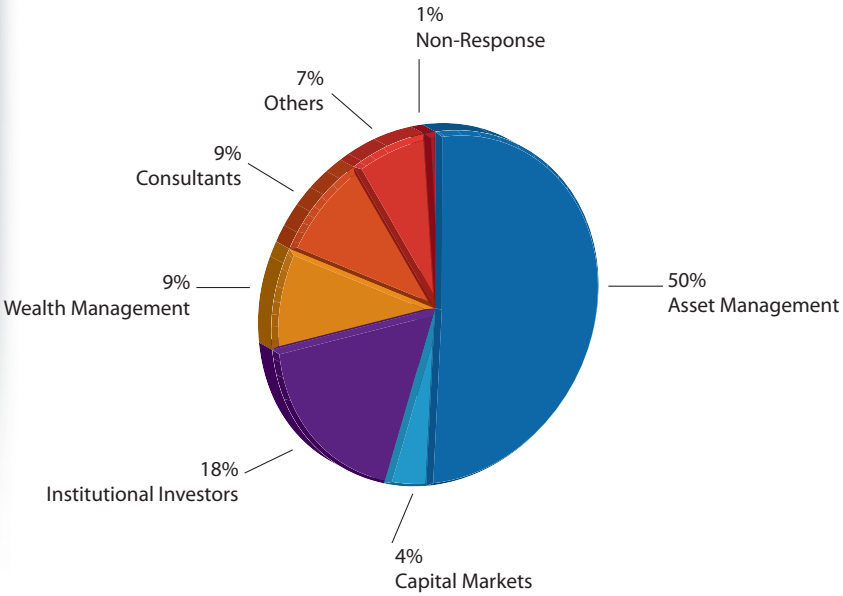


Asset Managers represent

50%

We also asked respondents about the nature of their activity. From Exhibit 3.4, we can see that half of them (50%) are asset managers.

Exhibit 3.4: Nature of Survey Respondents' Activities
This exhibit indicates the distribution of respondents based on the nature of their activity in the company. Percentages are based on the 202 replies to the survey. Non-responses are reported so that the percentages for all categories add up to 100%.



Finally, Exhibit 3.5 shows the AUM of the companies that employ the survey respondents. More than a third (37%) are large firms with over €10bn in AUM. About two-fifths (43%) are medium-sized companies, with AUM of between €100m and €10bn. We also received responses from small firms: 20% of respondents have AUM of less than €100m. This size breakdown tells us that the European ETF, Smart Beta and Factor Investing Survey 2021 mainly reflects the views of medium-sized to large companies, which account for 80% of respondents.

Medium-sized and large companies represent

80%

Taken together, we believe that this regional diversity and balance of different asset management professionals make the survey largely representative of European ETF, smart beta and factor investing strategy investors. Having described the survey sample, we now turn to the analysis of the responses obtained from participants.

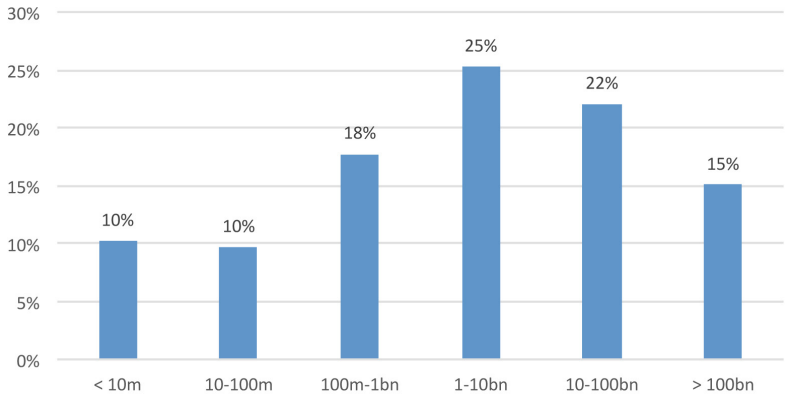


Exhibit 3.5: Assets Under Management (in EUR)
This exhibit indicates the distribution of respondents based on their reported AUM. Percentages are based on the 202 replies to the survey, excluding non-responses.

Results

4. Results

In this section, we present the main survey results and discuss possible explanations for the respondents' answers. Like the background, the results section is divided into three main parts.

The first, dedicated to ETFs, takes a close look at the use of ETFs in practice. Furthermore, we investigate the role ETFs play in asset allocation decisions, including the reasons for investing in ETFs. Survey participants were also invited to express their views on future developments in the ETF market. Finally, we compare the results of the ETF section of this year's survey to previous ETF surveys from 2006 to 2020 for further insights into trends over time.

The second part is dedicated to ESG. Investors were asked about their views of ESG and how they intend to use ETFs for incorporating SRI/ESG into their portfolio. They were also asked about how they integrate ESG considerations into their strategies and how they plan the development of ESG integration in their investment in the near future.

Finally, the third part is dedicated to smart beta strategies and factor investing. Respondents were asked about their current use of smart beta solutions in their portfolio allocation and were questioned in more detail about their use of fixed-income smart beta. They were also asked about the difficulties they face and about their needs in terms of further development of alternative beta and factor investing strategies. We also compare the results of this smart beta and factor investing section to previous results drawn from our surveys since 2013, which is when questions relating to smart beta and factor investing were first introduced.

4.1. ETFs

In this sub-section, we begin by analysing the use of ETFs in different asset classes, both in terms of the number of investors and the amount invested. We also look at the investment strategies used in the industry, as well as the criteria considered when selecting an ETF provider, including tracking error and cost. Additionally, survey participants were invited to express their views on future developments in the ETF market. Finally, we display the trends in the use of ETFs observed over the past 15 years.

This first sub-section is based on the answers given by 164 respondents who invest in ETFs from within our overall sample of 202. Before turning to ETFs, we did, however, ask the additional 38 respondents the reason(s) why they do not invest in ETFs. Eleven of them (29%) indicated that they use instruments other than ETFs for the purposes of passive management,

16 - Throughout this section, text in italics provides more detail about the results, but these paragraphs can be skipped for a more cursory reading of the study.

namely non-listed index funds and mandates (eight respondents) or futures (three), and eleven (29%) also gave various reasons for not using ETFs, mainly relating to organisational constraints. Finally, thirteen (34%) said they did not use ETFs because they did not invest in passive management products and were exclusively active managers (see Exhibit 4.1).

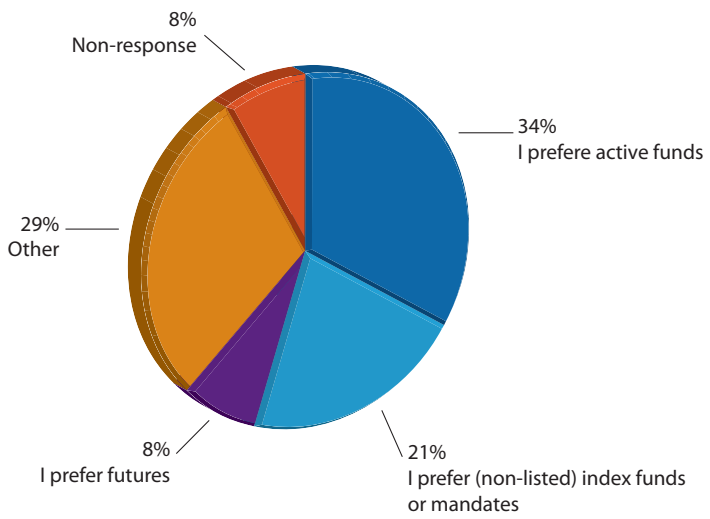


Exhibit 4.1: Reasons for not Investing in ETFs
This exhibit indicates the reasons given by respondents for not investing in ETFs. Percentages are based on the 38 survey respondents who do not invest in ETFs.

Compared to 2020, there are slightly more active managers among those respondents who do not use ETFs, and a slightly lower proportion who use other instruments for passive management (see Exhibit 4.2).

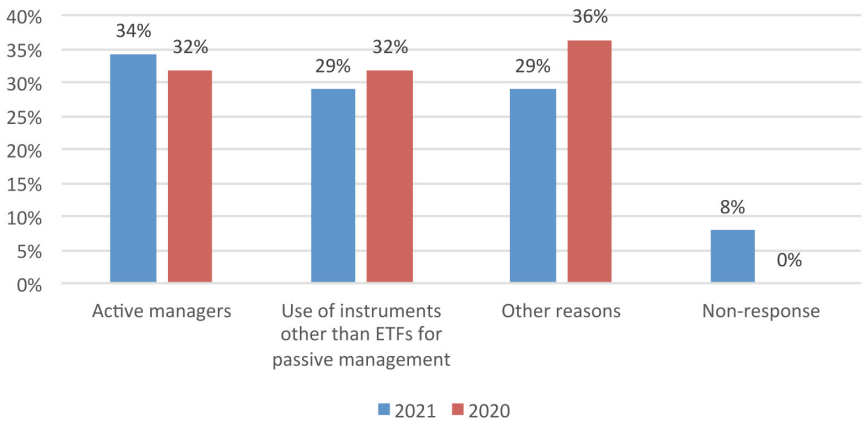


Exhibit 4.2: Comparison of Reasons for not Investing in ETFs
This exhibit compares the reasons given by this year's respondents for not investing in ETFs to those given in 2020. Percentages are based on the 38 survey respondents who do not invest in ETFs.

4.1.1. Use of ETFs in Different Asset Classes

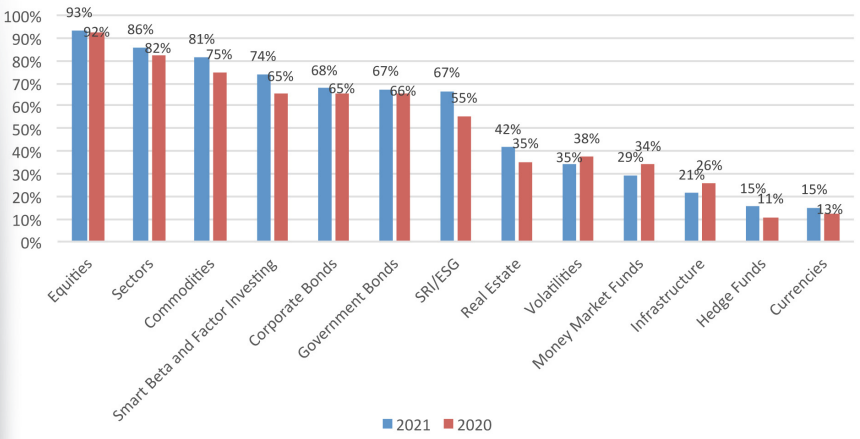
First, we look into the relative importance attached to ETFs and other investment instruments in each asset class. Exhibit 4.3 summarises the use of ETFs or ETF-like products among investors who invest in the relevant asset classes. We observe mostly increases (ten asset classes out of thirteen) in the percentage of respondents using ETFs, compared to 2020. The three exceptions are volatilities, money market funds and

67%
of respondents use ETFs to invest in SRI/ESG

infrastructure. However, the change – up or down – is quite moderate for most asset classes. The biggest variations, on the rise, are observed for SRI/ESG and smart beta.

Exhibit 4.3: Use of ETFs and ETF-like Products

This exhibit indicates the percentage of respondents who reported using ETFs or ETF-like products for asset classes/ investment styles that they have already invested in/used. We also display the 2020 results to show the year-on-year changes. The percentages have been normalised by excluding non-responses.



74%

of respondents use ETFs to invest in smart beta and factor investing

In more detail, 93% and 86% of respondents have used ETFs or ETF-like products for their equity or sector investments, respectively. 68% and 67% of respondents use ETFs to invest in corporate and government bonds, respectively. Compared to the high use of ETFs in the equity class, the use of ETFs to invest in bonds appears quite low. Meanwhile, about three-quarters (74%) use ETFs to invest in smart beta and factor investing, and SRI/ESG ETFs are used by two-thirds of respondents (67%), which represents a significant increase for them both, compared with 65% and 55%, respectively, in 2020. Within alternative asset classes, four-fifths (81%) of investors who invest in commodities employ ETFs. Real estate ETFs, volatilities and money market funds are used respectively by 42%, 35% and 29% of investors who hold such assets. Infrastructure ETFs are used by 21% of investors. Hedge funds and currencies (15% for them both) are the asset classes in which the fewest investors have employed ETFs for their portfolios.

ETFs account for

27%

of total investment in SRI/ESG

We can see that, although ETFs are employed across a wide spectrum of asset classes, they are mainly used in equities and sectors. This is likely to be linked to the popularity of indexing in these asset classes as well as the fact that equity and sector indices are based on highly liquid instruments, which makes it straightforward to create ETFs on such underlying securities. In addition, given that liquidity is one of the major benefits of an ETF, and that this is dependent on the liquidity of the underlying securities, it makes sense that ETFs based on the most liquid underlying securities should be the most popular.

To complement the results displayed in Exhibit 4.3, Exhibit 4.4 shows, for each asset class, the percentages of the amounts invested that are

accounted for by ETFs or ETF-like products. It differs from the questions asked in Exhibit 4.3, which shows the rate of ETF usage for those respondents who invest in the respective asset class/investment category. Here, Exhibit 4.4 reflects the intensity of usage for those investors who do use ETFs. With the exception of infrastructure, volatilities, equities, government bonds and corporate bonds, we observe a decrease in the share invested in ETFs, compared to 2020. It should be noted that there is great volatility, with year-on-year variations in both directions, as shown in Exhibit 4.13, which displays trends since 2008, especially for the infrastructure, real estate and hedge fund asset classes. However, it appears that ETFs account for a sizeable share of overall assets across different asset classes.

33%

of investment in smart beta and factor investing is made through ETFs

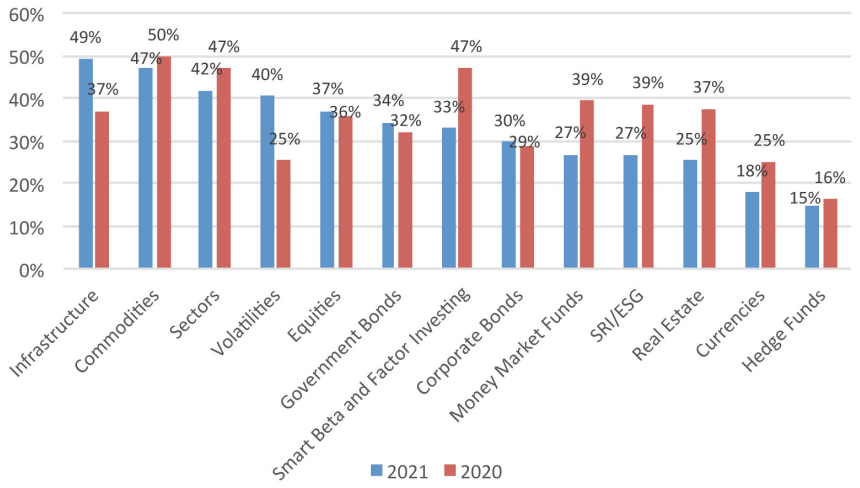


Exhibit 4.4: Percentages of Total Investment Accounted for by ETFs or ETF-like Products

This exhibit indicates the average percentage of total investment accounted for by ETFs or ETF-like products for each asset class. We only consider respondents who do use ETFs for the given asset class. Thus the percentage indicates the volume invested in ETFs compared to all their investments in the asset class. We also display the 2020 results to show the year-on-year changes. The percentages have been normalised by excluding non-responses.

In more detail, for the average respondent to this question, ETFs account for almost half of the total investment (49%) in the infrastructure asset class and 47% in the commodity asset class. It accounts for about two-fifths of the total investment in sectors (42%) and volatilities (40%) and for more or less a third of investment in equities (37%), government bonds (34%), smart beta and factor investing (33%) and corporate bonds (30%). ETFs account for a quarter or more of the total investment in money market funds and SRI/ESG (27% for both) and real estate (25%). The lowest shares of investment via ETFs are for currencies (18%) and hedge funds (15%). The responses to these two questions show that not only are ETFs widely used across most asset classes, but they also make up a significant proportion of investors' portfolios. In the analysis of these results, we have to separate the asset classes for which a significant number of respondents use ETFs, namely equities, corporate bonds, government bonds, smart beta and factor investing, commodities, sectors and SRI/ESG (with the number of respondents ranging from 48 to 150), from the asset classes for which respondents using ETFs are less numerous, namely hedge funds, currencies, infrastructure, volatilities,

66%
of respondents use ETFs for long-term buy-and-hold investment,
37%
for tactical allocation

74%
of respondents use ETFs to achieve broad market exposure,
53%
for specific sub-segment exposure

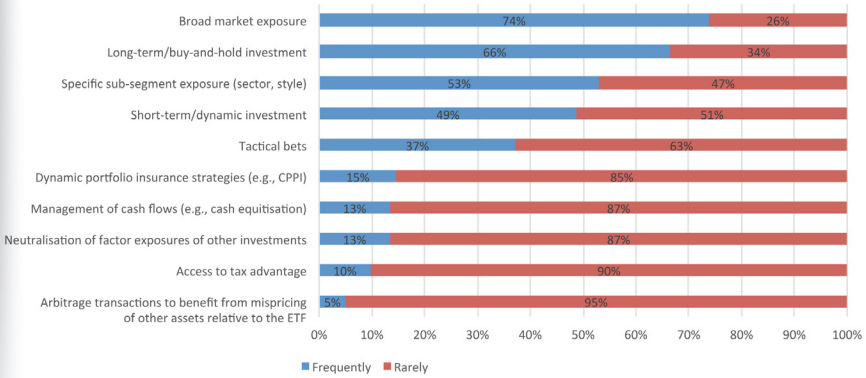
money market funds and real estate (with the number of respondents ranging from 6 to 22). It should be noted that the highest year-on-year variations are to be found in the latter group, in which the answer of one respondent may have a more significant impact on the average results than in groups with more numerous respondents. For the asset classes where the number of respondents is higher, there is more stability in the results from one year to the other.

4.1.2. The Role of ETFs in the Asset Allocation Process

ETFs offer investors attractive benefits like liquidity, cost efficiency and product variety that make them useful in asset allocation. In order to understand the rationale behind investors' use of ETF products, we asked survey participants how often they employ ETFs for different investment purposes on a scale from never (score 0) to always (score 6). Exhibit 4.5 shows the answers by classifying all respondents into two groups: if respondents rated their usage to be 3 or less, we categorise them as rare users, and as frequent users otherwise.

The results show that investment in ETFs is mainly associated with exposure to broad market indices and long-term exposure. While still frequently used for market sub-segment exposure and short-term exposure, and to a lesser extent for tactical bets, this year's findings indicate that these other investment purposes are important as well. This is not a surprising result given that the liquidity, low cost and product variety benefits of ETFs should make them viable tools for such purposes.

Exhibit 4.5: How Often Do You Use ETFs for the Following Purposes?
This exhibit indicates the frequency of respondents' use of ETFs for each of the purposes listed. Respondents were asked to rate their usage frequency from 1 to 6. The "Frequently" category includes ratings from 4 to 6, while "Rarely" includes ratings from 1 to 3 and non-responses.



In more detail, achieving broad market exposure tops the list, well ahead of other uses, with 74% of respondents frequently using ETFs for this purpose. 66% of respondents use ETFs for buy-and-hold investments. More than half of respondents (53%) use ETFs to obtain specific sub-segment exposure, while 49% and 37% of respondents use them for short-term (dynamic) investments and tactical bets, respectively. ETFs are less frequently used for dynamic portfolio insurance strategies (15%), to manage cash flow or neutralise factor exposures related to

other investments (13% for both), to access tax advantages (10%), or to capture arbitrage opportunities (5%).

Selecting an ETF provider

Respondents were then asked to choose from a list the criteria they consider important when selecting an ETF provider. The results are displayed in Exhibit 4.6. There are two criteria in particular that respondents prioritise when selecting an ETF provider. The first is costs, cited by the vast majority (90%) of respondents. This shows that respondents closely scrutinise costs within ETFs, even though they are already a comparatively low-cost vehicle. The second is the quality of replication, with more than four-fifths of respondents (84%) considering this criterion when selecting an ETF provider. This result is not surprising as these two criteria are related to the main motivations for using ETFs, namely reducing investment costs, while optimally tracking the performance of the underlying index. It should be noted that cost and replication quality are two criteria that are easy to ground on an analytic basis of measurement of results, which may also be product-specific rather than provider-specific, and that such measurable product qualities are at the forefront of investor preoccupations.

Cost

90%

and quality of replication

84%

the two main drivers for selecting ETF providers

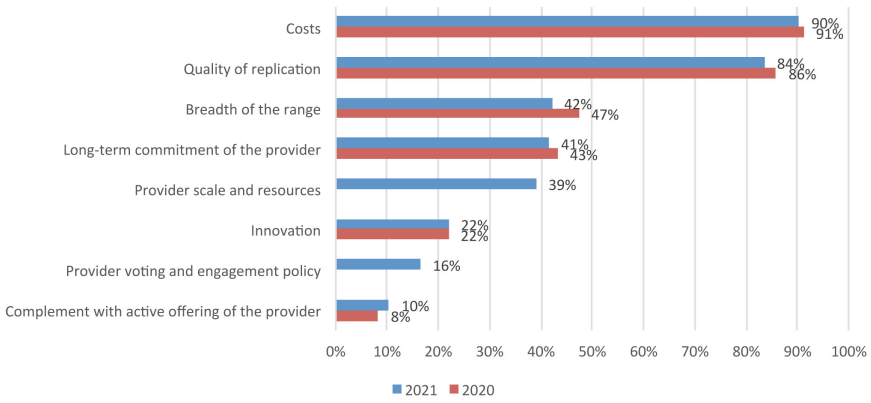


Exhibit 4.6: What Criteria Do You Consider When Selecting an ETF Provider?
This exhibit indicates the criteria respondents look for when selecting an ETF provider. More than one response could be given. We also display the 2020 results to show year-on-year changes.

On the other hand, there are more potentially subjective quality criteria associated with ETF providers that play a lesser role. The breadth of the range, ETF long-term commitment and scale and resources are also quite important criteria when choosing an ETF provider for 42%, 41% and 39% of respondents, respectively. However, innovation and the provider's voting and engagement policy seem less important for respondents, with only 22% and 16% of respondents, respectively, citing these. Finally, 10% of respondents consider it important to select an ETF as a complement alongside the provider's active offering. These results are comparable to those obtained in 2020. Two additional criteria were introduced this year for which we do not have comparisons with the previous year.

Given that the key decision criteria are more product-specific and are actually "hard" measurable criteria, while "soft" criteria that may be more provider-specific have less importance, competition for offering the best products can be expected to remain strong in the ETF market. This implies that it will be difficult for existing providers to build barriers to entry unless they involve hurdles associated with an ability to offer products with low cost and high replication quality.

4.1.3. Future Development of ETFs

So far, our questions have focused mainly on current usage of ETFs. A clear advantage of our survey methodology (with access to a sample of investment management professionals) is that we can also analyse plans for the future rather than just observe current results. Thus, in the last set of questions in this section on ETFs, we offer a glimpse into the future by asking survey participants about their views on their use of ETFs going forward. This allows us to gain some perspective on future developments on the demand side of the ETF industry.

60%

call for further development of SRI/ESG-based ETFs and/or low-carbon ETFs

45%

call for additional development of ETFs based on smart beta equity and/or factor indices

Need for further products

First, we try to more clearly define the type of niche markets where investors would like to see further product development. Since 2000, the industry has become more mature and there are now over 1,800 ETFs in the European market (ETFGI, 2020), so it will be very interesting to see where the gaps in the market lie in terms of investor demand. Exhibit 4.7 illustrates the types of ETFs that respondents would like to see further developed in the future. Respondents were given the option of selecting more than one answer.

As shown in Exhibit 4.7, SRI/ESG ETFs (48%) are the top concern among respondents, far ahead of other types of ETFs. Behind these are low-carbon ETFs and emerging market equity ETFs (39% and 38% of respondents, respectively), as well as infrastructure ETFs and ETFs based on smart beta indices (30% and 29% of respondents, respectively). It is interesting to note that the top two categories are linked to the theme of climate finance.

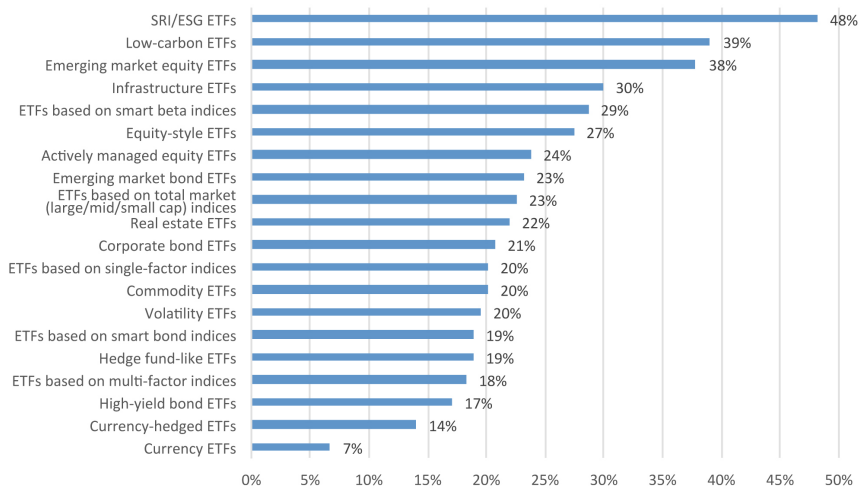


Exhibit 4.7: What Type of ETF Products Would You Like to See Developed Further in the Future?
This exhibit indicates the percentage of respondents who would like to see further development of different ETF products in the future. Respondents were able to choose more than one product.

In addition, equity-style ETFs (27%), actively managed equity ETFs (24%), emerging market bond ETFs and ETFs based on total market (23% for both) and real estate ETFs (22%) are also in the top half of the list of respondents' demands. Actively managed equity ETFs are in 7th position in the list, though their market share is currently very small, with 1% of AUM, according to Morningstar (2019a).

The SRI/ESG category is at the top of the list for the fourth consecutive year, showing increasing interest among respondents in this investment category. We also note the remarkable year-on-year progression of demand for low-carbon ETFs since we first introduced this category in 2015, considering that it was second last in 2015, in tenth position in the list in 2019 and has been in second position since 2020. Moreover, if we aggregate the responses concerning SRI/ESG and low-carbon ETFs, we see that 60% of respondents would like to see further developments in at least one of the two categories, compared to 50% in 2020.

Smart beta indices remain in the top five categories of most interest to respondents in terms of product development, with a decrease in demand since 2015, when it was in first position (second position in 2016, fourth in 2018 and 2019 and third in 2020). If we aggregate the responses concerning smart beta indices, single-factor indices and multi-factor indices, we see that 45% of respondents would like to see further developments in at least one category related to smart beta equity or factor indices, compared to 43% in 2020. Additional results concerning smart beta and factor investing strategies will be developed in the fully dedicated section (4.3) of this document.

Exhibit 4.8: Largest Increases in Demand for Product Development in 2021
This exhibit shows the types of ETFs for which there were increases in demand for future product development between 2020 and 2021, ranked in decreasing order of percentage increase.

What type of ETF products would you like to see developed further in the future?	2021	2020	% Increase
Emerging market equity ETFs	37.8%	24.9%	13.0%
Equity-style ETFs	27.4%	14.8%	12.6%
Low-carbon ETFs	39.0%	30.8%	8.3%
Actively managed ETFs	23.8%	16.0%	7.8%
Emerging market bond ETFs	23.2%	16.0%	7.2%
Infrastructure ETFs	29.9%	23.7%	6.2%
ETFs based on total market indices	22.6%	17.2%	5.4%
SRI/ESG ETFs	48.2%	43.2%	5.0%
Corporate bond ETFs	20.7%	17.8%	3.0%
Volatility ETFs	19.5%	16.6%	2.9%
Hedge fund-like ETFs	18.9%	16.6%	2.3%
Currency-hedged ETFs	14.0%	11.8%	2.2%
Commodity ETFs	20.1%	18.3%	1.8%
High-yield bond ETFs	17.1%	15.4%	1.7%
Real estate ETFs	22.0%	21.9%	0.1%

In more detail, compared to last year's results, there has been an increase in the demand for product development in 15 out of 20 ETF categories. The five exceptions are ETFs based on multi-factor indices, currency ETFs, ETFs based on single-factor indices, ETFs based on smart bond indices and ETFs based on smart beta indices (see Exhibit 4.8). It is interesting to note that low-carbon ETFs have seen an increase in demand each year since 2015. The decrease in demand for other categories of ETFs, most of which are related to smart beta or factor indices, may be the result of a drop in interest in smart beta products following strong development in these areas in recent years.

50%
plan an increase in their use of ETFs

Future evolution of the use of ETFs

After establishing priorities for new ETF product development, we then asked respondents to comment on how they planned their future use of ETFs. From Exhibit 4.9 we can see that almost half of them (50%, compared to 54% in 2020) report that they expect to increase their use of ETFs. 46% (compared to 42% in 2020) indicated that their use of ETFs would stay the same. Adding the percentages of respondents who answered "Increase" or "Stay the same" gives us a total of 96%, meaning that only 4% of respondents plan to decrease their use of ETFs. The percentage of those who are thinking of reducing their investment in ETFs has remained stable and quite low over the years (further details on this trend over time will be provided in Exhibit 4.15 in Section 4.1.4).

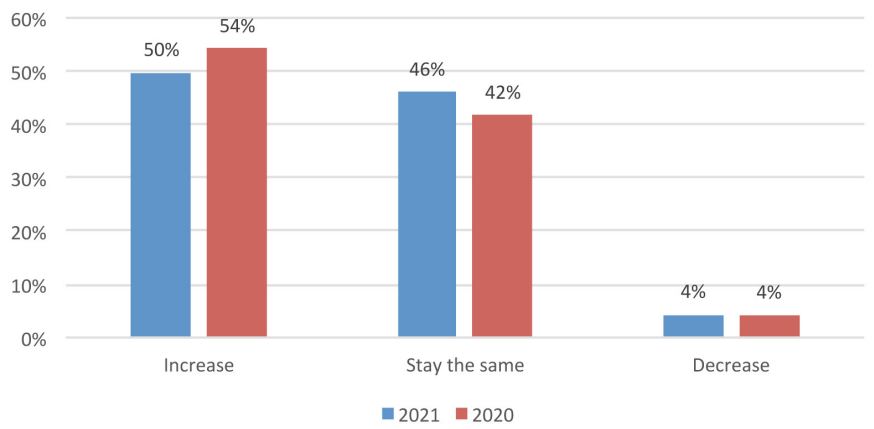


Exhibit 4.9: How Do You Predict Your Future Use of ETFs?
This exhibit indicates respondents' forecasts about their future use of ETFs. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.

Motivations for increasing the use of ETFs

Respondents who said they planned to increase their use of ETFs were also asked about their underlying motivations (the results are displayed in Exhibit 4.10). It appears that increasing the use of ETFs will serve as a substitute for the use of active managers for the vast majority of respondents (65% versus 70% in 2020), while 46% (versus 44% in 2020) plan to substitute them for other index products. These results are comparable to those obtained in 2020. Comparisons with previous years are to be found in Exhibit 4.16 in Section 4.1.4, which displays trends over time.

65%

of the planned increase in ETF allocation is to replace active management

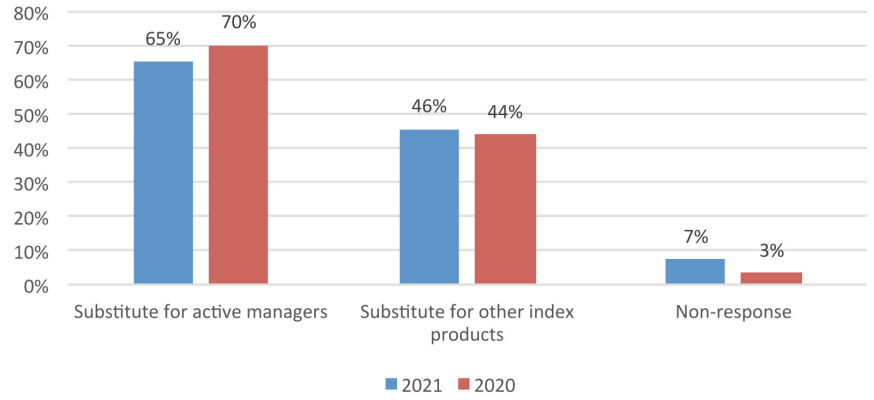


Exhibit 4.10: Increase in the Use of ETFs Will Serve as a ...
This exhibit indicates the reasons given by respondents for planning to increase their use of ETFs. More than one response could be given. We also display the 2020 results to show year-on-year changes.

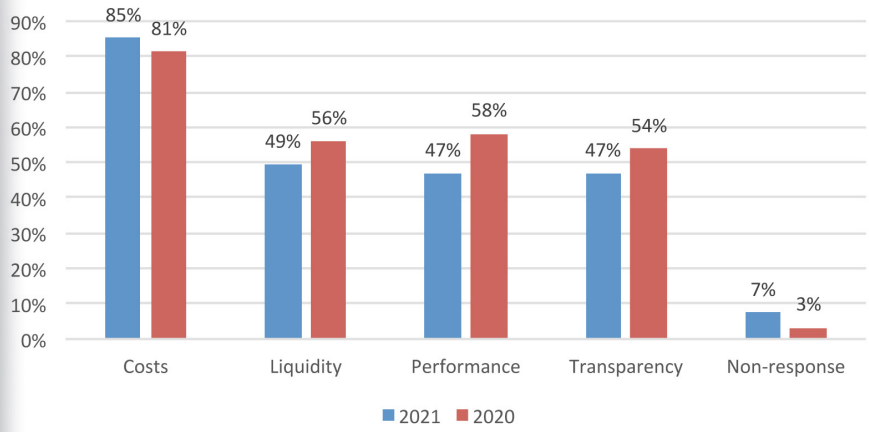
These results should be seen alongside the disappointing performance of active management. Investors may see the use of ETFs as more profitable and less costly than the use of active managers. ETFs allow investors to mimic the performance of all types of asset classes, including various smart beta products, while limiting costs. Indeed, investors are now offered a wide range of smart beta ETFs with the promise of achieving performance at lower costs compared to active management (Latham, 2018).[17]

17 - Mark Latham. 2018. Smart Beta: Active, passive or somewhere in between? Funds Europe (December 17/January 18), available at: http://www.funds-europe.com/dec-2017-jan-2018/smart-beta-active-passive-or-somewhere-in-between.

85%
are motivated by lowering costs

This is all the more likely given that the leading reason (85% versus 81% in 2020) given by survey respondents for increasing ETF usage is cost (see Exhibit 4.11). Investors seem to be well aware of the effects of costs on long-term performance. Next, respondents cited liquidity, performance and transparency (49%, 47% and 47% of respondents, respectively, versus 56%, 58% and 54% in 2020). Costs are well ahead of the other criteria, like last year, but there is a slight change in the order of the other criteria, with liquidity now slightly ahead of performance. Comparisons with previous years are to be found in Exhibit 4.17, which displays the trends over time.

Exhibit 4.11: Increase in the Use of ETFs will be Motivated by ...
This exhibit indicates the motivations given by respondents for planning to increase their use of ETFs. More than one response could be given. We also display the 2020 results to show year-on-year changes.



4.1.4. Trends: Use of ETFs over Time

Since the early 2000s, investment in ETFs has increased significantly, as already shown in Section 2.1. Not only is investment in standard ETFs growing, but so too are more advanced products and sophisticated ways of using them. In this section, we compare the results of the ETF section of the 2021 survey with the answers obtained in previous ETF surveys from 2006 to 2020. This comparison will shed light on how the current state of ETF usage compares to past years and will provide some insight into the evolution of ETF usage so far.

Frequency of ETF usage

When comparing the usage of ETFs and ETF-like products over time, we observe an increase in their adoption over the past 15 years. The usage of ETFs and ETF-like products displayed in Exhibit 4.12 relates to the number of respondents who use ETFs among all those who invest in a particular asset class. In other words, it indicates usage frequency. Since 2006, the increase in the percentage of respondents using ETFs in traditional asset classes has been spectacular. In 2006, the rate of use was under 20% for six out of seven asset classes, and none of the classes reached 50%. At that time, 45% of respondents used ETFs to invest in equities, compared with 93% in 2021. As for government and corporate bonds, the result has risen from 13% and 6% in 2006 to 67% and 68%

respectively in 2021. A large increase from 15% of respondents in 2006 to 81% in 2021 was also observed for commodities, while the share of respondents using ETFs to invest in real estate has risen from 6% in 2006 to 42% in 2021. With the exception of real estate, infrastructure and hedge funds, all usage rates are quite high, above 60%. It should be noted that in Exhibit 4.12 we only present the asset classes for which we have data since at least 2009; other asset classes (including volatilities, sectors, SRI/ESG, money market funds, currencies and smart beta and factor investing) were introduced into our survey more recently. We will present at the end of this section a summary of ETF investment trends in the SRI/ESG and smart beta and factor investing classes (see Exhibits 4.18 and 4.20).

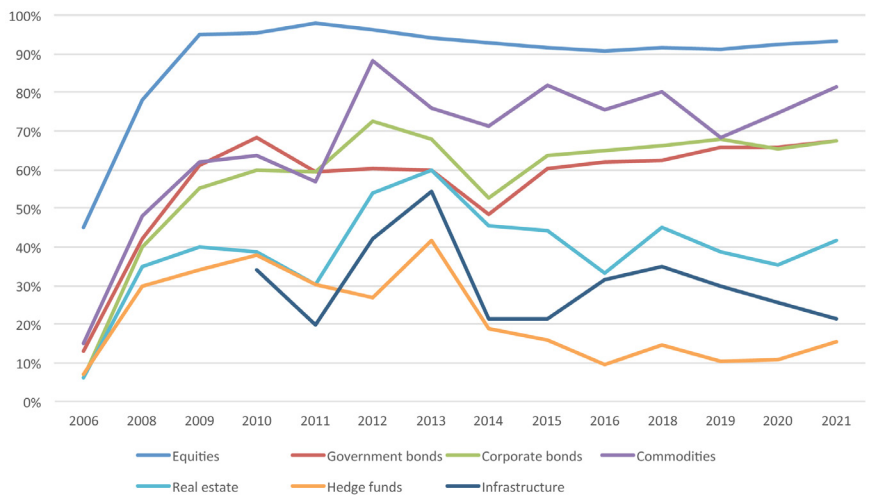


Exhibit 4.12: Use of ETFs or ETF-like Products over Time
This exhibit indicates the use of ETFs or ETF-like products for different asset classes over time. The percentages are based on the results of the EDHEC ETF surveys from 2006 to 2021.

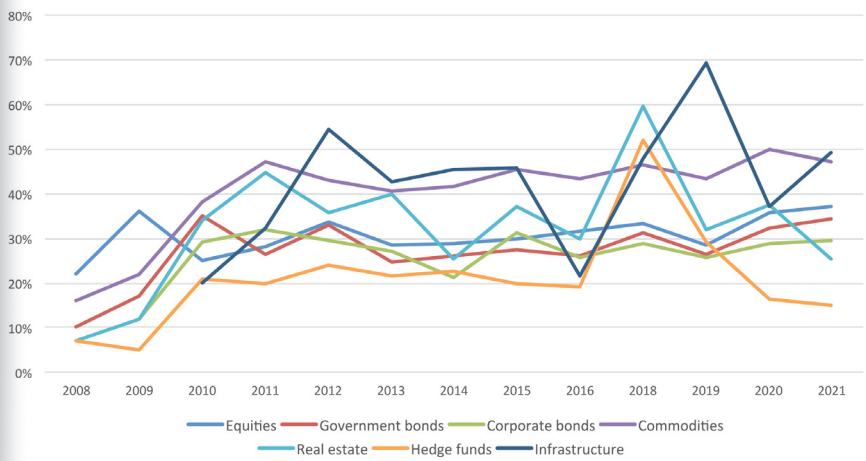
The use of ETFs for investing in bond asset classes, both for government and corporate bonds, has been quite stable since 2019 at a level of more than 65%. With 81% of respondents using ETFs, commodities show an increase of six points compared to 2020. This significant increase follows another significant increase observed between 2019 and 2020. The equity class has shown quite a stable rate (over 90%) of ETF usage for some years. Other asset classes, such as real estate, infrastructure and hedge funds, exhibit larger variations in their usage rates over time compared to other asset classes. This year we observe an increase in the use of ETFs for real estate and hedge funds and a slight decrease for infrastructure, compared to 2020. As in 2020, these variations are rather moderate for these three asset classes, compared to the large variations usually observed. Respectively 42%, 21% and 15% of respondents report using ETFs to invest in real estate, infrastructure and hedge funds in 2021, compared to 35%, 26% and 11% in 2020.

Density of ETF usage

Exhibit 4.13 compares the proportions of our respondents' portfolios invested in ETFs.[18] In Exhibit 4.13, the use of ETFs or ETF-like products refers to the density of usage in each asset class. While the equity asset class is the most widely used for ETF investment, it is currently not the asset class with the highest proportion or density of ETF investment. In 2008, 22% of investment in the equity asset class was made using ETFs, compared to 37% in 2021. As for government and corporate bonds, the increase in the proportion of ETF investment is more spectacular, respectively accounting for 10% and 7% of total investment in 2008, compared to 34% and 30% in 2021. The increase in the use of ETFs to invest in commodities and real estate has also been quite significant during this period, with 16% of the former investments being made using ETFs in 2008, compared to 47% in 2021, and 7% of the latter in 2008, compared to 25% in 2021. Although we also see a strong increase in the use of ETFs for the infrastructure class between the beginning of the observation period (20% in 2010) and 2021 (49%), it should be noted that there can be many variations from one year to another, due to a narrow sample of respondents using ETFs for this asset class.

Exhibit 4.13: Percentage of Total Investment Accounted for by ETFs or ETF-like Products

This exhibit indicates the percentage of total investment accounted for by ETFs or ETF-like products for different asset classes over time. The percentages are based on the results of the EDHEC ETF surveys from 2008 to 2021.



In 2021, we observe that four asset classes (equities, government bonds, corporate bonds and infrastructure) post an increase in their ETF market share, compared to 2020. This increase is moderate except for infrastructure and follows another increase in 2020 for equities and government and corporate bonds, suggesting an increase in investor appetite for ETF usage in these asset classes. As for the real estate asset class, the decrease in 2021 follows a moderate increase in 2020. The commodities, hedge fund and real estate asset classes exhibit a slight decrease in their ETF market share, compared to 2020. For the infrastructure, real estate and hedge fund asset classes, it is usual to observe strong upward or downward variations from one year to another, as is clear from the saw-tooth graph. As mentioned above, the sample of respondents using

18 - Since this question was not asked in the EDHEC European ETF Survey 2006, we can only provide a comparison with answers from 2008 to 2020.

ETFs for the hedge fund and infrastructure asset classes is particularly small.

Use of ETFs for Different Purposes

The main purpose of using ETFs is still to obtain broad market exposure, with close to 70% of respondents reporting this purpose since 2009, a figure that reached 74% this year (see Exhibit 4.14).

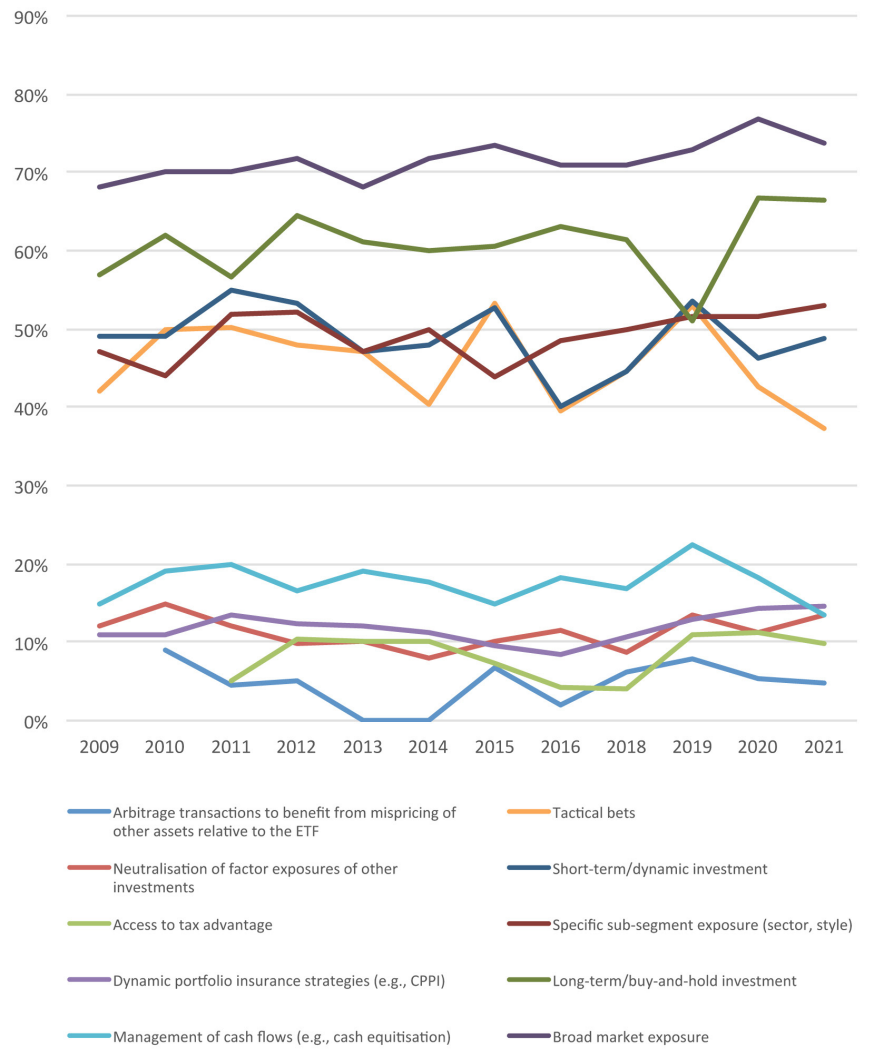


Exhibit 4.14: Purposes for the Frequent Use of ETFs over Time
This exhibit indicates the percentages of respondents over time who frequently use ETFs for each of the purposes listed. Respondents were asked to rate usage frequency from 1 to 6. The "Frequently" category includes ratings from 4 to 6. The percentages are based on the results of the EDHEC ETF surveys from 2009 to 2021.[19]

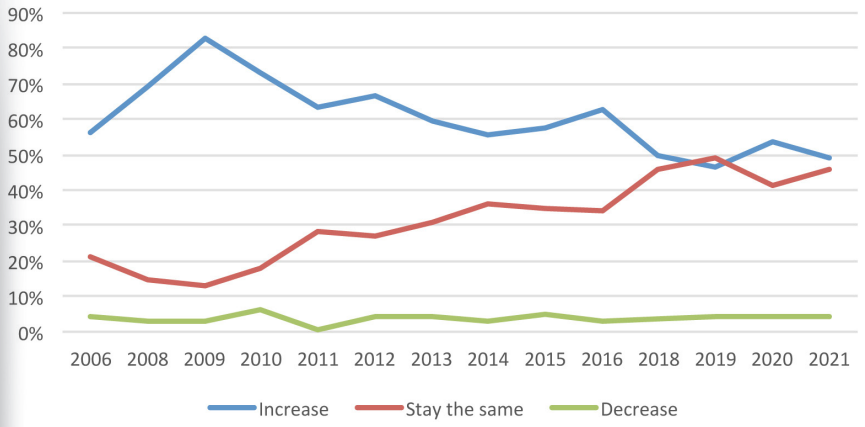
Future use of ETFs

Finally, we also look at investors' expected use of ETFs over time. The results are shown in Exhibit 4.15. They suggest that despite the past growth and increasing maturity of the ETF market, investors are still looking to increase (or at least maintain) their use of ETFs. By adding the percentages of respondents who answered "Increase" or "Stay the same", we see that the total has stayed above 90% since 2009. The percentage of respondents planning to increase their use of ETFs, a figure that hovered around 60% from 2013 to 2016, and was lower than 50% in 2019, with a transfer

19 - The question was not asked in the survey before 2009.

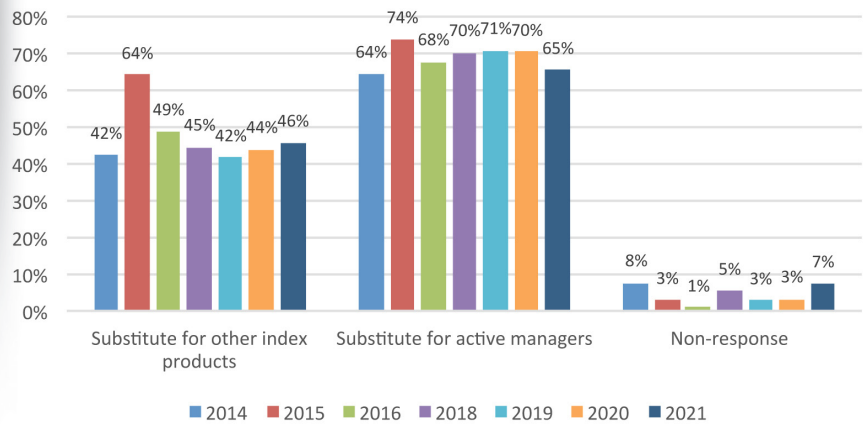
towards the percentage of respondents who answered that their use of ETFs would stay the same, again rose to 54% in 2020, returning to 49% in 2021. Only around 4% of respondents planned to reduce their use of ETFs. Given that this survey only covers respondents who are already ETF investors, the large increase in expected usage is even more remarkable.

Exhibit 4.15: How Do You Plan the Evolution of Your Use of ETFs?
This exhibit indicates the future potential for investors to change their use of ETFs over time. The percentages are based on the results of the EDHEC ETF surveys from 2006 to 2021.



Since 2014, we have been asking respondents who report a planned increase in their use of ETFs about their underlying motivations. The results are displayed in Exhibit 4.16. Since then, the vast majority of respondents, starting at around two-thirds in 2014 and reaching three-quarters by 2015, have indicated that increasing the use of ETFs would serve as a substitute for the use of active managers. As explained in Section 4.1.3, this result should be seen alongside the disappointing performance of active management. Investors may see the use of ETFs as more profitable and less costly than the use of active managers. The fact that an average of almost half of respondents over this six-year period have substituted ETFs in favour of other index products is also a major reason for the increase in ETF usage.

Exhibit 4.16: Increase in the Use of ETFs Will Serve as a ...
This exhibit indicates the reasons given by respondents for planning to increase their use of ETFs. More than one response could be given. The percentages are based on the results of the EDHEC ETF surveys from 2014 to 2021.



The hypothesis of reducing costs with an increase in the use of ETFs is confirmed, with survey respondents reporting that this replacement is above all motivated by costs, with a percentage ranging from 70% to 87% over the seven-year period (see Exhibit 4.17). The second, third and fourth motivations given by respondents are liquidity, performance and transparency, which are in the same range (49%, 47% and 47%, respectively, in 2021). It should be noted that we observe an increase in the percentage of respondents mentioning each criterion between 2014 and 2021.

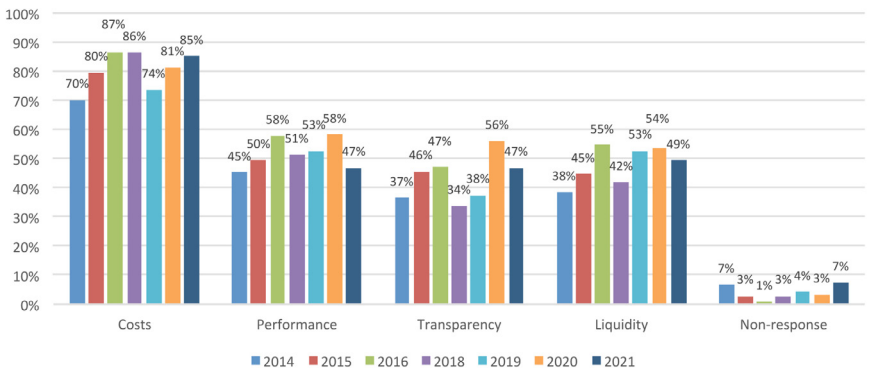


Exhibit 4.17: Increase in the Use of ETFs Will Be Motivated by ...
This exhibit indicates the motivations given by respondents for planning to increase their use of ETFs. More than one response could be given. The percentages are based on the results of the EDHEC ETF surveys from 2014 to 2021.

SRI/ESG ETFs

Since 2011, our survey has questioned investors about their use of SRI/ESG within their investment. From Exhibit 4.18, it appears that the proportion of respondents who include a share of SRI/ESG in their investment has increased significantly in recent years. Whereas they represented only 17% in 2011, this figure reached 43% in 2019 and more than one in two in 2021 (55%). Among those who invest in SRI/ESG, the share who use ETFs to do so has also increased considerably, from about two-fifths (22%) in 2011 to two-thirds (67%) in 2021. In terms of Assets under Management, 27% of investment in SRI/ESG was made through ETFs in 2021, versus 39% in 2020. This decrease in intensity may be explained by the arrival of new users whose share invested in SRI/ESG may be lower than that of investors present in this market segment for longer.

55%
of respondents invest in SRI/ESG in 2021, versus
17%
in 2011

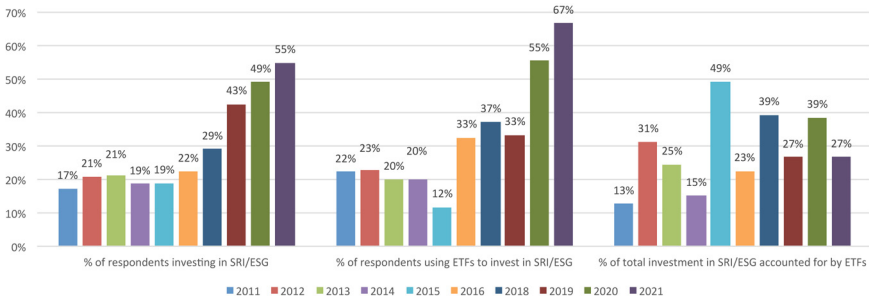
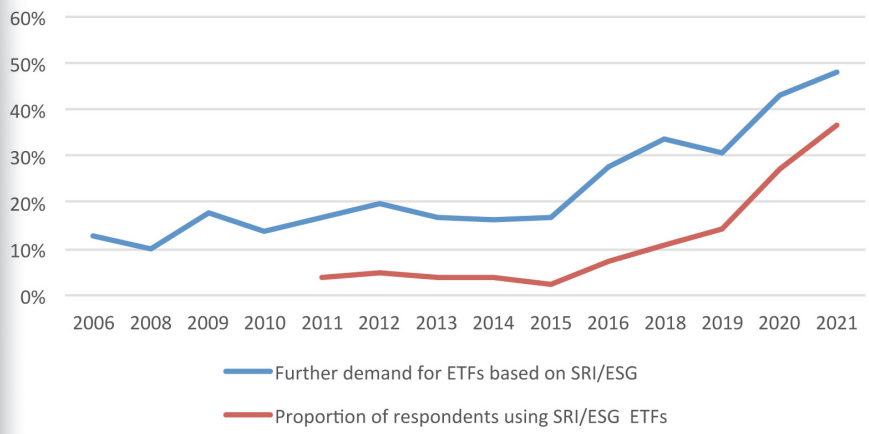


Exhibit 4.18: SRI/ESG ETF Usage
This exhibit indicates the use of SRI/ESG ETFs. The percentages are based on the results of the EDHEC ETF surveys from 2011 to 2021.

Exhibit 4.19 shows that in 2021 more than a third (37%) of survey respondents using ETFs in general were using them on SRI/ESG, compared to 4% in 2011.[20] It should be noted that the proportion of respondents using SRI/ESG ETFs among all ETF users was very low until 2015, with moderate usage until then. It is also interesting to note that the percentage of respondents calling for the development of ETFs based on SRI/ESG exactly follows their actual development. We can see that the level of additional demand, which was between 15% and 20% from 2011 to 2015, begins to increase rapidly from 2016, reaching 48% in 2021.

Exhibit 4.19: SRI/ESG ETFs: Further Demand

This exhibit indicates the percentage of respondents calling for the development of more ETFs based on SRI/ESG, compared to the proportion of respondents using SRI/ESG-based ETFs. The percentages are based on the results of the EDHEC ETF surveys from 2006 to 2021.



Smart Beta and Factor Investing ETFs

In the first section of the survey, we collected initial results about investor perceptions of smart beta and factor investing strategies, through their use of smart beta ETFs. If we look at the proportion of respondents investing in this asset class, we see that a decline began in 2020. In 2021, 42% of respondents were investing in smart beta and factor investing strategies, compared to 47% in 2020 and 55% in 2019, the highest level over the period (see Exhibit 4.20). However, ETFs remain an appealing instrument for this asset class. About three-quarters of respondents (74%) used ETFs or ETF-like products to invest in smart beta and factor investing in 2021, a considerable increase on the 49% reported in 2014. In terms of AUM, less than one-third (31%) of smart beta investing was made through ETFs in 2013, compared to 33% in 2021, after going through much higher levels (48% in 2018 or 47% in 2020). While in 2013, 39% of respondents reported further demand for ETFs based on smart beta indices, this figure is just 29% in 2021, the same level as in 2020, which shows a relative stabilisation in such demand.

The large use of ETFs based on smart beta and factor investing indices fully justifies dedicating a large share of our survey to smart beta and factor investing strategies, the results of which will be presented in Section 4.3, after the one dedicated to ESG.

20 - This question was not asked in the survey before 2011.

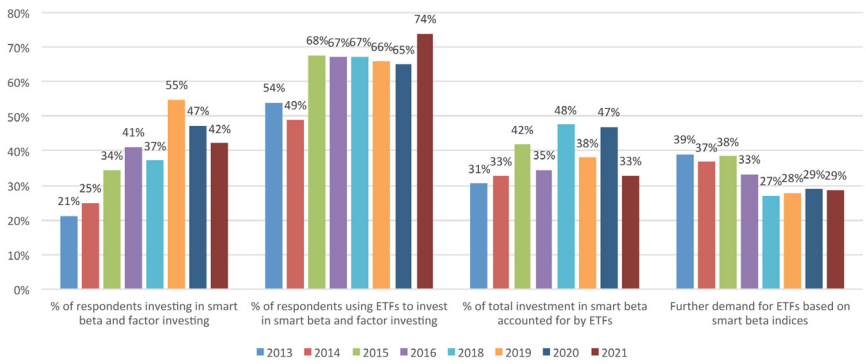


Exhibit 4.20: Smart Beta ETF Usage
This exhibit indicates the use of and satisfaction with smart beta ETFs. The percentages are based on the results of the EDHEC ETF surveys from 2013 to 2021.

4.2. Present and Future Investor Approach to ESG

In view of the significant development of ESG integration in ETFs, as well as in smart beta and factor investing strategies, it was interesting to further investigate investors' position with regard to ESG, as this subject has become a major concern for investors.

In the first section dedicated to ETFs, we only considered respondents (164) investing in ETFs. Exhibit 4.21 displays the proportion of respondents investing in SRI/ESG within the whole sample of respondents (202). More than half of respondents (51%) indicated that they invest in SRI/ESG, compared with 48% in 2020. We note that the proportion of respondents investing in SRI/ESG is a little higher among the 81% of respondents who use ETFs than in the whole sample of respondents (55% versus 51%) (see Exhibit 4.18).

51%
invest in SRI/ESG, another
33%
plan to do so in the near future

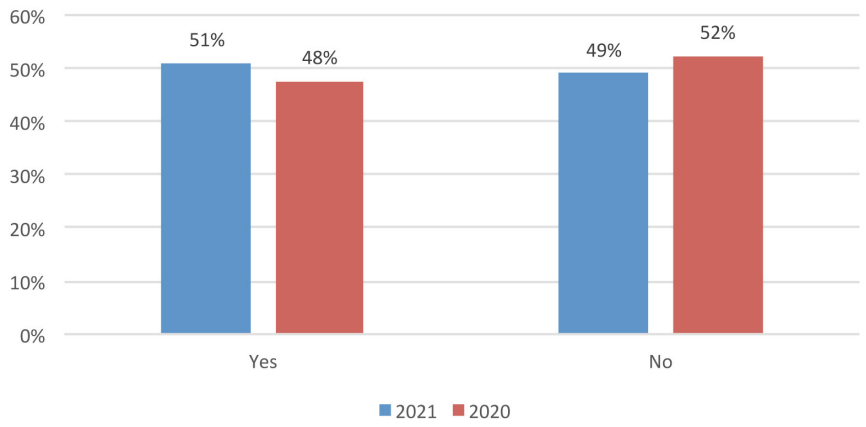
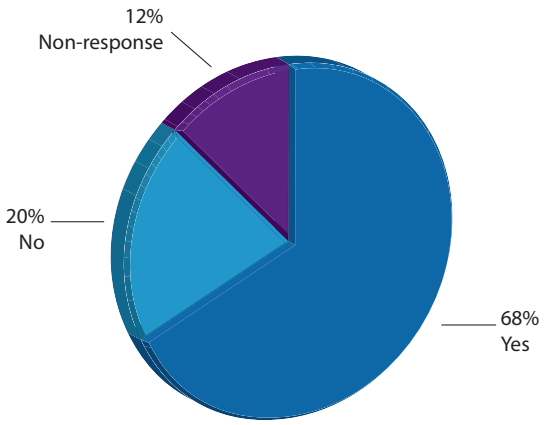


Exhibit 4.21: Proportion of Respondents Investing in SRI/ESG
This exhibit indicates the percentage of respondents already investing in SRI/ESG. We also display the 2020 results to show year-on-year changes.

Among those 49% who do not yet include SRI/ESG considerations in their investment, 68% are considering incorporating SRI/ESG into their portfolio in the near future, which represents an additional 33% of the whole sample planning to invest in SRI/ESG in the near future (see Exhibit 4.22).

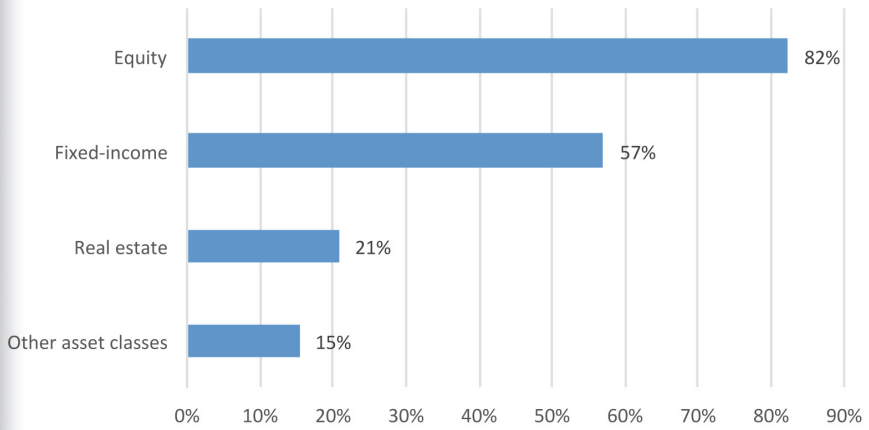
Exhibit 4.22: Proportion of Respondents Planning to use SRI/ESG in the Future
This exhibit indicates the percentage of respondents considering incorporating SRI/ESG into their portfolio in the near future, among those that do not yet invest in SRI/ESG.



82%
use SRI/ESG in the equity asset class and
57%
in the fixed-income asset class

Respondents mainly use SRI/ESG in the equity (82%) and fixed-income (57%) asset classes. 21% also consider SRI/ESG in the real estate asset class and 15% in other assets classes, including private equity (5%) and infrastructure (4%) (see Exhibit 4.23).

Exhibit 4.23: Asset Classes in which SRI/ESG is Implemented
This exhibit indicates the main asset classes in which SRI/ESG is implemented. More than one response could be given.



Respondents were asked to indicate their preferred approach to SRI/ESG. From Exhibit 4.24, it appears that the best-in-class (i.e. positive screening) approach comes far ahead of the other two, with 44% of respondents preferring it over the thematic approach (34%) and the negative screening approach (22%). The results are quite similar to those of 2020, with a small decrease in negative screening in favor of thematic investing.

44%
prefer the best-in-class approach (positive screening)

Positive screening involves selecting the assets from an investment universe with the most positive scores on relevant ESG factors, whatever their investment sector. An aggregate ESG score may be determined based on combinations of single factors by a third party. External ESG scores can be used to obtain a proxy for a company's ESG performance through a standardized system and, as such, can prove useful for asset managers or asset owners with a limited understanding of how to design their own selection criteria based on various sustainability factors.

In contrast, **negative screening** will exclude securities, often qualified as sin stocks, if the company activity is considered unethical or immoral, based on religious or philosophical views. Sin stock sectors usually include alcohol, tobacco, gambling, weapons, animal testing or pornography.

Negative screening strategies can be based on internationally accepted norms, such as the International Labor Organization standards, UN Global Compact, Universal Declaration of Human Rights and/or other globally recognized norms. This type of screening, known as norm-based screening, provides more objective exclusionary screening criteria, where investments are selected against minimum standards for business practices endorsed by international organizations.

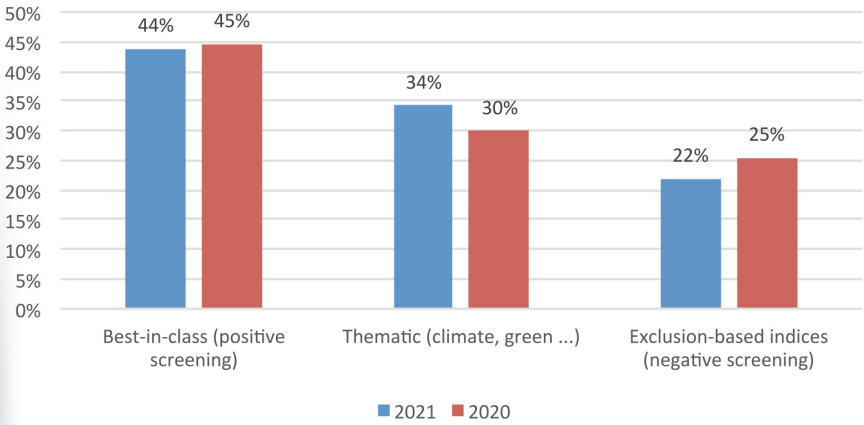
Many investment funds use a certain degree of exclusion to prevent financing controversial activities, including the production of weapons or issuers from non-cooperating countries listed by the Financial Action Task Force. But complying with some of these norms not only aligns the fund with the industry's best practices, it also allows it to receive extra funding and services from various organizations. For example, the International Finance Corporation, a member of the World Bank Group, has a strict policy to only cooperate with financial intermediaries that comply with its Exclusion List.

Negative screening can be tricky when companies have several sectors of activity, some to be excluded and others not. Positive screening can be based on more objective criteria since there are now rating agencies producing ESG scores based on an aggregation of factors.

It is rather good news that investors prefer positive screening. It may be preferable not to exclude entire sectors, but rather to make firms improve their practices. Indeed, companies will be keen to improve their ESG score in order to obtain the best ranking and will therefore seek to be more virtuous in respect of the various ESG rating criteria (carbon footprint, business practices ...).

Exhibit 4.24: Preferred Approach to SRI/ESG

This exhibit indicates the distribution of respondents according to their various approaches to SRI/ESG. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.



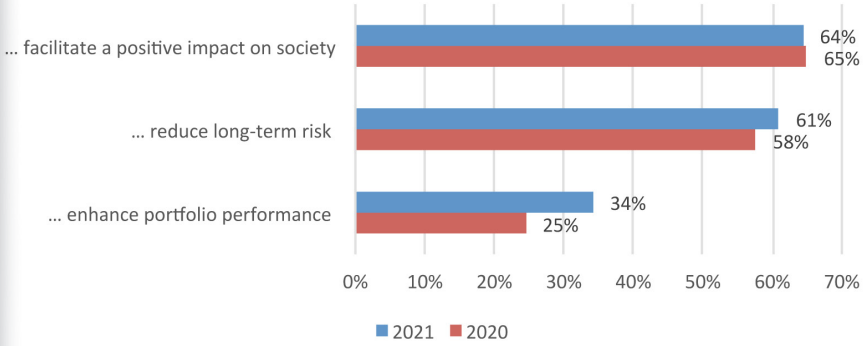
64%

incorporate ESG into their investment decisions to facilitate a positive impact on society

Respondents were asked about the reasons they find it important to incorporate ESG into investment decisions. The results are displayed in Exhibit 4.25 It appears that the two main reasons are to allow for a positive impact on society (64%) and to reduce long-term risk (61%). Only a third (34%) think that incorporating ESG will serve to enhance portfolio performance. Compared to 2020, we observe a slight progression in the importance of incorporating ESG to reduce long-term risk. There are also more respondents this year who think that ESG will enhance portfolio performance (34% versus 25% in 2020).

Exhibit 4.25: Do You Think Incorporating ESG Considerations into Investment Decisions Is Important to ...

This exhibit indicates respondent motivations to incorporate ESG into their investment decisions. More than one response could be given. We also display the 2020 results to show year-on-year changes.



Only

34%

think that incorporating ESG will serve to enhance portfolio performance

From Exhibit 4.26 we can see that close to two-thirds of respondents (65%) are not ready to accept a drop in performance in exchange for a better ESG score, a result which is slightly higher compared to 2020 (63%). This figure can be linked to the results of Exhibit 4.25, which shows that only 34% think that incorporating ESG serves to enhance portfolio performance.

65%

of respondents do not want ESG to be incorporated at the expense of performance

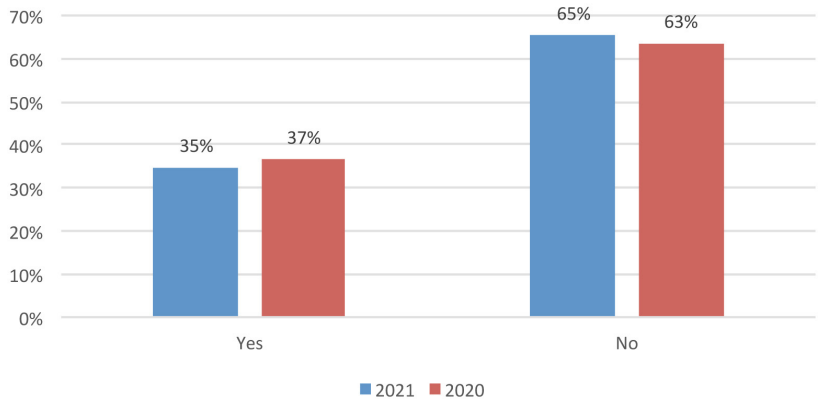


Exhibit 4.26: Acceptance of a Lower Performance in Exchange for a Better ESG Score
This exhibit indicates the percentage of respondents willing to accept a lower performance in exchange for a better ESG score. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.

Respondents were also asked about the approach they consider to be the best in reducing a portfolio's carbon footprint to tend towards alignment with the Paris Agreement benchmarks and limit global temperature increases to 1.5°C. 48% consider the best approach to be positive screening. Portfolio optimisation comes in second position (31% of respondents). Lastly, only 21% of respondents consider negative screening to be the best approach (see Exhibit 4.27). The results are quite similar to those obtained in 2020, with a small decrease in negative screening in favor of positive screening.

48%
consider that the best approach to reduce the carbon footprint of a portfolio is positive screening

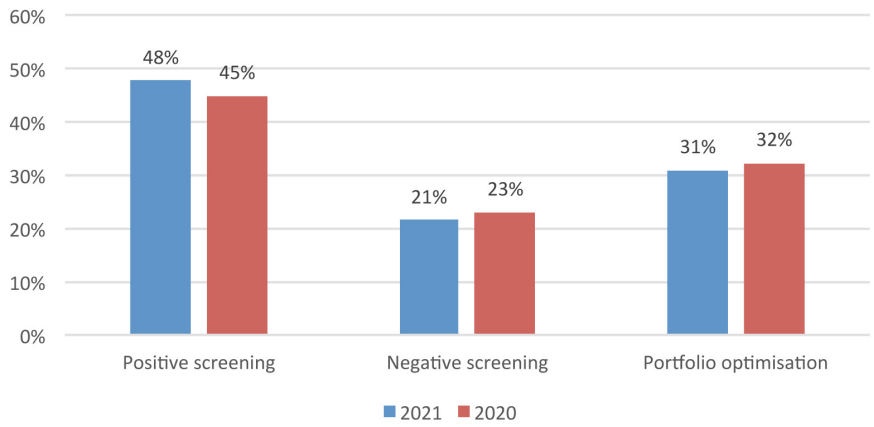


Exhibit 4.27: Best Approach to Reduce a Portfolio's Carbon Footprint
This exhibit indicates the approaches respondents consider the best to reduce a portfolio's carbon footprint. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.

44% of respondents consider ESG as a factor, while 46% do not and 10% have no opinion (see Exhibit 4.28). There is therefore no consensus on the subject and opinions are fairly divided between yes and no.

44%
consider ESG as a factor

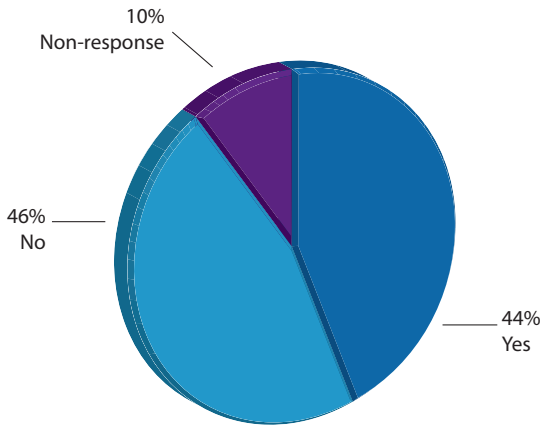
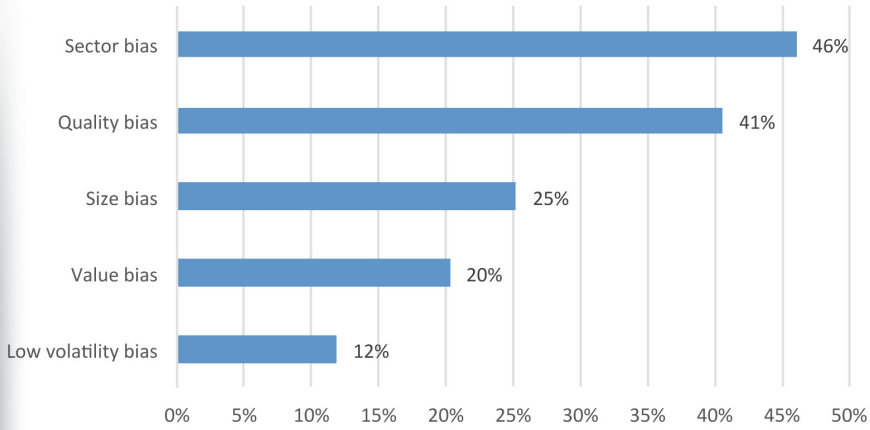


Exhibit 4.28: Do you Consider ESG as a Factor?
This exhibit indicates the percentage of respondents who consider ESG as a factor.

Respondents declared they observe factor biases when incorporating ESG into their portfolio, mainly sector biases (46% of respondents) and quality biases (41%) (see Exhibit 4.29).

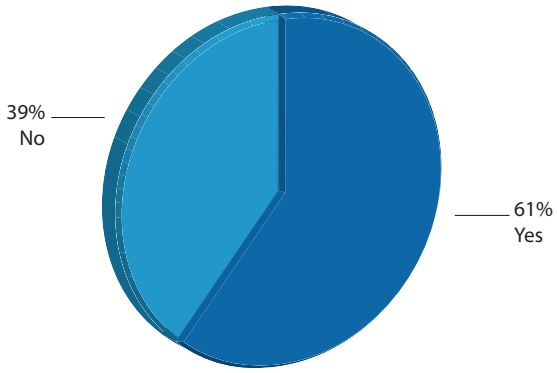
Exhibit 4.29: ESG Factor Biases
This exhibit indicates the ESG factor biases observed by respondents. More than one response could be given.



46%
observe sector biases in ESG and 41% quality biases

As a result, about three-fifths of them (61%) consider that sector or neutrality constraints are appropriate when using an ESG filter (see Exhibit 4.30).

Exhibit 4.30: Do you Think that Sector or Neutrality Constraints are Appropriate when Using an ESG Filter?
This exhibit indicates the percentage of respondents who think that sector or neutrality constraints are appropriate when using an ESG filter. Non-responses are excluded.



48%
intend to use ETFs for incorporating SRI/ESG into their portfolio to improve its overall sustainability

Respondents were then asked how they intend to use ETFs for incorporating SRI/ESG into their portfolio. They indicated that ETFs will primarily serve to improve the overall sustainability of their portfolio, with 48% of them citing this purpose (versus 41% in 2020), and secondly to incorporate ESG across their passive allocation (45% versus 37% in 2020). Incorporating innovative ESG exposures came in last position, with 30% (versus 36% in 2020) of respondents considering this (see Exhibit 4.31).

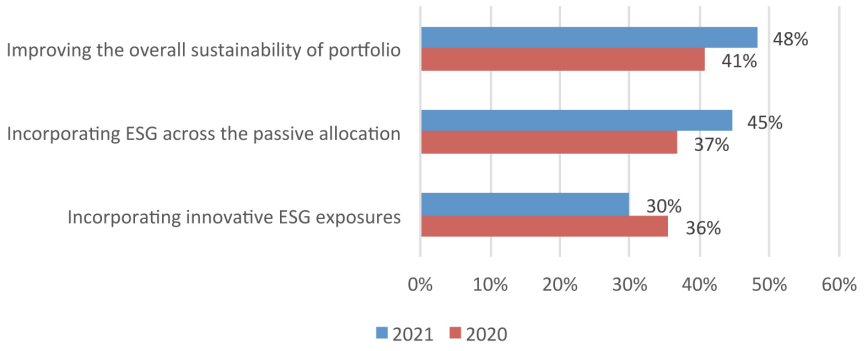


Exhibit 4.31: Use of ETFs for Incorporating SRI/ESG into the Portfolio
This exhibit indicates how respondents intend to use ETFs for incorporating SRI/ESG into their portfolio. More than one response could be given. We also display the 2020 results to show year-on-year changes.

71% of respondents integrate SRI/ESG considerations into more than 20% of their assets and 21% integrate them into more than 80% of their assets (see Exhibit 4.32), which shows the significant place that SRI/ESG holds in investment for those who already consider it.

71%
of respondents integrate SRI/ESG considerations into more than
20%
of their assets and 21% in more than
80%

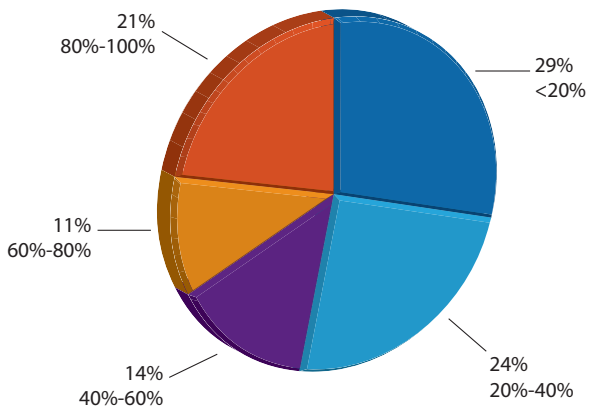


Exhibit 4.32: Percentage of Overall Assets Incorporating ESG
This exhibit indicates the average percentage of total investment already made in SRI/ESG. We only consider respondents who already invest in SRI/ESG. Non-responses are excluded.

In addition, 80% of respondents plan to increase their portfolio exposure to ESG in the near future (see Exhibit 4.33). It should be noted that two respondents declared that their portfolio was already almost entirely invested based on ESG criteria and that they therefore did not foresee an increase of their ESG exposure.

80%
plan to increase their portfolio exposure to ESG in the near future

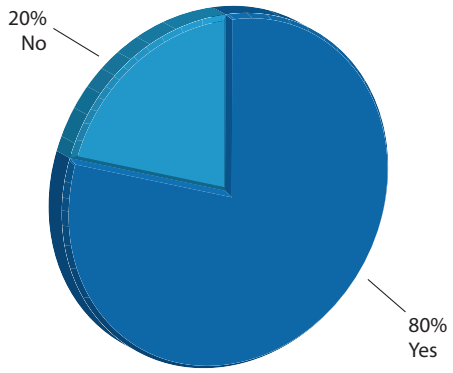
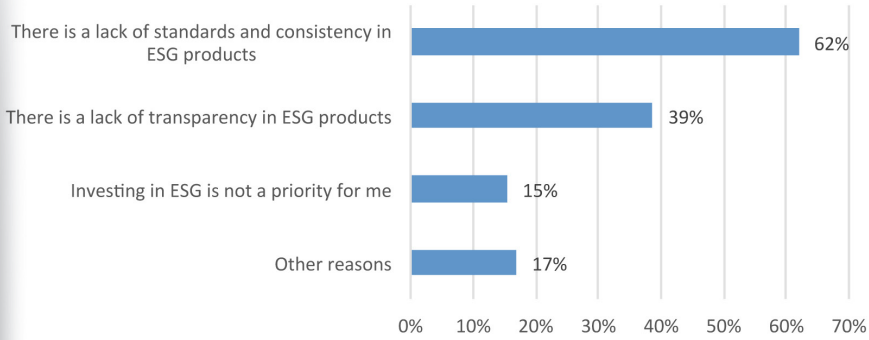


Exhibit 4.33: Do you Plan to Increase your Portfolio Exposure to ESG?
This exhibit indicates the percentage of respondents planning to increase their portfolio exposure to ESG. Non-responses are excluded.

Respondents were asked to detail the reasons that prevent them from developing their use of ESG. Three main motivations were proposed and they were also free to provide additional reasons. 62% of respondents indicated that the main reason preventing them from developing their use of ESG is the lack of standards and consistency in ESG products, while 39% of them cited a lack of transparency in ESG products. Only 15% do not see investing in ESG as a priority (see Exhibit 4.34).

Exhibit 4.34: Reasons for not Developing the Use of ESG
This exhibit indicates the reasons that prevent respondents from developing their use of ESG. More than one response could be given.

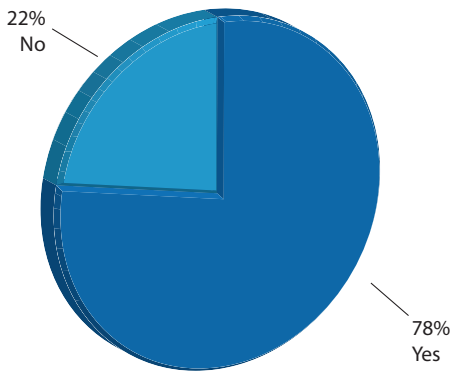


78%
believe that improvements in ESG regulation across Europe will enable them to make better ESG allocations

Among additional reasons, respondents also cited the lack of data or products, especially sector- or market-specific products, or the expense of accessing data. They also questioned the quality and availability of independent research. Some of them are not convinced by ESG, especially in terms of performance, or their clients are not interested in ESG. Finally, a few of them already mostly invest in ESG (95% of their investment) and so could not develop it more.

Not surprisingly, 78% of respondents believe that improvements in ESG regulation across Europe will enable them to make better ESG allocations (see Exhibit 4.35).

Exhibit 4.35: Do you Believe that Improvement in ESG Regulation across Europe will Enable you to Make Better ESG Allocations?
This exhibit indicates the percentage of respondents who believe that improvement in ESG regulation across Europe will enable them to make better ESG allocations. Non-responses are excluded.



4.3. Smart Beta and Factor Investing Strategies

The data collected in the first sub-section of the survey results reveal that respondents have an interest in ETFs that track smart beta and factor investing indices. In this third sub-section, we invited survey participants to give their opinion on smart beta and factor investing strategies beyond their use through ETFs. Smart beta and factor investing products offer exposure to a variety of alternatively weighted indices. There is evidence in the literature (cf. Amenc, Goltz, Lodh and Martellini, 2012, among others) that combining optimal portfolios constructed under different assumptions results in a higher probability of outperformance (compared to the cap-weighted index) over market cycles than any one alternatively constructed weighting scheme. Hence it makes sense that investors can benefit from exploiting such diversification-based strategies.

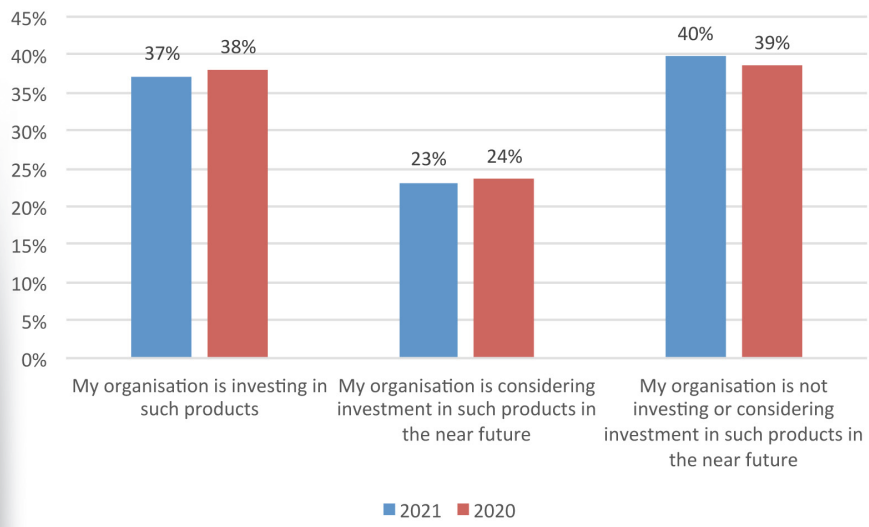
While questions about smart beta and factor investing products were first introduced in our 2013 survey, this group of questions has been considerably developed since 2016 to reflect the increasing appeal of these strategies as a way to improve passive investment. In 2018, we introduced questions concerning smart beta and factor investing for fixed income, a section which was further developed in 2019 with additional questions. In this section, we begin by analysing the use of smart beta and factor investing strategies in terms of the number of investors and the amount of investment, as well as the strategies used to invest in smart beta and factor investing solutions. A sub-section is specifically dedicated to smart beta and factor investing for fixed-income strategies. Respondents were then invited to express their views on the changes they envisage in their use of these strategies going forward. Finally, we look at the trends in the use of these strategies observed over the last eight years.

37%
invest in smart beta and factor investing strategies;
23%
are considering doing so in the future

4.3.1. Use of Smart Beta and Factor Investing Strategies

Respondents were first asked about their use of smart beta and factor investing strategies. From Exhibit 4.36, we can see that 37% of respondents use such solutions, and that 23% of them are considering investing in such solutions in the near future. These results show that about three-fifths of investors still have significant interest in such solutions. Compared to last year, we see a slight decrease both in the share of respondents who use smart beta and factor investing solutions, and in the percentage of investors considering investment in such solutions in the near future. Thus, two-fifths of respondents are not investing or considering investment in such products in the near future.

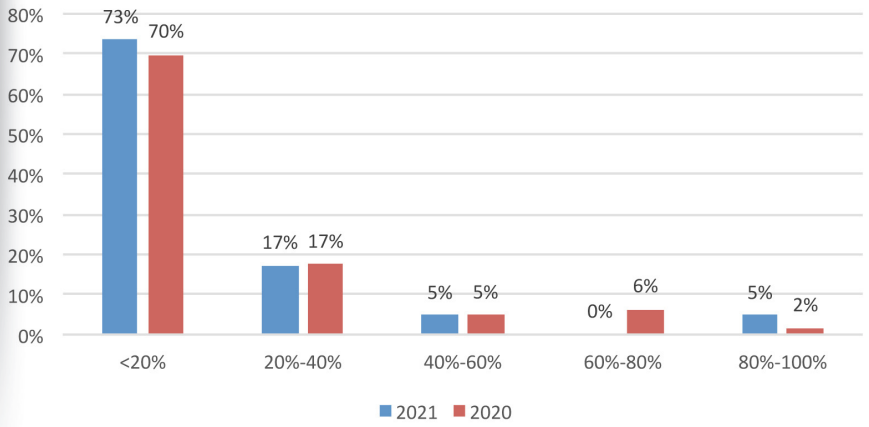
Exhibit 4.36: Use of Smart Beta and Factor Investing Solutions
This exhibit indicates the percentages of respondents who reported using smart beta and factor investing solutions. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.



73%
of respondents dedicate less than
20%
of their total investments

Those who already invest in smart beta and factor investing strategies were asked the percentage of total investment such strategies represent. The results are displayed in Exhibit 4.37. Not far from three-quarters of respondents (73%) allocate less than 20% of their total investments to these strategies, a slightly higher result than that obtained in 2020 (70%). We can see that investment in smart beta and factor investing strategies still applies to a restricted share of investment for the vast majority of respondents. Among the 27% of respondents who invest more than 20% in these strategies, 17% invest between 20% and 40%, 5% invest between 40% and 60%, while only 5% of respondents allocate more than 60% of their total investments to smart beta and factor investing strategies; although this last result is lower than last year, there are now more respondents who invest more than 80% (5%, versus 2% in 2020).

Exhibit 4.37: Percentage of Total Investment Already Invested in Smart Beta and Factor Investing Solutions
This exhibit indicates the average percentage of total investment already allocated to smart beta and factor investing solutions. We only consider respondents who already use such strategies. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.



61%
use discretionary strategies,
57%
use replication strategies

Respondents already investing in smart beta and factor investing strategies were also asked to detail the category of these strategies they use. The results are displayed in Exhibit 4.38. We can see that slightly more respondents use discretionary smart beta and factor investing strategies than resort to the replication of such strategies (61% versus

57%). Only 19% of respondents use both categories. Compared to 2020, the difference between the percentages of use of the two categories has narrowed considerably.

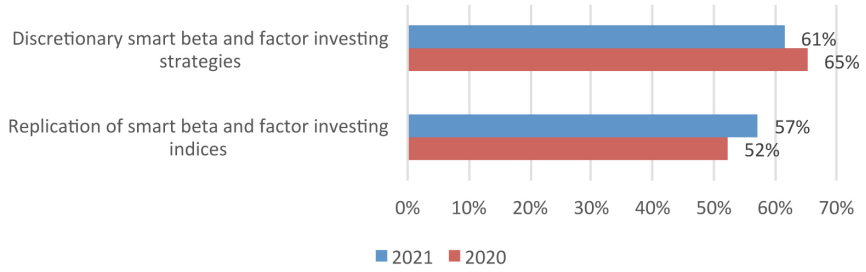


Exhibit 4.38: Strategies Used to Invest in Smart Beta and Factor Investing Solutions
This exhibit indicates the categories of smart beta and factor investing strategies used by respondents. The percentages are based only on respondents who already use smart beta and factor investing strategies. More than one response could be given. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.

Respondents already investing in smart beta and factor investing strategies were finally asked to explicitly state the wrapper they use to invest in these strategies. The results are displayed in Exhibit 4.39, which shows that the majority of respondents (64%, versus 57% in 2020) use open-ended passive funds (ETFs and index funds) as a wrapper, ahead of the 47% (versus 43% in 2020) who use active solutions, while only about one-fifth (22%, versus 25% in 2020) use dedicated passive mandates. We note that while the vast majority of respondents (71%) use only one category of wrapper (open-ended passive funds for 40% of respondents, active solutions for 24%, and dedicated passive mandates for 7%), some of them use two or three. 6% of respondents use both categories of passive wrappers. Some respondents use active solutions and only one category of passive wrapper – 14% use open-ended passive funds and 6% use dedicated passive mandates. Finally, 4% of respondents report using the three categories of wrappers. Compared to 2020, there has been an increase in the use of both open-ended passive funds and active wrappers, while we observed a slight decline in the use of dedicated passive mandates.

64%
use passive funds,
47%
use active solutions

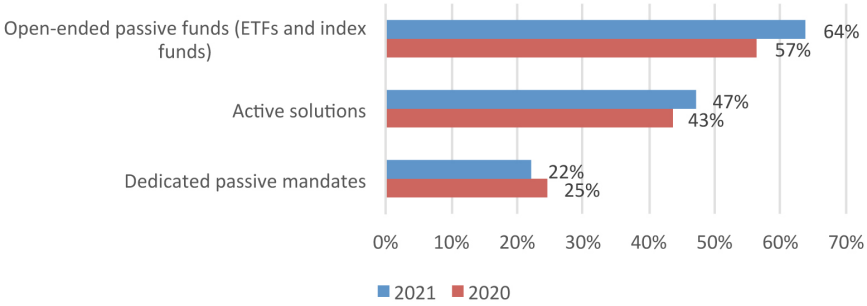


Exhibit 4.39: Wrapper Used to Invest in Smart Beta and Factor Investing Solutions
This exhibit indicates the categories of wrapper respondents use to invest in smart beta and factor investing strategies. The percentages are based only on respondents who already invest in these strategies. More than one response could be given. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.

The remaining questions of the smart beta and factor investing section of the survey were put to all respondents whether or not they were already investing in such strategies. They were asked to rate the advantages of discretionary smart beta and factor investing strategies and of replication indices. The results for the former are displayed in Exhibit 4.40 and for

the latter in Exhibit 4.41. Exhibit 4.42 compares the favourable scores for both strategies. We can see from Exhibits 4.40 and 4.41 that the majority of respondents have a favourable opinion of all the characteristics of both strategies, as all of them are considered to be favourable by more than 50% of respondents, except "mitigating possible provide-investor conflict of interest" for discretionary strategies, deemed favourable by just 49%. The percentage of respondents with a favourable opinion of the various characteristics of the discretionary strategies indicates moderate increases for two of them compared to 2020 ("availability of information for assessing strategies" and "possibility to create alignments with investment beliefs"), while the other characteristics see a decrease, in most cases moderate, except for "ease of changing portfolio allocation over time". Comparable results are found with regard to the characteristics of replication indices. We observe a moderate increase in the percentage of respondents with a favourable opinion of the "availability of information for assessing strategies", compared to 2020, while the other characteristics see a moderate decrease, except "costs" and "ease of changing portfolio allocation over time", for which the decrease is more pronounced.

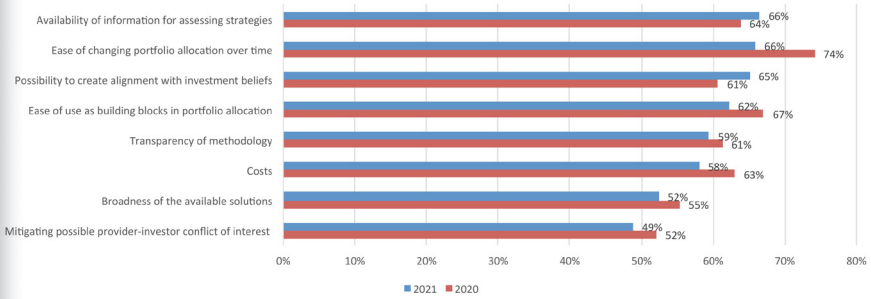


Exhibit 4.40: Perceived Advantages of Discretionary Smart Beta and Factor Investing Strategies

This exhibit indicates how respondents rate the advantages of discretionary smart beta and factor investing strategies. Respondents were asked to rate the various advantages from 0 (not favourable) to 5 (highly favourable). The "favourable" category includes ratings from 3 to 5 while "not favourable" indicates ratings from 0 to 2, such that the aggregate percentages of "favourable" and "not favourable" add up to100%. Non-responses are excluded. This exhibit only displays the favourable scores, together with the 2020 results to show year-on-year changes.

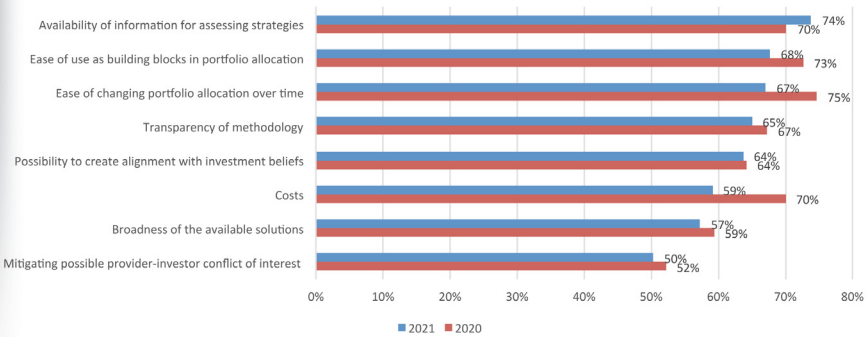


Exhibit 4.41: Perceived Advantages of Replication of Smart Beta and Factor Investing Indices

This exhibit indicates how respondents rate the advantages of the replication of smart beta and factor investing indices. Respondents were asked to rate the various advantages from 0 (not favourable) to 5 (highly favourable). The "favourable" category includes ratings from 3 to 5 while "not favourable" indicates ratings from 0 to 2, such that the aggregate percentages of "favourable" and "not favourable" scores add up to100%. Non-responses are excluded. This exhibit only displays the favourable scores, together with the 2020 results to show year-on-year changes.

The comparison between the scores for the characteristics in the two categories is also interesting. We observe that a majority of characteristics are classified in the same order both for discretionary and replication strategies. The differences are to be found in the characteristics ranked from second to fifth position. The lowest satisfaction score is for "mitigating

possible provider–investor conflicts of interest" (49% for discretionary; 50% for replication) and the highest score is for "availability of information for assessing strategies" (66% for discretionary; 74% for replication). Moreover, across all characteristics, replication strategies come out on top, except for "possibility to create alignment with investment beliefs". Exhibit 4.42 provides more detail.

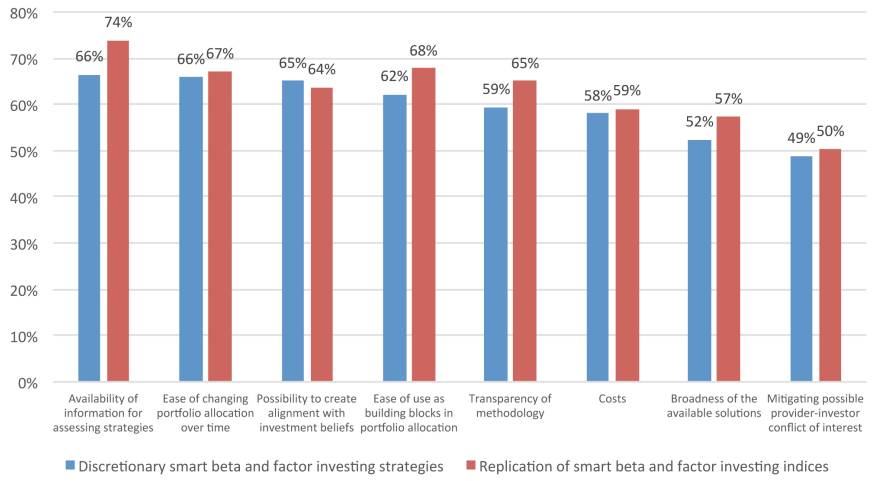


Exhibit 4.42: Comparative Advantages of Discretionary and Replication Smart Beta and Factor Investing Strategies
This exhibit compares the favourable scores obtained for each advantage of discretionary and replication smart beta and factor investing strategies. Non-responses are excluded.

4.3.2. Smart Beta and Factor Investing Strategies in Fixed Income

This sub-section presents a special focus on fixed-income smart beta and factor investing strategies introduced in our 2018 survey and since developed. Exhibit 4.43 shows that only 15% of the total sample of respondents already use smart beta and factor investing strategies for fixed income, a result in the same range, albeit a bit higher, as the one obtained last year. If we only consider the sub-sample of those respondents who reported already investing in smart beta and factor investing solutions (see Exhibit 4.36), we find that 29% use smart beta and factor investing strategies for fixed income, compared to 23% in 2020. This result is not surprising as such strategies top the list when respondents are asked about the products they would like to see further developed (see Exhibit 4.58 in Section 4.3.4).

15%
use smart beta and factor investing for fixed income

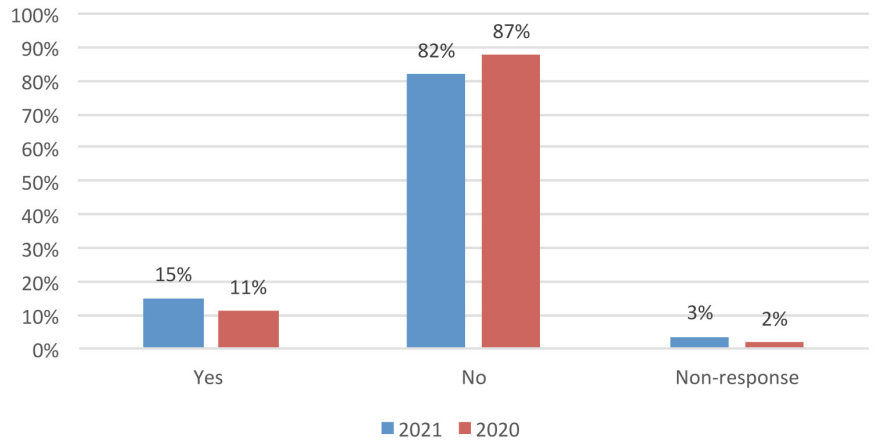


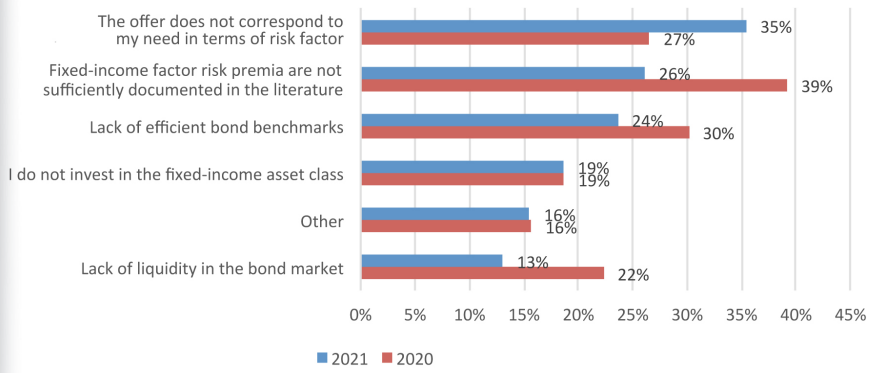
Exhibit 4.43: Do You Already Invest in Smart Beta and Factor Investing Strategies for Fixed Income?
This exhibit indicates the percentage of respondents who reported investing in smart beta and factor investing strategies for fixed income. Percentages are based on 202 replies. We also display the 2020 results to show year-on-year changes.

As the number of respondents already using smart beta and factor investing for fixed income is very restricted, we felt it would be interesting to ask the other respondents why they do not invest in such products. They were presented with a list of reasons. From Exhibit 4.44, we can see that 35% (27% in 2020) said the offer does not correspond to their needs in terms of risk factor, and 26% consider that fixed-income factor risk premia are not sufficiently documented in the literature, a considerably lower proportion than in 2020, when this criterion was at the top of the list and mentioned by 39% of respondents. Less than a quarter (24%, versus 30% in 2020) of respondents also cited a lack of efficient bond benchmarks. At the bottom of the list, the lack of liquidity in the bond market was cited by 13% (22% in 2020) of respondents, while only 19% (same as in 2020) do not invest in the fixed-income asset class.

Respondents were also invited to specify their other motivations, if any. The main additional motivations related to a lack of familiarity with these products, still at the research phase in some companies, as well as a lack of conviction in their quality, or a lack of products covering their needs. Some respondents prefer using other strategies or products to invest in the fixed-income asset class, including active strategies or direct investment. Lastly, one of them said the size of ETFs in terms of AUM was still not big enough.

Exhibit 4.44: Which of the Following Are the Main Reasons for not Using Fixed-Income Smart Beta and Factor Investing Products?

This exhibit indicates the reasons why respondents do not invest in smart beta and factor investing strategies for fixed income. Percentages are based on 202 replies to the survey. We also display the 2020 results to show year-on-year changes.



67%
of respondents allocate less than
20%
of their total investment

Those respondents who already invest in smart beta and factor investing strategies for fixed income were asked the percentage of total investment these strategies represent. The results are displayed in Exhibit 4.45. For about two-thirds of respondents (67%), the figure is less than 20%. This result is lower than the 73% obtained for investment in smart beta and factor investing solutions in general (see Exhibit 4.37). Among the respondents who invest more than 20% in these strategies, the figures lie between 20% and 40% for 22% of them, while 7% invest between 40% and 60%, and another 4% invest more than 80%. If we compare these results to those obtained in 2020, we note a slight increase in the share dedicated to smart beta and factor investing solutions for fixed income: 33% of respondents in 2021, versus 32% in 2020, dedicate

more than 20% of their total investment to these strategies, with 11% of respondents dedicating more than 40% in 2021, compared to 10% in 2020. These results point to the opportunities for further development of these investment strategies in the near future.

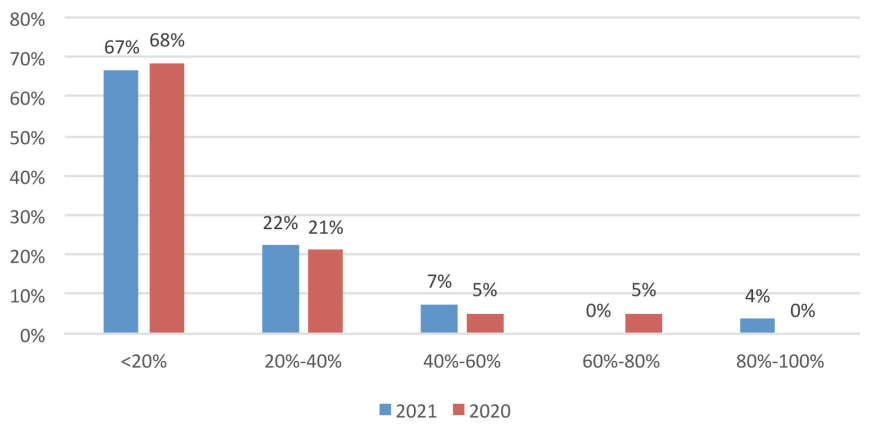


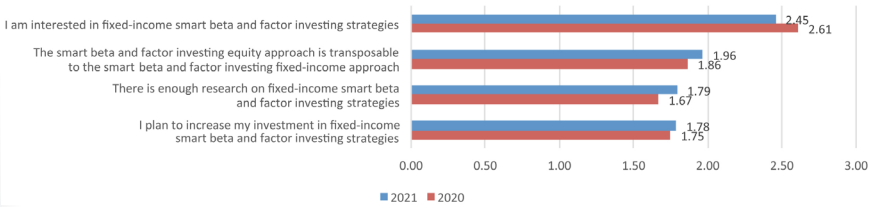
Exhibit 4.45: Percentage of Total Investment Already Invested in Fixed-Income Smart Beta and Factor Investing Solutions
This exhibit indicates the average percentage of total investment already invested in smart beta and factor investing solutions for fixed income. We only consider respondents who already use such strategies for fixed income. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.

These respondents were also asked about their rate of satisfaction with smart beta and factor investing solutions for fixed income. On a scale from 0 (not satisfied at all) to 5 (highly satisfied), the average satisfaction rate was 2.93, quite a good score for those already using smart beta and factor investing solutions for fixed income.

In order to obtain more information about the needs and requirements of respondents when it comes to smart beta and factor investing for fixed income, respondents were asked to give their opinion about a list of assertions. The results are displayed in Exhibit 4.46, which shows that respondents have a relative interest in smart beta and factor investing for fixed income with a score of 2.45, on a scale from 0 (strongly disagree) to 5 (strongly agree). However, there is a significant gap between the interest in this investment and forecasts of an increase in it: when asked about their plans to increase their investment in smart beta and factor investing for fixed income, the average score is only 1.78. The following findings go some way towards explaining this disparity: first, the average score of agreement with the statement that the smart beta and factor investing equity approach is transposable to fixed income is only 1.96; second, respondents consider that there is not enough research in the area of smart beta and factor investing for fixed income (average score of 1.79). Compared to 2020, we especially note a decline in interest in smart beta and factor investing for fixed income, but a slight progression in plans to increase investment in these products.

Exhibit 4.46: Respondent Opinions about Statements Concerning Smart Beta and Factor Investing for Fixed Income

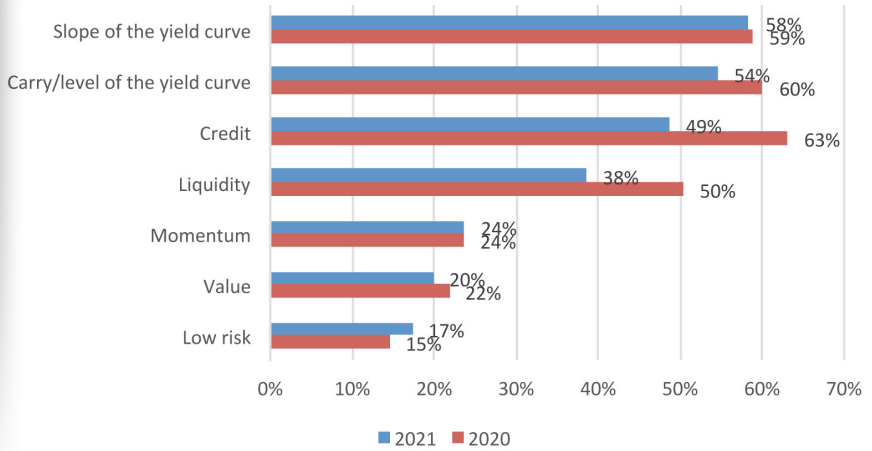
This exhibit indicates the extent to which respondents agree with each statement on a scale from 0 (strongly disagree) to 5 (strongly agree). More than one response could be given. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.



Respondents were further asked to indicate the rewarded factors they find most relevant in fixed-income markets. The results are displayed in Exhibit 4.47, where we see that respondents placed in the first three positions the three typical factors of the credit risk market, namely slope of the yield curve, carry/level of the yield curve and credit, as the most relevant (58%, 54% and 49% respectively). The liquidity factor comes in fourth position, with 38% of respondents finding it relevant. Finally, at the bottom of the list, we find three factors that are more specifically related to the equity market, namely momentum, value and low risk, with only 24%, 20% and 17% of respondents respectively finding them relevant in fixed-income markets, which is consistent with respondents saying that smart beta and factor investing for equity is not transposable to fixed income (see Exhibit 4.46). We also note that while the results remained fairly similar to those of 2020 for equity market factors, as well as for slope of the yield curve, there is a decline this year in the percentage of respondents finding the two other typical factors of the credit risk market relevant, especially when it comes to credit, with 49% of respondents finding it relevant in 2021, compared to 63% in 2020. The same thing is observed for liquidity factor, with a sharp decline from 50% of respondents finding it relevant in 2020 to only 38% in 2021.

Exhibit 4.47: Respondent Opinions about Rewarded Factors in Fixed-Income Markets

This exhibit indicates for each rewarded factor the percentage of respondents who find it relevant in fixed-income markets. More than one response could be given. Percentages are based on 202 replies to the survey. We also display the 2020 results to show year-on-year changes.



52%

think that smart beta and factor investing bond solutions are useful in performance-seeking portfolios for harvesting risk premia

In addition, respondents were invited to evaluate the different purposes for which they consider smart beta and factor investing bond solutions to be useful. The results are displayed in Exhibit 4.48, which shows that more than half of respondents (52%) consider smart beta and factor investing bond solutions to be especially useful in performance-seeking portfolios for harvesting risk premia. Performance-seeking portfolio for

diversifying equity risks comes in second position (45% of respondents). Performance-seeking portfolios for reducing drawdown in a rising interest-rate environment and liability-hedging portfolios for enhancing performance subject to duration constraints come next, with about a third of respondents (37% and 34%, respectively) considering smart beta and factor investing bond solutions useful for these purposes. Compared to 2020, there is a drop in the percentage of respondents who find these solutions useful for the first two propositions, and an increase for the last two propositions, resulting in a much smaller gap than in 2020 between the first and last two.

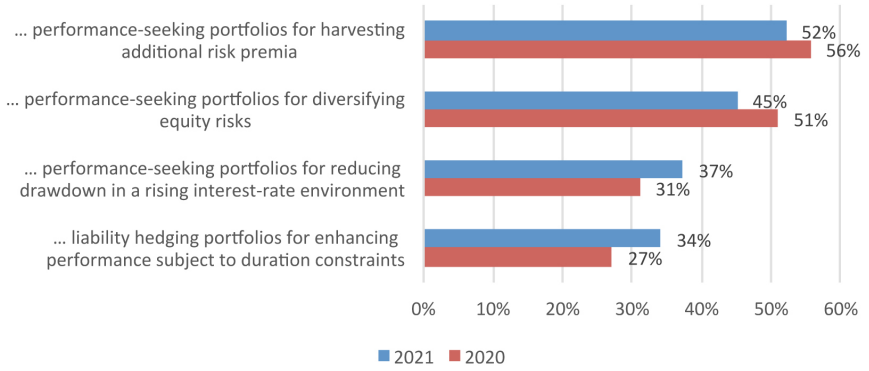


Exhibit 4.48: Do You Think that Smart Beta and Factor Investing Bond Solutions Are Useful in ...?
This exhibit indicates the purposes for which respondents consider smart beta and factor investing bond solutions to be useful. More than one response could be given. Percentages are based on 202 replies to the survey. We also display the 2020 results to show year-on-year changes.

Respondents were then asked specifically about how to achieve efficient harvesting of risk premia in bond markets. They were presented with three propositions. The first was the application of smart weighting schemes (minimum variance, risk parity, etc.) to a broad universe (in short, smart beta). The second was the selection of bonds according to rewarded attributes such as value, momentum, credit, liquidity, etc. (in short, factor investing). The third was the application of smart weighting schemes to factor-tilted selections of bonds (in short, smart factor investing). The results are displayed in Exhibit 4.49, where we see that 46% of respondents think that the best solution is factor investing. 30% think it is smart factor investing, and 24% think it is smart beta. These results are quite comparable to those obtained in 2020.

46%
prefer factor investing to achieve efficient harvesting

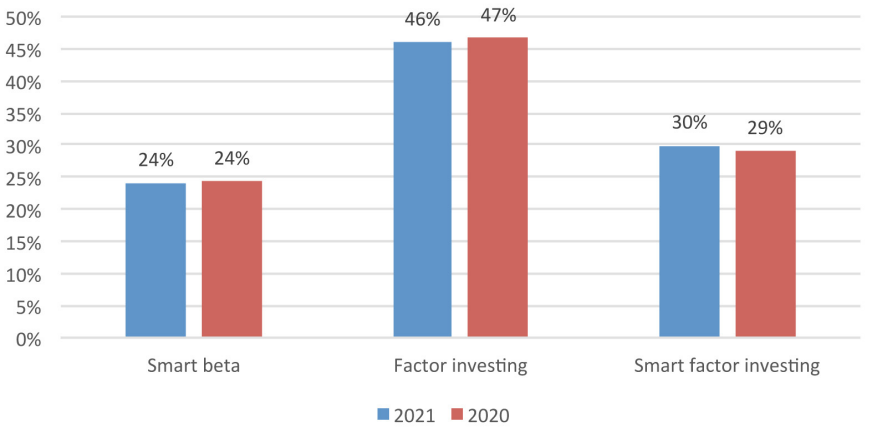
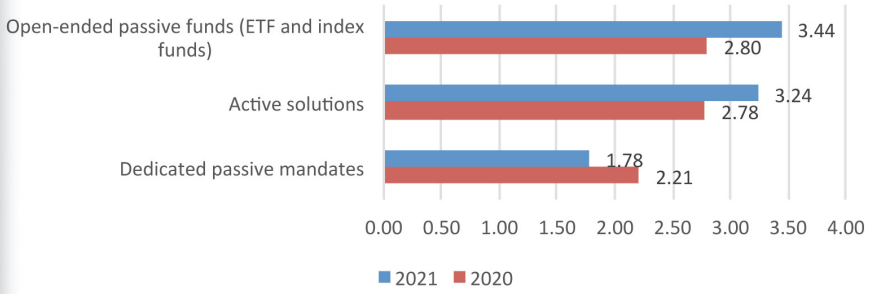


Exhibit 4.49: How Should Investors Achieve Efficient Harvesting of Risk Premia in Bond Markets?
This exhibit indicates respondent opinions on how to achieve efficient harvesting of risk premia in bond markets. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.

Respondents plan to use both active and passive solutions to invest in fixed-income products

Finally, to conclude the section on smart beta and factor investing for fixed income, respondents were asked about the vehicles they plan to use in the future to invest in these products. The results are displayed in Exhibit 4.50, which reveals that about the same proportion of respondents plan to use open-ended passive funds and active solutions, with scores of 3.44 and 3.24, respectively, on a scale from 0 (never use) to 5 (use very frequently), while fewer respondents plan to use dedicated passive mandates (1.78). Compared to 2020, we observe an increase in plans to use both active and open-ended passive solutions, and a decline in plans to use dedicated passive mandates.

Exhibit 4.50: Which Vehicles Do You Plan to Use in the Future for Fixed-Income Smart Beta and Factor Investing?
This exhibit indicates the vehicles respondents plan to use in the future for fixed-income smart beta and factor investing on a scale from 0 (never use) to 5 (use very frequently). Non-responses are excluded. We also display the 2020 results to show year-on-year changes.



4.3.3. The Importance of Factors as Performance Drivers

The last group of questions in this section of the survey relates to the factors inherent in equity strategies and how these factors explain their performance.

Respondents were specifically asked about their requirements when considering the selection of a given set of factors in their investment approach. They were presented with a list of factor characteristics and asked to rate them from 0 (if the assertion was not important) to 5 (if it was absolutely crucial). The results are displayed in Exhibit 4.51, which shows that with the exception of "factors should be proprietary or novel", all the other proposed characteristics receive quite high scores, ranging from 2.56 to 3.41. However, respondents are primarily concerned with the ease of implementation and low turnover and transaction costs, as well as by the existence of a rational risk premium, with scores of 3.41 and 3.40, respectively, closely followed by the existence of extensive empirical literature documenting factor premium (3.36).

The least important requirement for them is that factors should be proprietary or novel, with a score of 1.85.

The existence of a rational explanation for factor risk premia is of principal importance to investors; this is probably because such an explanation suggests that the premium will be persistent. Indeed, while the literature interprets factor premia as compensation for risk, the

existence of such premia could also be explained by investors making systematic errors due to behavioural biases such as over- or under-reactions to news about a stock. However, whether such behavioural biases can persistently affect asset prices in the presence of some smart investors who do not suffer from these biases is a point of contention. In fact, even if the average investor makes systematic errors due to behavioural biases, it is still possible that some rational investors who are not subject to such biases might exploit any small opportunity resulting from the irrationality of the average investor. The trading activity of such smart investors may then make the return opportunities disappear. Therefore, behavioural explanations of persistent factor premia often introduce so-called "limits to arbitrage", which prevent smart investors from fully exploiting the opportunities arising from the irrational behaviour of other investors.

We can see that the priorities in their requirements are consistent from one year to the other, with almost the same order of requirements given. However, we note that the scores indicated this year are all lower than in 2020.

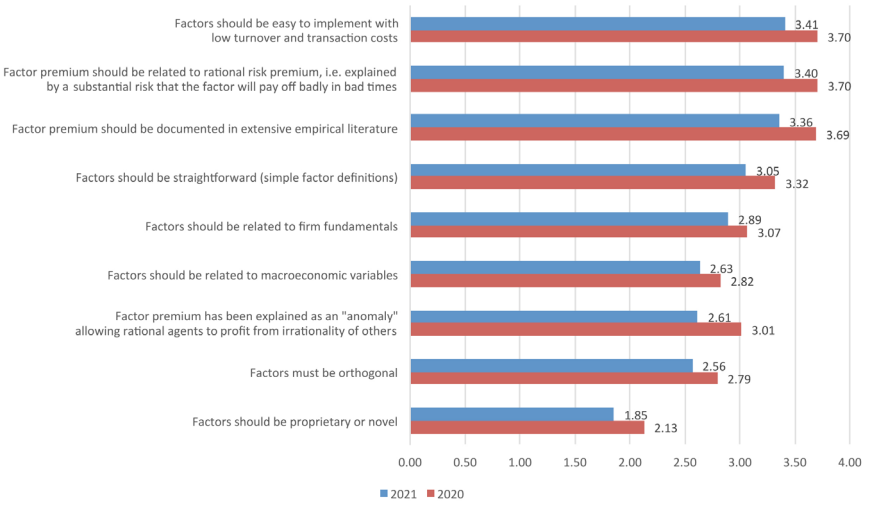
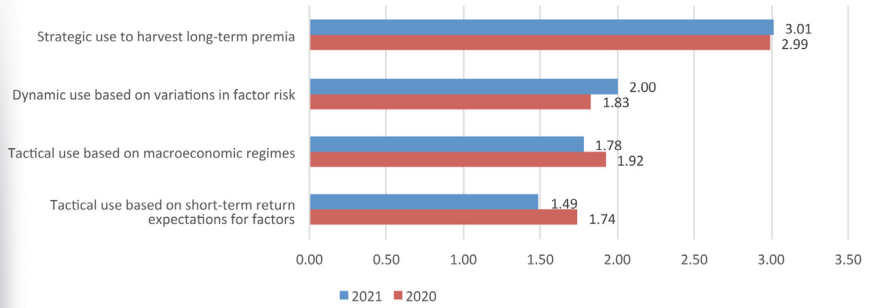


Exhibit 4.51: Requirements for Factors
This exhibit indicates respondent requirements when considering a given set of factors in their investment approach on a scale from 0 (not important) to 5 (absolutely crucial). We also display the 2020 results to show year-on-year changes.

To conclude this sub-section about factors, respondents were asked about the ways they use smart beta/factor-based exposures. They were invited to rate a list of propositions from 0 (if they do not use smart beta/factor-based exposures in this way) to 5 (if such use of smart beta/factor-based exposures was highly frequent). The results are displayed in Exhibit 4.52, where we see that the most frequent use by respondents of smart beta/factor-based exposures is a strategic use to harvest long-term premia, with a score of 3.01. Other uses are less frequent, such as dynamic use based on variations in factor risk (2.00), tactical use based on macroeconomic regimes (1.78), and tactical use based on short-term return expectations for factors (1.49).

Compared to 2020, we observe an increase in strategic use and dynamic use, and a decrease for tactical use based on macroeconomic regimes or based on short-term return expectations for factors.

Exhibit 4.52: Use of Smart Beta/Factor-Based Exposures
This exhibit indicates respondents' use of smart beta/factor-based exposures on a scale from 0 (no use) to 5 (highly frequent use). We also display the 2020 results to show year-on-year changes.

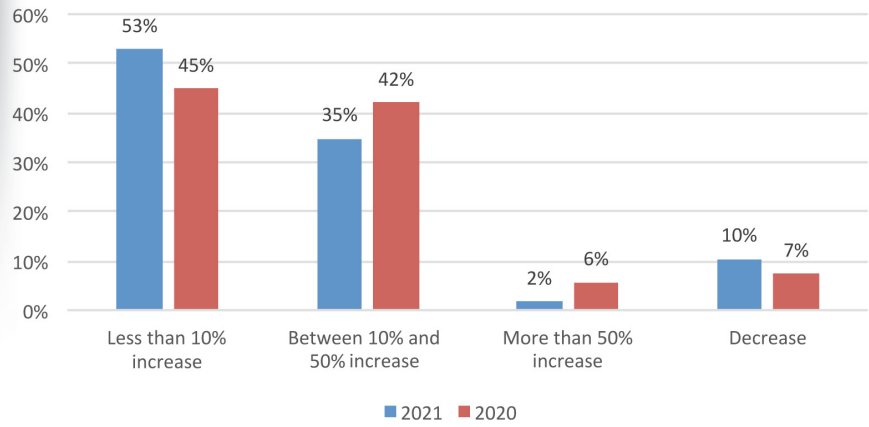


37%
plan an increase of more than
10%
in their use of smart beta and factor investing, only
10%
plan a decrease

4.3.4. Future Developments for Smart Beta and Factor Investing Strategies

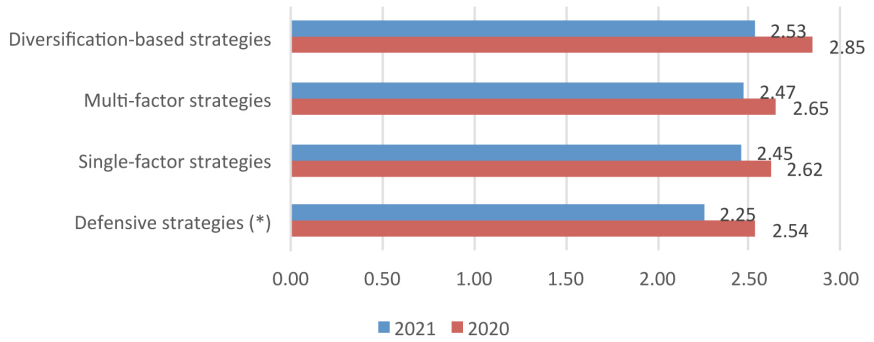
Finally, the last group of questions in the smart beta and factor investing survey sections were dedicated to future perspectives and additional requirements for smart beta and factor investing strategies. First, respondents were asked whether or not they planned to increase their investment in smart beta or factor-based products in the near future. The results are displayed in Exhibit 4.53, which shows that the vast majority of respondents (90%) plan to increase their investment in smart beta and factor investing products over the next three years, a slightly lower percentage than the 93% of 2020, while only 10% of them plan to decrease it. Compared to 2020, a much lower number of respondents are considering a substantial increase of between 10% and 50% (35% of respondents, versus 42% in 2020), compared to plans of a moderate increase of less than 10% (53% of respondents, versus 45% in 2020). Only 2% of respondents are thinking of increasing their investment in smart beta and factor investing strategies by more than 50%, compared to 6% in 2020.

Exhibit 4.53: Planned Changes in Use of Smart Beta/Factor-Based Investment Products in Terms of Assets in the Near Future
This exhibit indicates whether respondents plan to increase or decrease their use of smart beta/factor-based investment products (in terms of assets) over the next 3 years. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.



These results indicate a slowdown in the increase in investment in smart beta and factor investing in the coming years for each investor, compared to previous years, though the current share of investment dedicated to smart beta and factor investing strategies is relatively restricted (less than 20%) for a majority of respondents (73%), as shown in Exhibit 4.37.

Respondents were then asked to detail the strategies they plan to use in the future. They were presented with a list of strategies and invited to rate them from 0 (if they did not plan to use them in the future) to 5 (if they planned to use them very frequently). The results, displayed in Exhibit 4.54, show that the average scores obtained for the four strategies are still within a very narrow spread, from 2.25 for defensive strategies to 2.53 for diversification-based strategies, as in 2020, albeit a bit lower than those observed last year, with the lowest decrease for multi-factor strategies. The two other strategies, namely multi-factor and single-factor strategies, obtained scores of 2.47 and 2.45, respectively. It therefore appears that respondents are aiming to diversify their new investment in smart beta and factor investing strategies across the different categories.



(*) e.g. minimum or low-volatility strategies

Exhibit 4.54: Strategies to Be Used in the Future to Invest in Smart Beta and Factor Investing
This exhibit indicates the categories of strategies respondents plan to use in the future to invest in smart beta and factor investing on a scale from 0 (do not plan to use) to 5 (plan to use very frequently). More than one response could be given. We also display the 2020 results to show year-on-year changes. Non-responses are excluded.

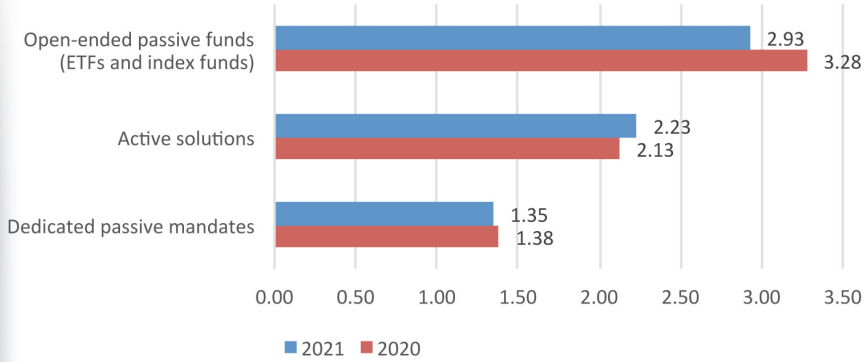
As respondents already investing in smart beta and factor investing strategies were asked to detail the wrapper they use to invest (see Exhibit 4.39), all respondents were asked about the wrapper they planned to use in the future to invest in these strategies. The results are displayed in Exhibit 4.55. Not surprisingly, the two wrappers already used by a majority (64% and 47% respectively) of respondents, namely open-ended passive funds (ETFs and index funds) and active solutions, are also the wrappers they plan to use most frequently in the future, with respective scores of 2.93 and 2.23. Compared to 2020, we note a small increase in the score of planned future use of active solutions, which should be seen in light of the results displayed in Exhibit 4.39, where it appears that the current use of active solutions is also increasing. As for open-ended funds, the result is in the opposite direction, as we note a decrease in

Respondents plan to make more frequent use of open-ended passive funds than active solutions to invest in equity products

planned future use, while current use is increasing according to Exhibit 4.39. The third category of wrapper, dedicated passive mandates, is at the bottom of the list, with a score of 1.35 for future usage, consistent with the lowest share of 22% of respondents using them, among those who already invest in smart beta and factor investing products.

Exhibit 4.55: Wrapper to Be Used in the Future to Invest in Smart Beta and Factor Investing Solutions

This exhibit indicates the categories of wrapper respondents plan to use in the future to invest in smart beta and factor investing strategies on a scale from 0 (do not plan to use) to 5 (plan to use very frequently). We also display the 2020 results to show year-on-year changes. More than one response could be given. Non-responses are excluded.



Respondents were then asked about their key motivations for using smart beta and factor investing strategies in their portfolio. They were presented with a list of motivations and invited to rate them from 0 (no motivation) to 5 (strong motivation). The results are displayed in Exhibit 4.56. Improving performance was the primary motivation cited by respondents for investing in smart beta and factor investing strategies, with a score of 3.44. Managing risk follows with a score of 3.13. Lower costs, managing exposure to macro risk factors and increased transparency followed closely with scores in the same range (2.84, 2.79 and 2.74, respectively). Finally, far behind the others, the least pressing motivation for investors is addressing regulatory constraints, with a score of 1.47. While the first three motivations for using smart beta and factor investing strategies remain the same as in 2020, as well as the last one, the order of the other two has been inverted. Managing exposure to macro risk factors moved up from fifth position to fourth, with a slight increase in the score (2.79 versus 2.74 in 2020), yielding the fifth place to increased transparency.

Improving performance and managing risk are the two main motivations for using smart beta and factor investing strategies

It is not surprising that among the motivations for investing in smart beta and factor investing strategies, improving performance obtains the highest score. Smart beta and factor investing indices appear to be an alternative to investment in cap-weighted indices, which provide poor performance. Early papers by Haugen and Baker (1991) and Grinold (1992) provide empirical evidence that market cap-weighted indices provide an inefficient risk/return trade-off. From a theoretical standpoint, the poor risk-adjusted performance of such indices should come as no surprise, as market cap weighting schemes are risk/return efficient only at the cost of heroic assumptions. An extensive body of literature has

shown that the theoretical prediction of an efficient market portfolio breaks down when some of the highly unrealistic assumptions of the CAPM do not bear out. Smart beta and factor investing strategies, whose goal is to improve index efficiency, are therefore promising in terms of performance (see Amenc et al., 2010). For similar reasons, respondents perceive the management of risk as better addressed with smart beta and factor investing strategies.

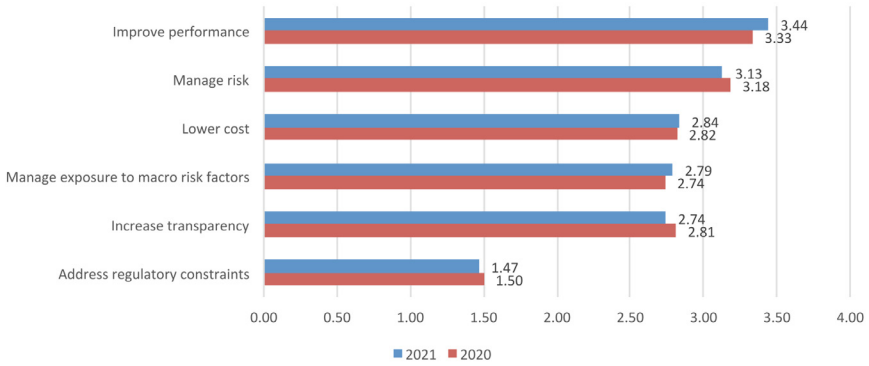
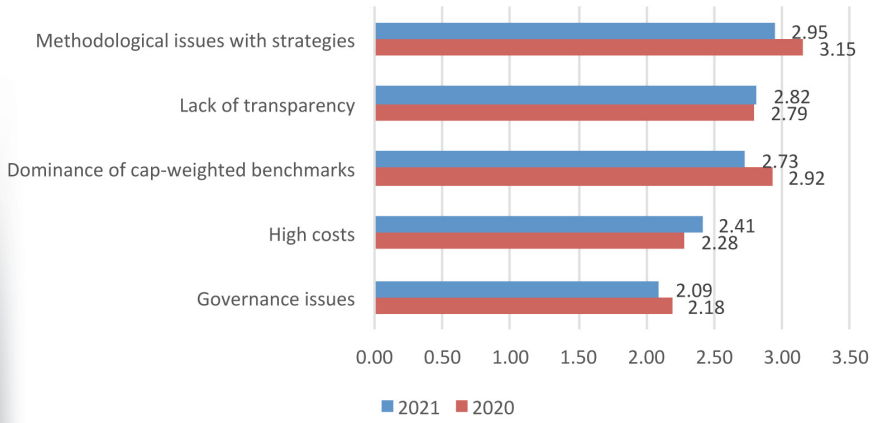


Exhibit 4.56: Key Motivations for Using Smart Beta and Factor Investing Strategies in a Portfolio
This exhibit indicates the key motivations for using smart beta and factor investing strategies in a portfolio on a scale from 0 (no motivation) to 5 (strong motivation). We also display the 2020 results to show year-on-year changes. More than one response could be given. Non-responses are excluded.

Respondents were also free to give additional motivations for using smart beta and factor investing strategies in the portfolio. Eight respondents (about 4% of the sample) made contributions. The main arguments they gave were for diversification purposes, to use factor cycles and to obtain a better/risk return trade-off.

Respondents were also asked about the major hurdles that prevent them from increasing their use of smart beta and factor investing strategies. They were asked to rate a list of hurdles from 0 (no hurdle) to 5 (significant hurdle). The results are displayed in Exhibit 4.57. The major hurdle appears to be the methodological issues associated with strategies, with quite a high score of 2.95. The lack of transparency and the dominance of cap-weighted benchmarks followed closely with scores of 2.82 and 2.73 respectively. The dominance of cap-weighted indices is a problem that has been denounced for years (see e.g. Arnott et al., 2010). These indices are still considered as the reference benchmark and it may be difficult to change this thinking. Finally, respondents rank high costs and governance issues at the bottom of the list of hurdles, with scores of 2.41 and 2.09 respectively. We note that none of the hurdles obtained a low score. These scores are all a little lower than in 2020, with the exception of lack of transparency, which remained almost similar to that of 2020, and high cost, which increased from 2.28 to 2.41.

Exhibit 4.57: Major Hurdles to Increasing Your Use of Smart Beta and Factor Investing Strategies in Portfolios
This exhibit indicates the major hurdles to increasing the use of smart beta and factor investing strategies in a portfolio on a scale from 0 (no hurdle) to 5 (significant hurdle). More than one response could be given. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.



Respondents were also free to detail additional hurdles that prevent them from increasing their investment in smart beta and factor investing strategies. 18 respondents (about 9% of the sample) made contributions. The main arguments they gave were related to the difficulty of communicating and explaining the relatively new concepts to managers, board members or clients, the lack of interest from clients and sales staff, as well as a lack of clear and comprehensive information from providers. Others highlighted the lack of products on their domestic market, or the lack of product compliance with ESG. Finally, some respondents mentioned recent disappointing performances and costs.

SRI/ESG and fixed income are the main expectations for future development of smart beta and factor investing products

Finally, respondents were asked about the solutions they think require further product development from providers. They were asked to rate a list of solutions from 0 (not required) to 5 (strong priority). The results are displayed in Exhibit 4.58, where we can see that all the propositions obtained quite a high score, ranging from 2.42 to 3.14. Among them, respondents identified the integration of ESG into smart beta and factor investing as a priority, with a score of 3.14. The development of fixed-income smart beta and factor investing strategies follows with a score of 2.95. This result is to be compared to those detailed in Section 4.3.2, which show an as yet limited share devoted to fixed-income products. The following two propositions, namely solutions addressing specific investor objectives and strategies in alternative asset classes (currencies, commodities, etc.), obtained scores in comparable ranges (2.72 and 2.63 respectively). Finally, at the bottom of the list, products offering exposure to novel factors" and long/short equity strategies obtained scores of 2.46 and 2.42, respectively.

Respondents also call for the development of more customised smart beta and factor investing solutions

Compared to 2020, we observe a slight decrease in all scores, but a roughly similar ranking for the propositions.

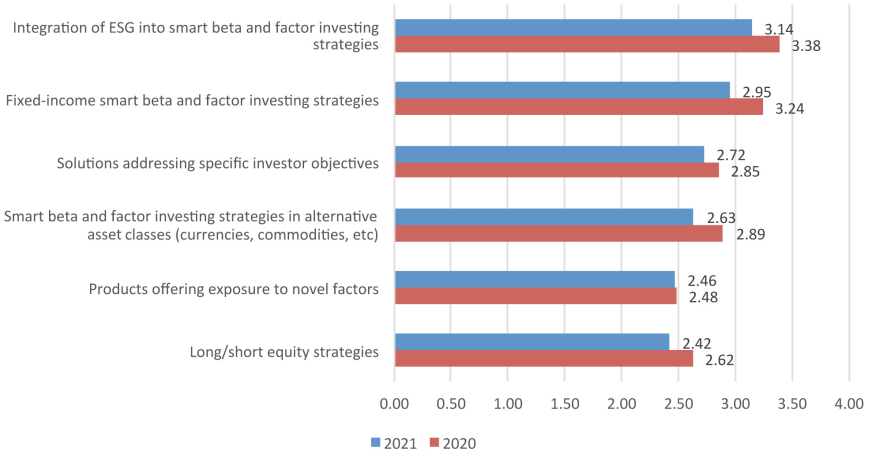


Exhibit 4.58: Which Type of Solutions Do You Think Require Further Product Development from Providers?
This exhibit indicates the types of solutions for which respondents would like to see further product developments from providers on a scale from 0 (not required) to 5 (strong priority). More than one response could be given. Non-responses are excluded. We also display the 2020 results to show year-on-year changes.

4.3.5. Trends: Use of Smart Beta and Factor Investing Strategies over Time

As a large share of the questions presented in the smart beta and factor investing section were progressively introduced in recent years, the comparison of results will mainly focus on the questions for which we now have a history of several years.

After having observed an increase every year from 2013 to 2019 in the number of respondents who used smart beta and factor investing products or who planned to do so in the near future, we observe a trend reversal, since the respondents not investing or considering investment in such products in the near future are slightly more numerous in 2020 (39%) and in 2021 (40%) than in 2013 (36%) (see Exhibit 4.59).

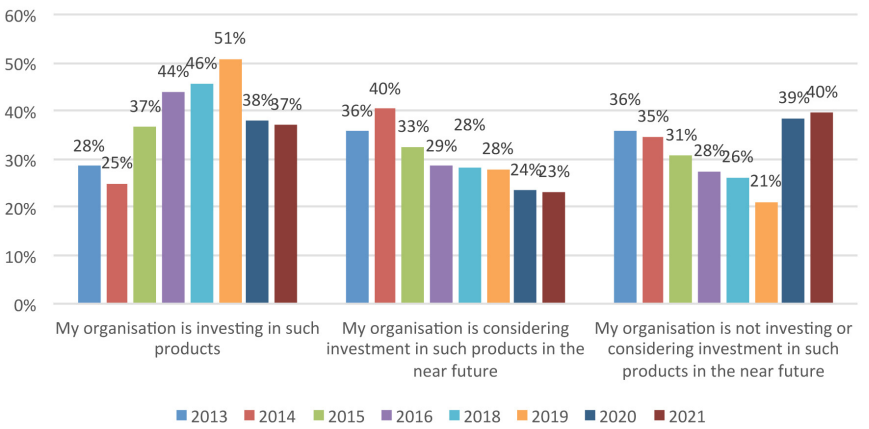
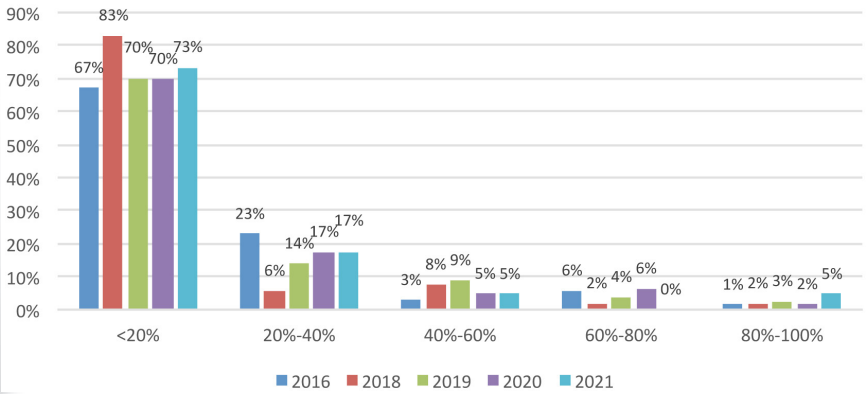


Exhibit 4.59: Use of Smart Beta and Factor Investing Solutions
This exhibit indicates the percentages of respondents who reported using smart beta and factor investing solutions. Non-responses are excluded. The percentages for 2013 to 2021 are based on the results of the EDHEC ETF surveys from these years.

Smart beta and factor investing solutions typically make up only a small fraction of portfolio holdings among those respondents who have made investments in these strategies. The vast majority of respondents dedicate less than 20% of their total investments to smart beta and factor investing, a trend that has remained steady since 2016 (see Exhibit 4.60).

Exhibit 4.60: Percentage of Total Investment Already Dedicated to Smart Beta and Factor Investing Solutions

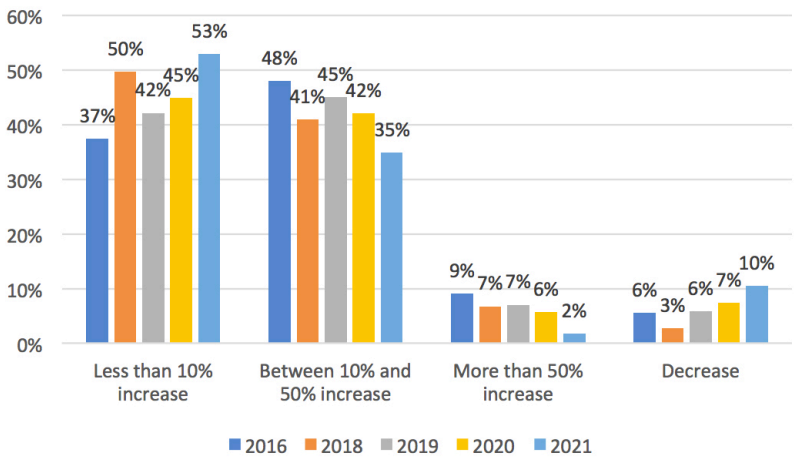
This exhibit indicates the average percentage of total investment already dedicated to smart beta and factor investing solutions. We only consider respondents who already use such strategies. Non-responses are excluded. The percentages for 2016 to 2021 are based on the results of the EDHEC ETF surveys from these years.



Although respondents indicate over the years that they plan to increase their investment in smart beta and factor investing in the next three years, we see this trend slowing down, with the proportion of those who foresee a small increase (less than 10%) taking precedence over those who forecast an increase of more than 10%. In 2016, 37% of respondents were planing less than a 10% increase, while 57% of them were planning more than a 10% increase. In 2021, the forecasts are reversed, with 53% planning less and 37% planning more than a 10% increase. The proportion of those who anticipate a decrease in their investment, even though it remains low, has also been increasing each year since 2019 (see Exhibit 4.61).

Exhibit 4.61: Planned Changes in Use of Smart Beta/Factor-Based Investment Products in Terms of Assets in the Near Future

This exhibit indicates whether respondents plan to increase or decrease their use of smart beta/factor-based investment products (in terms of assets) over the next 3 years. Non-responses are excluded. The percentages for 2016 to 2021 are based on the results of the EDHEC ETF surveys from these years.



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With more than €130bn* in assets under management, Amundi ETF, Indexing and Smart Beta is one of Amundi's strategic business areas and is a key growth driver for the group. Amundi ETF, Indexing and Smart Beta provides investors with robust, innovative, sustainable and cost-efficient solutions, leveraging Amundi Group's scale and resources. The platform also offers investors fully customised solutions to meet specific investor needs such as ESG, low carbon, specific exclusions or risk constraints. With over 30 years of benchmark construction and replication expertise, Amundi is a trusted name in ETF and index management among the world's largest institutions. The team is also recognised for its ability to develop smart beta and factor investing solutions, with a track record extending more than ten years.

*All figures and data are provided by Amundi at end June 2020

About EDHEC-Risk Institute

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Academic Roots & Practitioner Reach

EDHEC Business School is actively pursuing an ambitious policy to produce academic research that is both practical and relevant. This policy, known as "Research for Business" and now labelled "Make an Impact", aims to make EDHEC an academic institution of reference in a small number of areas in which the school has reached critical mass in terms of expertise and research results. EDHEC is putting its academic expertise to work in addressing some of the major issues affecting society, most notably the climate emergency. EDHEC initiatives in the fields of sustainable finance and sustainable business are expected to be major contributions to the response to the sustainability challenges facing our economy.

In 2001, EDHEC Business School created EDHEC-Risk Institute, a premier academic centre for industry-relevant research in investment management, which has developed a portfolio of research and educational initiatives in the domain of investment solutions for institutional and individual investors.

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EDHEC-Risk's mission is to give participants an edge in today's fast-changing landscape, with programmes designed to help them convert theoretical concepts into practical results. Courses are run in

different formats to match the market's needs: 100% on line, on-site, blended or bespoke programmes. To date, 2,500 professionals have chosen EDHEC-Risk Institute to help them address their challenges.

As part of its policy of transferring know-how to the investment industry, EDHEC-Risk Institute set up Scientific Beta, an original initiative to boost the take-up of the latest advances in smart beta design and implementation by the whole investment industry. On 31 January 2020, Singapore Exchange (SGX) acquired a majority stake in Scientific Beta, a transaction that vindicates the school's "Make an Impact" model and its focus on producing research that is useful for both students and businesses. EDHEC-Risk Institute also contributed to the launch of EDHEC Infrastructure Institute (EDHEC*infra*), a spin-off dedicated to benchmarking private infrastructure investments. EDHEC*infra* is now a provider of research and indices on unlisted infrastructure investments.

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EDHEC-Risk Institute Publications and Position Papers (2019-2021)

2021 Publications

- Gianfrate, G., Kievid, T., and Nunnari, A. Institutional Investors and Corporate Carbon Footprint: Global Evidence (November).
- Guedj, B., Martellini, L., and Safaee, S. Benefits of Selection and Allocation Decisions in the French Non-Listed Real Estate Investment Fund Market (June).
- Maeso, J.M., Martellini, L., Milhau, V., Suri, A., and Vrdoljak, N. A Holistic Goals-Based Investing Framework for Analyzing Efficient Retirement Investment Decisions in the Presence of Long-Term Care Risk (May).
- Scherrer, B. and Lehner, S.What Drives Robo-Advice? (April).
- Scherrer, B. and Lehner, S. Investor Experience and Portfolio Choice: Regulatory Costs from MIFID II (April).
- Martellini, L. and L-S Vallée. Measuring and Managing ESG Risks in Sovereign Bond Portfolios and Implications for Sovereign Debt Investing (March).
- Scherrer, B. and Hasaj, M.Covid-19 and Smart-Beta (January).

2020 Publications

- Martellini, L. , Milhau, V., Mulvey, J. Securing Replacement Income with Goal-Based Retirement Investing Strategies (October).
- Martellini, L. , Milhau, V., Mulvey, J. "Flexicure" Retirement Solutions: A Part of the Answer to the Pension Crisis? (October).
- Le Sourd, V. and L. Martellini. The EDHEC European ETF and Smart Beta and Factor Investing Survey 2020 (September).
- Fays, B., Hübner, G., and M. Lambert. The Seasons of the True Size Anomaly (July).
- Fays, B., Lambert, M., and N. Papageorgiou. Risk Optimizations on Basis Portfolios: The Role of Sorting (June).
- Till, H. Research Topics from Across the Commodity Markets (March).
- Capasso, G., Gianfrate, G., and M. Spinelli. Climate Change and Credit Risk (February).
- Bouamara, N., Boudt, K., and J. Vandenbroucke. Predicting and Decomposinfg the risk of data-driven Portfolios. (February).
- Martellini, L. and V. Milhau. Factor Investing in Liability-Driven and Goal-Based Investment Solutions (January).
- Till, H., and J. Eagleye. Commodity Trading Strategies: Examples, Mistakes, and Famous Debacles (January).

2019 Publications

- Martellini, L. and V. Milhau. Factor Investing in Liability-Driven and Goal-Based Investment Solutions (December).
- Le Sourd, V. and L. Martellini. The EDHEC European ETF and Smart Beta and Factor Investing Survey 2019 (August).
- Maeso, J.M., Martellini, L. and R. Rebonato. Cross-Sectional and Time-Series Momentum in Sovereign Bond Markets (May).

• Maeso, J.M., Martellini, L. and R. Rebonato. Defining and Expoiting Value in Sovereign Bond Market (May).
• Maeso, J.M., Martellini, L. and R. Rebonato. Factor Investing in Sovereign Bond Markets - Time-Series Perspective (May).

2018 Publications

• Goltz, F. and V. Le Sourd. The EDHEC European ETF and Smart Beta and Factor Investing Survey 2018 (August).
• Mantilla-Garcia, D. Maximising the Volatility Return: A Risk-Based Strategy for Homogeneous Groups of Assets (June).
• Giron, K., L. Martellini, V. Milhau, J. Mulvey and A. Suri. Applying Goal-Based Investing Principles to the Retirement Problem (May).
• Martellini, L. and V. Milhau. Smart Beta and Beyond: Maximising the Benefits of Factor Investing (February).

2017 Publications

• Amenc, N., F. Goltz, V. Le Sourd. EDHEC Survey on Equity Factor Investing (November).
• Maeso, J.M., Martellini, L. Maximising an Equity Portfolio Excess Growth Rate: A New Form of Smart Beta Strategy? (November).
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• Martellini, L. and V. Milhau. Mass Customisation versus Mass Production in Retirement Investment Management: Addressing a "Tough Engineering Problem" (May).
• Esakia, M., F. Goltz, S. Sivasubramanian and J. Ulahel. Smart Beta Replication Costs (February).
• Maeso, J.M., Martellini, L. Measuring Volatility Pumping Benefits in Equity Markets (February).

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