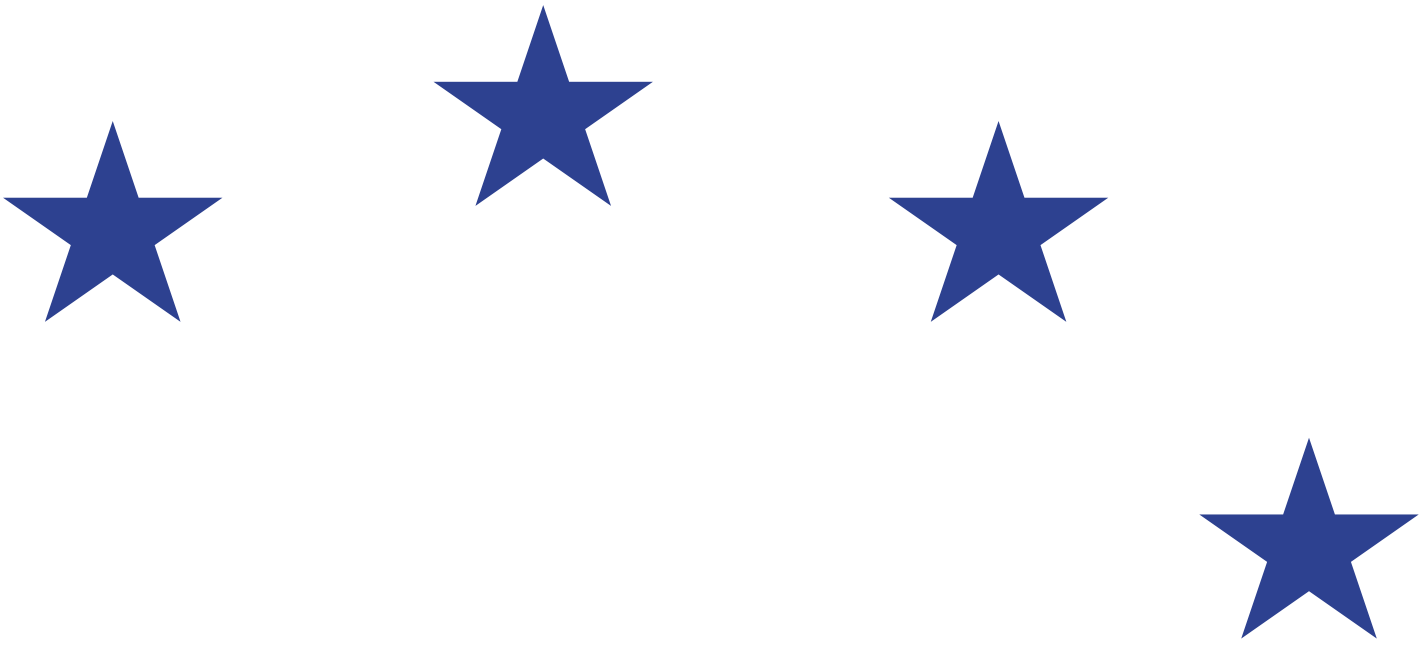
esma European Securities and Markets Authority

Performance and Costs of EU Retail Investment Products

ESMA Annual Statistical Report 2022



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ESMA Annual Statistical Report on performance and costs of EU retail investment products
2022

 The reporting period of this report is 1 January 2011 to 31 December 2020, unless indicated otherwise. Legal reference of this report: Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC, Article 32 'Assessment of market developments, including stress tests. '1. The Authority shall monitor and assess market developments in the area of its competence and, where necessary, inform the European Supervisory Authority (European Banking Authority), and the European Supervisory Authority (European Insurance and Occupational Pensions Authority), the ESRB, and the European Parliament, the Council and the Commission about the relevant micro-prudential trends, potential risks and vulnerabilities. The Authority shall include in its assessments an analysis of the markets in which financial market participants operate and an assessment of the impact of potential market developments on such financial market participants." This report, while contributing to ESMA's risk assessment activities, addresses the European Commission mandate to the three European Supervisory Authorities on recurrent reporting on the costs and past performance of the main categories of retail investment insurance and pension products. The report and its contents do not prejudice or impair ESMA's regulatory, supervisory or convergence activities, nor the obligations of market participants thereunder. The information contained in this publication, including text, charts and data, exclusively serves analytical purposes. It does not provide forecasts or investment advice, and does not prejudice, preclude or influence in any way past, present or future regulatory or supervisory obligations on market participants. The charts and analyses in this report are based on data not proprietary to ESMA, including from commercial data providers and public authorities. ESMA uses these data in good faith and does not take responsibility for their accuracy or completeness. ESMA is committed to constantly improving its data sources and reserves the right to alter data sources at any time. The third-party data used in this publication may be subject to provider-specific disclaimers, especially regarding its ownership, its reuse by non-customers and, in particular, the accuracy, completeness or timeliness of the data provided, and the provider's liability related thereto. Please consult the websites of the individual data providers, whose names are detailed throughout this report, for more details on these disclaimers. Where third-party data are used to create any chart, table or analysis the third party is identified and credited as the source. In each case, ESMA is cited by default as a source, reflecting any data management, cleaning, processing, matching, analytical, editorial or other adjustments to raw data undertaken.

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Executive summary

The ESMA Annual Statistical Report 2022 provides an update on the performance and costs of EU retail investment products for 2020, which have been substantially affected by the COVID-19 pandemic. This update and our indicators for cost and performance between 2011 and 2020 cover Undertakings for Collective Investment in Transferable Securities (UCITS), Alternative Investment Funds (AIFs), and Structured Retail Products (SRPs). Compared with the 2021 edition, this report is enhanced by a more in-depth analysis on cross-border funds, additional analysis on UCITS following environmental, social and governance (ESG) strategies, analysis on the performance of retail AIFs and the study of performance and costs of SRPs based on Packaged Retail Investment and Insurance Products' Key Information Documents (PRIIPs KID). Improvements in the data continue, but significant data issues persist.

Investment funds: UCITS

For UCITS, the largest EU retail investment sector, our sample covers EUR 7tn of assets, of which more than EUR 4tn are held by retail investors. In 2020, affected by the pandemic, gross performance broadly declined. The decrease was more pronounced at a one-year investment horizon than at ten-year investment horizon. Costs were higher for cross-border funds than for domestic funds, mainly due to distribution costs. A ten-year retail investment of EUR 10 000, in a hypothetical portfolio of equity, bond and mixed assets funds, provided a value of EUR 15 400 net of EUR 2 600 paid in costs. Active equity and bond UCITS underperformed compared with passive and exchange-traded-funds (ETFs) in net terms at the ten-year horizon, but they outperformed at one-year horizon. Top-25% active equity UCITS underperformed passive funds in net terms at the ten-year horizon, even though they outperformed them in 2020. This cohort of top-performing funds changes significantly over time, complicating the choice for retail investors. ESG funds on average performed well in 2020 and, overall, were slightly cheaper than their non-ESG peers. Across EU countries, heterogeneities persisted, yet reducing when the focus goes from the fund- to the investor-based domicile, leading to comparability issues.

Investment funds: Retail AIFs

Alternative Investment Funds (AIFs) constitute the second largest market for retail investments, with a value of EUR 5tn, around EUR 700bn of which is held by retail investors (Retail AIFs). Around half of retail investment was concentrated in AIFs following more traditional strategies targeting primarily asset classes such as equities and bonds, followed by real estate funds at 25% increasing from last year especially concerning strategies related to commercial real estate. Gross and net annualised returns of AIFs sold to retail investors reflect the effects of the COVID-19 pandemic, declining to 4% and 3% respectively for funds of funds and 5% and 4% for the type of funds in the category Others.

Structured retail products

SRPs, with an outstanding value of EUR 400bn in 2020, remain a much smaller market than UCITS and AIFs sold to retail investors. Across national markets within the EU, the size of SRP markets and the profile of product types sold vary considerably. Regulatory data are only starting to be available, and data from commercial providers are limited, constraining the scope for analyses of costs and performance. To address this issue ESMA has created a new database based on key information documents for SRPs, enabling the first EU-wide analysis of disclosed performance scenarios and costs. Total costs are largely attributable to entry costs. They vary substantially by country and by pay-off type, but they do not depend on issuance size or underlying type. The analysis of performance scenarios shows that there is little difference in simulated returns between moderate and favourable scenarios.

Essential statistics

UCITS

Performance and costs (5Y horizon)	Funds (non-ETF) Equity	Bond	Mixed	ETFs Equity
Gross performance (%, p.a.)	5.4	1.9	2.2	5.1
Costs (%, p.a.)	1.7	1.2	1.7	0.5
Subscription fees	0.13	0.2	0.15	0.09
Redemption fees	0.03	0.03	0.04	0.08
Ongoing charges	1.5	1.0	1.5	0.3
Net performance (%, p.a.)	3.7	0.7	0.5	4.6
Change in costs between 2016 and 2020 (%)	-3.9	-7.1	-4.9	-

ESG UCITS

Performance and costs (1Y horizon)	Funds (non-ETF) Equity	Bond	Mixed	ETFs Equity
Gross performance (%, p.a.)	3.3	-0.3	1.1	-0.7
Costs (%, p.a.)	1.5	1.1	1.6	0.8
Subscription fees (%, p.a.)	0.2	0.1	0.2	0.3
Redemption fees (%, p.a.)	-	0.2	-	0.2
Ongoing charges (%, p.a.)	1.3	0.8	1.4	0.3
Net performance (%, p.a.)	1.7	-1.3	-0.5	-1.3

Hypothetical UCITS portfolio performance

EUR 10,000 UCITS portfolio performance over time	10Y (2011–2020) Retail	Institutional	5Y (2016–2020) Retail	Institutional
Gross value (EUR)	18,022	18,486	14,108	14,406
Net value (EUR)	15,389	17,157	12,325	13,408
Costs paid (EUR)	2,632	1,629	1,993	1,191

Retail AIFs

Performance and costs (one-year horizon)	FoFs	Other AIFs	PE	RoM
Performance 2020 one-year horizon (%, p.a.)	4.1	4.7	1.2	5.6
Net performance 2020 one-year horizon (%, p.a.)	3.5	4.2	0.3	4.9

Structured Retail Products

Performance scenarios	Stress	Unfavourable	Moderate	Favourable
Simulated 1Y return (core 50% of products,% p.a.)	-70 to -23	-25 to 0	2 to 5	3 to 10
Costs				
Total cost per annum (%, p.a.)		0.96		
Subscription fees (%, p.a.)		0.93		

Note: UCITS − performance and costs for EU27 UCITS, for main retail investors' asset classes. a five-year investment horizon,%; cost level development measures percentage change in total costs between 2016 and 2020. EU27 ESG UCITS − performance and costs,%, reporting period 2020. Hypothetical UCITS portfolio performance − value of hypothetical EUR 10,000 after 10 years and 5 years, distinguishing between retail and institutional investors, in EUR. Retail AIFs − EEA30 retail AIFs annualised monthly gross and net performance by fund type,%. Predominant fund type FoFs = fund of funds; "Other AIFs" = fixed income funds, equity fund, infrastructure funds, commodity funds, and other funds; PE=private equity funds; RoM= rest of the market and includes hedge funds and those funds whose type is not indicated; no cost reporting available from regulatory or commercial data sources. Structured Retail Products − forecasts of performance and costs for structured retail products,%. Figures for performance refer to the interquartile range (25th and 75th percentiles) of potential performance after one year holding the product under four scenarios: stress, unfavourable, moderate, favourable. Figures for costs are the median reduction in yield per-annum over a product's recommended holding period. Statistics presented in this report fall after the withdrawal of the United Kingdom from the EU on 31 January 2020. Starting with this edition of this ASR series, we show statistics of the EU market after Brexit. Comparisons with statistics we had published in earlier editions are, therefore, limited.

Source: Refinitiv Lipper, ESMA.

ESAs performance and cost reports 2021: summary

Ahead of the current edition, below we provide a summary of the findings of the reports published in 2021 by ESMA and EIOPA. This gives the necessary background to understand the developments and the enhancements of this year's reports with respect to the previous ones.

ESMA

- **Fund costs:** UCITS costs only marginally declined over time. For one-year investments they were 1.4% in 2019 on average;
- **Volatile returns**: Average gross UCITS fund performance varied significantly over time.
- **Retail investors:** Retail clients paid on average around 40% more than institutional investors across asset classes;
- **Risks:** Higher risk exposures entailed higher costs irrespective of the asset class;
- **Active and passive funds:**
  - Costs were higher for active equity and bond UCITS compared with passive and ETFs.
  - There was net underperformance of active equity and bond UCITS, on average, compared with passive and ETFs.
  - Top-25% active equity UCITS outperformed compared to the top-25% passive and related benchmarks, at shorter horizons.
- **ESG funds:** ESG outperformed non-ESG equity UCITS mostly due to sectoral factors, and were slightly cheaper;
- **Retail AIFs:** Retail AIFs showed high return volatility across years.
- **SRPs:** Total costs were largely attributable to entry costs and varied substantially by country and payoff type. There was little difference in simulated returns between moderate and favourable performance scenarios; and
- **Transparency:** Comparability across Member States remained limited. Heterogeneity and data availability issues persisted, as well as lack of harmonisation in national regulation.

EIOPA

- Net performance from profit participation (PP) products, although positive in all years of the analysis, is low in particular when inflation is considered. PP products are cheaper than unit-linked (UL) despite increasing costs.
- Risk class, for UL, and the longer recommended holding period, for PP, are the most relevant drivers of past performance.
- Unit-linked products offer higher returns, while also directly exposing policy holders to market shocks. 2019 was an extremely positive year for the insurance-based investment products (IBIPs) market, with positive return across all Members States, but 2018 was characterized by negative trends.
- Unit-linked, profit participation and hybrids products with longer recommended holding period reported higher net returns. Regular premium products paid also higher net return despite being more expensive. From a 'value for money' perspective, some trade-offs need to be considered in terms of returns and costs for hybrid products. Combining more options hybrids are general more complex, while often showing lower profitability than unit linked.
- In IBIPs administrative costs were the most prominent costs, followed by distribution costs and Investment management costs. Biometric costs and exit costs are minimal.
- For Personal Pension Products (PPPs) offered by insurance undertakings the lack of a harmonized framework for transparency requirements hinders the comparability of the results. However, the trends identified are generally similar to IBIPs. The costs level of personal pension products in terms of reduction in yield at recommended holding period were lower than for IBIPs.
- Longer recommended holding periods were a driver of extra performance, in particular in relation to product similar to PP. Being pension products, by their nature, characterised by longer time duration the relation is more marked than in IBIPs.

Market environment 2020

Securities market

The COVID-19 pandemic has been a major event, whose ramifications and consequences have been of an unprecedented size globally. Focusing on the financial system, during the first outbreak of the virus in 1Q20, markets experienced one of the sharpest declines in asset valuation and one of the greatest surges in volatility in recent history.

ASR-PC.1
Securities market performance over time
COVID-19, valuation swings and uncertainty

Note: Return indices on European equities (Eurostoxx 50 index), EA corporate and sovereign bonds (iBoxx EUR, all maturities), monthly averages, December 2011 =100.
Sources: Refinitiv Datastream, ESMA.

There were massive market corrections in February and March 2020, across asset classes and especially for equity. In the six weeks between mid-February and the end of March, equity prices sunk by around 30% (ASR-PC.1). Volatility reached levels greater than during the global financial crisis in 2008. From an average of 15-20% over the five years until mid-February 2020, the VSTOXX reached an intraday high of 90% on 18 March 2020, and then levels persisted at around 50% in the following month.[1] This reflects the sudden impact and widespread severity of the pandemic and the consequent lockdown measures implemented across countries.

Markets quickly bounced back in 2Q20, and, despite further waves of the pandemic, remained resilient. Following a contraction of infections and the gradual lifting of lockdown measures in 3Q20, both macroeconomic conditions and market valuations recovered. Equity prices increased by around 10% in 2H20 (ASR-PC.1). However, although not reflected in financial market valuations, uncertainty linked to a resurgence of infections and to the development and availability of vaccines remained. Against this background, concerns persisted in relation to misalignment between asset valuations and economic fundamentals.[2]

Household financial resources have been significantly hit by the impact of the pandemic. The value of households' equity and investment shares dropped by 6% and 9% respectively, to then recover by 4Q20, hovering around the levels observed in 4Q19.[3] Consumer confidence fell to historical lows in 1Q20, but subsequently recovered.

In this context, insurance and pensions as well as currency and deposits remained the largest financial assets held by retail investors, with more than 30% of total household assets outstanding. Equity and investment funds follow at 20% and 8% of total assets respectively (ASR-PC-S.2).[4]

At the end of 2020, EU inflation was, on average, 0.2%, although there were substantial differences across countries (ASR-PC-S.5).[5]

1 ESMA, September 2020, TRV No. 2 2020.

2 ESMA, February 2021, TRV No. 1 2021.

3 Eurostat quarterly financial balance sheets.

4 Please note that the categorisation is taken from the Eurostat statistics on annual national accounts. Unlike in previous editions, the United Kingdom is excluded from the computation. Loans are not explicitly considered and insurance and pensions includes: non-life insurance technical reserves, and provisions for calls under standardised guarantees; life insurance and annuity entitlements; and pension entitlements, claims of pension funds on pension managers and entitlements to non-pension benefits.

5 Inflation negatively impacts returns of investment products as well as savings held in bank deposits. This is even more relevant in the low interest rate environment that has prevailed over the last decade.

Investment funds: UCITS

Summary

For UCITS, the largest EU retail investment sector, our sample covers EUR 7tn of assets, of which more than EUR 4tn are held by retail investors. In 2020, affected by the pandemic, gross performance broadly declined. The decrease was more pronounced at a one-year investment horizon than at ten-year investment horizon. Costs were higher for cross-border funds than for domestic funds, mainly due to distribution costs. A ten-year retail investment of EUR 10 000, in a hypothetical portfolio of equity, bond and mixed assets funds, provided a value of EUR 15 400 net of EUR 2 600 paid in costs. Active equity and bond UCITS underperformed compared with passive and exchange-traded-funds (ETFs) in net terms at the ten-year horizon, but they outperformed at one-year horizon. Top-25% active equity UCITS underperformed passive funds in net terms at the ten-year horizon, even though they outperformed them in 2020. This cohort of top-performing funds changes significantly over time, complicating the choice for retail investors. ESG funds on average performed well in 2020 and, overall, were slightly cheaper than their non-ESG peers. Across EU countries, heterogeneities persisted, yet reducing when the focus goes from the fund- to the investor-based domicile, leading to comparability issues.

Market overview

At the end of 2020 the net asset value (NAV) of EU UCITS, for both retail and institutional investors, was around EUR 10tn.[6] This is a subset of the larger open-ended segment that was around EUR 16tn.[7] In terms of open-ended funds, which includes UCITS, in 2020 the EU remained the second largest market globally (30% of global open-ended assets), after the United States which accounted for EUR 24tn (48%). China and Japan followed with EUR 2.2tn and EUR 1.9tn respectively, with a total for Asia of around EUR 7.2tn (13% of the world total).[8]

In 2020, US households held around 20% in mutual funds and ETFs. In the cases of EU and Japan, these shares were 9% and 4%, respectively.[9] Significant differences can also be seen in the average fund size, with the United States having by far the largest average fund size. According to EFAMA data, in 2020 a US fund held an average of around EUR 2,430mn followed by the United Kingdom at around EUR 538mn and the EU just below EUR 300mn. Funds in China and Japan held an average of around EUR 320mn and EUR 145mn, respectively.[10] The average size of an EU fund is about one-eighth of that of the average size of a US fund. This may explain the significantly lower costs of US mutual funds than EU UCITS.

At EUR 7tn, our sample is EUR 400bn smaller than at the end of 2019. Of these, EUR 4.1tn, or 59%, refer to funds marketed to retail investors. In 2020, more than 90% of retail investors asset value (EUR 3.8tn) was managed by 15% of the asset managers included in our sample (or just 130 managers out of more than 850). In addition, more than 75% of the value of the EU-domiciled UCITS sold to retail investors included in our sample was sold within the European region in 2020 and was primarily focused, with more than 92% of fund asset value, on equity, bond and mixed assets (ASR-PC-S.9). This report focuses on these three asset classes.

The share of assets in funds with ongoing costs (TER) belonging to the low 50% of our sample was around 60%, in 2020, with 30% concentrated in funds reporting ongoing costs in the lowest 25% percentile of the distribution. The 15% of

6 Data correspond to the 85% of the EU UCITS market as reported by EFAMA, equal to EUR 11.8tn at the end of 2020. It is commercial data from Refinitiv Lipper and Morningstar Direct and are therefore publicly available to subscribers. The reporting period is 2011–2020, and the analysis excludes the United Kingdom as, starting from 2020, it is not a Member of the EU.

7 EFAMA, March 2021, Quarterly Statistical Release No 84. EFAMA, 2021, International Quarterly Statistics Table 2 page 11. Only EU member states were included.

8 This reflects differences between bank-based financial systems such as the EU and Japan, and market-based financial systems such as the United States.

9 ICI, 2021, 2021 Investment Company Factbook, page 51.

10 EFAMA, 2021, International Quarterly Statistics, Table 2 and Table 4.

retail investment assets were held in funds reporting the highest ongoing cost levels (top-25% in terms of TER) (ASR-PC-S.10).[11]

Market size is significantly different across EU-domiciles,[12] with Luxembourg continuing to be, by far in 2020, the largest domicile for UCITS funds marketed to retail investors – accounting for 45% of total assets in the EU (ASR-PC-S.11).[13] This relates to the fact that a UCITS fund can be freely marketed in any EU Member State through a notification procedure. Over the last five years, the number of funds sold cross border in the EU saw a 40% increase. More than 80% of these funds were domiciled in Ireland and Luxembourg in 2020 (ASR-PC-S.14 and ASR-PC-S.15).[14]

At the end of 2020, the funds registered to be sold cross border accounted for 72% of the total UCITS retail investment, reported in our sample, or around EUR 2.7tn. This share decreases when the focus goes to funds not simply registered but effectively sold cross border. When we consider as cross-border those funds selling in two (three) countries including the domicile, in terms of assets, in 2020, 67% (54%) of the funds included in our sample were effectively sold cross border (ASR-PC-S.16 and ASR-PC-S.18).

In terms of number of funds, the share of cross-border funds reduces to 55%, when cross-border funds are defined as those funds selling in two countries including the domicile (ASR-PC-S.17) and 43% when to be considered cross border a fund should sell in three countries including the domicile (ASR-PC-S.19). Moreover, cross-border funds were on average larger than funds sold only in their domicile. The average size of cross-border funds between 2011 and 2020 was slightly more than EUR 100mn higher than that of funds only domestically marketed (ASR-PC-S.20).[15]

When looking at differences related to the type of asset or the geographical region in which investment is focused, the heterogeneity across EU countries is evident. For example, the shares of investment mainly focusing on equity range from 9% in Italy to 80% in the Netherlands. (ASR-PC-S.13). The largest geographical focus is on Europe or the so-called Global category, which does not specify if an investment is focused in or outside Europe (ASR-PC-S.22). The share of investment concentrated in Europe ranges from 11% in Ireland to 52% in France (ASR-PC-S.23).

Performance and costs

The analysis of the performance and costs of UCITS investment over time illustrates how significant the volatility of gross performance is across different periods. This is not the case for costs that, even if decreasing over the last decade, only moderately changed over time.[16] The lower the gross performance, the stronger is the impact of costs on the final performance.

In this edition, there is a common element affecting asset valuations and the financial and economic systems overall: the COVID-19 pandemic. Its impact is observable in fund valuations across different assets and management types, as well as in a general increase in the measured level of risks across asset classes. Sudden and large swings in asset valuations complemented by a broad increase in volatility characterised the first half of 2020.

The effect of the pandemic on annual performance is evident.[17] We observe a large

[11] For the UCITS included in our sample, the 60% of NAV, was concentrated in funds reporting costs below the median.

[12] Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Romania are clustered in the "Other EU" group.

[13] Luxembourg, as well as Ireland, provides global fund distribution services, having a global client base. Other domiciles seem to market mostly domestically. The available data, however, fail to capture the complete picture of the different national EU markets. This is the case of "Round-trip" funds in which managers of a given Member State manage funds domiciled in another and market them in their own home Member State.

[14] Directive 2009/65/EU of the European Parliament and of the Council of 13 July 2009.

[15] It is worth noting that this definition does not enable to differentiate between investments for the purpose of providing an investment management service, such as managers structuring their fund portfolio in the hub to then sell their products in another country, versus direct investors subscription in the domicile country.

[16] An assessment of the performance and cost of investment products in the remit of ESMA is impeded by the absence of relevant regulatory data. For more details, please see the annex on Data sources and limitations.

[17] In this report we adopt an investment horizon analysis calculated as an average of annual performances at the end of all the four quarters of the year. The focus is on all the quarters of one year and may differ from the focus of the UCITS KID as indicated in the CESR's 09/949 document published in October 2009. End of year analysis is reported in the Statistical Annex. This is also in line with the previous editions of the report. In addition, the report goes beyond the simple one-year horizon, and analyses also five- and ten-year investment horizons. The

year-on-year change when focusing on different quarters of the same year. The annual performance, measured at 1Q20 and 4Q20, was, respectively -6% and 17.9%, on average across asset classes (ASR-PC-S.35). Contrary to that, costs remained more stable over the year (ASR-PC-S.36).

Asset classes

The performance of UCITS funds in 2020 was highly volatile across asset classes due to the COVID-19 pandemic.[18] The largest negative effects were observed when the first wave of the virus hit EU countries, at the beginning of 2020. Then, a recovery took place over the rest of the year. Nonetheless, 2020 remained characterised by strong uncertainty related to economic outlook and vaccine deployment. The annual gross performance of equity for the one-year horizon was 1.3% in 2020 compared with 1.5% in 2018, and 10.7% in 2019. For bond and mixed funds, the performance was negative in 2020, as in 2018, whereas it was beyond 6% in 2019 (ASR-PC.2).[19]

ASR-PC.2
UCITS gross performance across periods
Higher variability at the shortest horizon

	2017	2018	2019	2020
Equity UCITS				
1Y	16.0%	1.5%	10.7%	1.3%
10Y	5.3%	9.0%	11.0%	8.2%
Bond UCITS				
1Y	2.5%	-0.9%	6.5%	-0.3%
10Y	5.1%	5.2%	5.1%	3.9%
Mixed UCITS				
1Y	6.1%	-0.4%	6.0%	-0.1%
10Y	4.3%	5.6%	6.3%	4.9%

Note: EU27 UCITS gross annual performance by investment horizon and asset type, geometric mean aggregation. 2020 covers the reporting period 2011–2020. 2019 covers the reporting period 2010–2019. 2018 covers the reporting period 2009-2018. 2017 covers the reporting period 2008-2017.
Sources: Refinitiv Lipper, ESMA.

Moving to the longer horizon of ten years, this variability reduces significantly. For example, in the case of equity, gross annual performance was 8.2% in the current edition (reporting period 2011–2020) and 11% in the reporting period 2010–2019.

Costs were broadly stable. Focusing on equity, they only slightly declined (ASR-PC.3). As a result, net performance was volatile as well (ASR-PC-S.37 and ASR-CP-S.38).[20]

ASR-PC.3
UCITS total costs across periods
Limited change in costs

	2017	2018	2019	2020
Equity UCITS				
1Y	1.7%	1.7%	1.6%	1.6%
10Y	2.0%	1.9%	1.8%	1.8%
Bond UCITS				
1Y	1.3%	1.2%	1.2%	1.1%
10Y	1.4%	1.4%	1.3%	1.3%
Mixed UCITS				
1Y	1.8%	1.7%	1.6%	1.6%
10Y	1.8%	1.8%	1.8%	1.8%

Note: EU27 UCITS total costs by investment horizon and asset type, geometric mean aggregation. 2020 covers the reporting period 2011–2020. 2019 covers the reporting period 2010–2019. 2018 covers the reporting period 2009-2018. 2017 covers the reporting period 2008-2017.
Sources: Refinitiv Lipper, ESMA.

Consistently, across time horizons and asset classes, larger funds have lower costs than smaller funds. Over one-year and five-year horizons, on average, the top-25% funds, in terms of size, were around 20% cheaper than the bottom-25% funds across the asset classes considered (ASR-PC-S.43). Main drivers are economies of scale and the reduced relevance of fixed costs over total assets.[21]

Given the above findings, cross-border UCITS, which are on average larger than domestic funds (ASR-PC-S.20), should report lower costs than the latter. However, this is not the case. Costs, within our sample of funds, were higher than those of domestic funds. (ASR-PC-S.44). This holds on average across asset classes and when funds are clustered by size, irrespective of the criterion chosen to define cross-border funds (i.e., sold in two or three countries). One reason behind this may be linked to heterogeneity of distribution channels and costs, and related cost treatment that would impact the cross-border marketing of a fund.

5Y investment horizon substitutes the 3Y and 7Y in previous editions of the report.

[18] Given the focus on one-, five- and ten-year investment horizons, the comparison with previous findings will focus only on one and ten years.

[19] The funds are retained in the sample if information on gross annual performance, ongoing costs, flows and asset value is jointly available. If not, it may be that we need to discard several observations.

[20] We refer to equity as an example. This also holds for mixed and bond funds.

[21] These results mirror those of the regression analysis included in the annex “Statistical methods” that finds that higher NAV is associated with lower costs.

Value of hypothetical ten-year and five-year investments

When investing there are three main elements to consider, among others: the cost level, the level of gross performance and risks, and the relative variability of the level of gross performance over time compared with costs.

There are several costs to be aware of: the fees for subscribing to an investment, the costs related to holding a product, the costs of trading (e.g., execution fees or bid–ask spread, which can be very relevant for some products such as ETFs), the costs of redeeming a product and distribution costs. These costs are especially relevant to individual investors, who largely rely on financial institutions for access to and information on the financial products available. These costs can significantly affect the final value of the investment.[22]

We consider a hypothetical retail portfolio composed of equity (40%), bond and mixed funds (30% each). Based on gross market performance alone, in the ten years between 2011 and 2020, a retail investment of EUR 10,000 in this portfolio would have returned a profit equal to 80% of the initial investment and lead to an overall value of around EUR 18,000. In the five years between 2016 and 2020, with a 41% profit, the ultimate value of the investment would have been EUR 14,100 This is lower than what was reported in last year's report, reflecting the impact of the March 2020 market downturn.

When costs are taken into account, the value of the ten-year investment declines by around 14% in the case of a ten-year investment and a five-year investment, to around EUR 15,400 and EUR 12,100 respectively. The hypothetical investor consequently pays EUR 2,600 in costs for a ten-year investment and around EUR 2,000 for a horizon of five years.

If the same type of investment had been undertaken by a hypothetical institutional investor, the value after ten (five) years would be just below EUR 18,500 (EUR 14,400) in gross terms, and EUR 16,860 (EUR 13,200) in net terms, implying costs of EUR 1,630 (EUR 1,190). Similarly to last year, the hypothetical retail investor would therefore have paid around EUR 1,000 more than the institutional investor.[23]

The results above show how crucial the role of costs is when evaluating the outcome of an investment. Costs need to be included in the picture and therefore clear information should be available to investors.[24] Moreover, an investment is subject to risks related to the strong variability of the performance of underlying financial assets depending on the period in which an investment is made. Long-term investment can smooth out the volatility in performance and also the exposure to more extreme events, as well as the impact of one-off loads that can be distributed over a longer period of time.

Risk categories

We analyse performance and costs accounting for differences in the level of risk within each asset class based on the synthetic risk and reward indicator (SRRI).[25] For each asset, UCITS are grouped by risk class according to the SRRI classification from 1 to 7 with 1 indicating the lowest risk category and 7 the highest.

In 2020 assets were invested for the largest part in equity funds belonging to SRRI classes 6 (68% of equity UCITS) and 7 (31% of equity UCITS), while in 2019, SRRI classes 5 (51% of equity UCITS) and 6 (41% of equity UCITS) were the risk classes in which equity UCITS retail investment was mostly concentrated. This is similar for bond and mixed funds (ASR-PC-S.49).

This general shift of the risk class upwards reflects the effects of the COVID-19 pandemic. The SRRI is based on the volatility of the fund.

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[22] Notwithstanding the importance of distribution costs, the information we have available to quantify these costs is very limited. For more details on this issue, please refer to the ESMA third annual statistical report published in April 2021, page 68.

[23] This is in line with the results of a regression analysis looking at determinants of ongoing costs. Findings show that ongoing costs decline on average in the case of institutional investors. See annex "Statistical methods".

[24] The analysis focuses on those costs directly related to the activities of investment funds. There are, however, two main sources of exogenous costs that can affect investors final pay-offs: taxes, linked to fiscal policies and inflation, linked to monetary policy decisions.

[25] Annex I, Commission Regulation 583/2010 implementing Directive 2009/65/EC. The SRRI aims to provide investors with a meaningful indication of the overall risk and reward profile of UCITS and of the different degrees of risk within the same asset class. It considers the specific features of the different types of UCITS. It is comprehensible and can be easily implemented and supervised. For details of the methodology and classes of risk, see CESR, 2010, CESR's guidelines on the methodology for the calculation of the synthetic risk and reward indicator in the KIID.

Increasing levels of volatility determine increases in the corresponding risk class. This was the case for 2020, when volatility was very high, especially in the first quarter of the year.

Across risk categories and asset classes, fund annual performances were very low or negative in 2020, reflecting weak performances of the underlyings. Costs instead were stable or only slightly lower in 2020 than in 2019. Therefore, their impact on final performance increased much more, especially for products within riskier classes that bear higher costs (ASR-PC-S.49 to ASR-PC-S.52).

Costs have a critical role when assessing an investment opportunity. Therefore, the availability of clear and intelligible information is crucial. The risks linked to the strong variability of performance of financial products in the short-term can be reduced by assuming a long-term perspective when investing.

ETF UCITS

Unlike other funds, ETFs trade like a common security and experience price changes throughout the day. ETFs are a low-cost and liquid investment. However, there are costs that should be accounted for. The pricing of a new ETF, in fact, depends on several aspects, including the type of asset class, the complexity of the product and the competitive environment. For example, a plain vanilla fund is cheaper than a fund engaging in hedging. Additional costs are related to licensing an index which depends, among other things, on the distribution countries for the ETF. There are standard costs associated with account keeping, custody and brokerage charges. These may vary depending on the client profile. Trading in ETF UCITS also involves bid–ask spreads, a key component of the total costs paid by an investor to own an ETF. The bid–ask spread is a function of different parameters that cannot be examined in isolation like trading style, execution time, size of order and execution process. The potential costs related to bid–ask spreads could be significant, especially in markets characterised by low liquidity.[26] On the other hand, ETF UCITS entail lower ongoing charges or TER. Given competitive pressures in the ETF market, ETF UCITS models tend to define a fixed TER.[27]

Performance and costs

Based on our sample of ETF UCITS, including both institutional and retail investments, the EU ETF UCITS market witnessed a 17% drop in the value of assets in 1Q20, in relation to the outbreak of the pandemic. Value of assets grew to EUR 908bn by 4Q20, or 13% of the total UCITS market (ASR-PC-S.23).[28] At the end of 2020, 70% of EU ETF UCITS, with a value of EUR 637bn, were invested in equity, 28% in bonds and the residual 2% in other assets (ASR-PC-S.24). Net inflows characterised equity ETFs (EUR 39bn) and bonds (EUR 28bn) at the end of 2020 (ASR-PC-S.25). Overall performance dropped compared with the previous year. The volatility of gross performance was high. In 4Q20 gross annual performance was on average 2.1% (3.9% for equity and 0.4% for bonds). However, in 1Q20, at the peak of the COVID-19 crisis, on average gross annual performance was – 5% (ASR-PC-S.89).

ASR-PC.4
ETF UCITS gross performance across periods
Higher volatility at the short term

	2017	2018	2019	2020
Equity UCITS				
1Y	15.9%	1.5%	12.1%	-1.8%
10Y	4.0%	7.8%	10.5%	7.8%
Bond UCITS				
1Y	0.4%	-0.9%	7.4%	0.5%
10Y	4.9%	4.5%	4.5%	3.8%

Note: EU27 ETF UCITS gross annual performance by investment horizon and asset type, geometric mean aggregation. 2020 covers the reporting period 2011–2020. 2019 covers the reporting period 2010–2019. 2018 covers the reporting period 2009-2018. 2017 covers the reporting period 2008-2017.
Sources: Refinitiv Lipper, ESMA.

As also observed for non-ETF UCITS, the shorter the investment horizon, the higher the variability of performances. At the one-year investment horizon performance fell by more than 13 pps between 2019 and 2020, going from 12.1% to – 1.8% for equity. In particular, ETFs focusing on

[26] Due to lack of data availability, this analysis does not include information on bid–ask spreads. For more details please see ESMA, 2020, "Annual Statistical Report Performance and costs of retail investment products in the EU".

[27] In Luxembourg, for example, the target TER must not be exceeded, and it is normally in line with the maximum TER disclosed in the ETF prospectus. Moreover, except underlying basket transaction costs borne by the fund and disclosed in the annual report, ETF TER generally encompasses all ETF operating costs.

[28] The sample includes both retail and institutional investors. In order to ensure consistency with the UCITS analysis, extraction and data processing are performed similarly.

indices optimised on oil and gas, or other energy indices had significant negative performances.[29] Bond ETF performance declined from beyond 7% to just above zero (ASR-PC.14). The variation instead was much more limited, if not absent, at the ten-year horizon. Investment at longer horizons helps flatten out the effects of short-term changes.

In contrast, costs remained broadly stable across editions and investment horizons. Ongoing costs hovered around 0.3% for equity and bonds, being slightly lower for the latter (ASR-PC.15).

ASR-PC.5
UCITS on going costs across periods
Higher volatility at the short term

	2017	2018	2019	2020
Equity UCITS				
1Y	0.3%	0.3%	0.3%	0.3%
10Y	0.4%	0.4%	0.3%	0.3%
Bond UCITS				
1Y	0.3%	0.3%	0.3%	0.3%
10Y	0.2%	0.2%	0.2%	0.3%

Note: EU27 ETF UCITS ongoing costs (TER) by investment horizon, geometric mean aggregation. 2020 covers the reporting period 2011–2020. 2019 covers the reporting period 2010–2019. 2018 covers the reporting period 2009-2018. 2017 covers the reporting period 2008-2017.
Sources: Refinitiv Lipper, ESMA.

Only four jurisdictions in the EU have a relevant ETF market, namely Ireland, Luxembourg, France and Germany (ASR-PC-S.26). In some countries (incl. Austria, Finland, Italy, Lithuania, Malta, Slovenia) there are no ETFs licenced or the market is extremely small, as in Greece.

Differences across domiciles in gross annual performance were less prominent at the ten-year horizon, ranging from 5.8% in France to 8.4% in Ireland, and more pronounced at the one-year horizon, when performance ranged from beyond – 6% in Germany to just higher than – 1% in Ireland (ASR-PC-S.92). These differences may be related to several underlying factors, including differences in the market size, as well as ETFs' strategies and focus. These structural divergences severely impede direct comparisons.

Costs remained stable over time with ongoing costs hovering around 0.3, the lowest in Germany at 0.26% (ASR-PC-S.93).

Management type

Broadly speaking, passive portfolio management, or "index tracking", is an investment strategy that tracks the returns of a market benchmark. Tracking a benchmark implies a lower degree of intervention by the fund manager and, therefore, lower compensation and overall fees. ETF UCITS can primarily be considered passively managed funds.[30] ETFs, however, differ from passive funds because ETF shares are listed on stock markets.[31] Active management, instead, requires stock selection and trading in order to generate higher returns than a given benchmark. This implies higher knowledge and more research for the manager, higher compensation and, consequently, larger fees.

In 1Q20, there was a drop in the value of net assets compared with 4Q19, irrespective of the management type, for both equity and bond UCITS. This reflected both outflows and a contraction in valuations due to the outbreak of COVID-19 and the uncertainty that followed. Focusing on equity, the largest decline in net asset value was observed for passive equity UCITS (excluding ETFs). In one year, total net asset value declined by more than 20%. The value of active equity funds dropped by 11%, while for ETFs it increased by 15%. At the end of 2020, actively managed UCITS reached EUR 2.9tn, while passive UCITS (excluding ETFs) and ETFs were at EUR 302bn and EUR 645bn respectively (ASR-PC-S.28). The sample for the analysis by management type includes both institutional and retail investors.[32] In 2020, active UCITS accounted for around 67% of the overall market, from 71% in 2019. Passive funds and ETFs accounted for the remaining 11% and 22%, (12% and 17% in 2019), respectively. Regarding UCITS primarily investing in bonds, the size of the market was EUR 2.3tn at the end of 2020 as in 2019 (ASR-PC-S.29). The share of passive UCITS and ETFs over the total increased

[29] These particular types of ETFs are complex instruments bearing high risks, especially during periods of heightened market volatility.

[30] The majority of ETFs are passively managed funds and therefore they are mostly considered among passive funds. However, there are so-called active ETFs, pursuing a strategy that may be different from simply tracking an index. This is the case for factor strategies or smart-beta strategies. See Easley, D., Michayluk, D, O'Hara, M. and Putniņš, T. J., 2021, "The active world of passive investing", Review of Finance.

[31] Given their features and the large expansion of ETFs over recent years, the report has a dedicated section on ETFs.

[32] There are two main reasons: not all the funds report the information related to the management type and the share of passively managed funds is still very small.

between 2019 and 2020, reaching 18% for bonds in 2020 from 15% one year earlier. Of this share, 6% pertained to bond passive non-ETF UCITS, and 12% to ETFs.

Performance and costs

For equity, in gross terms actively managed funds outperformed passively managed funds at one-year and ten-year investment horizons.[33] At one-year horizon, gross annual performance was 1.1% for active funds, and slightly negative (– 0.2%) for passive funds excluding ETFs. In the case of equity ETFs, gross annual performance was much lower, at – 2.0%. Such variation is quite significant and merits some attention. Our sample of EU equity ETF UCITS, between 2019 and 2020, includes the same share classes in more than 90% of cases. On average, the annual performance, calculated for all the four quarters of the year, is negative or much lower in 2020 than in 2019. This reflects the significant drop in performance, between 2019 and 2020, for some ETFs included in our sample.[34]

ASR-PC.6

UCITS performance by management type

Differences in gross performance between short and long horizons. Only marginal changes in costs

	Active funds			Passive funds			ETFs		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Panel a – Gross performance									
Equity UCITS									
1Y	1.5	10.6	1.1	1.8	12.2	-0.2	1.5	12.1	-1.8
10Y	9.0	11.1	8.2	8.2	10.7	8.0	7.8	10.5	7.8
Bond UCITS									
1Y	1.5	10.6	-0.3	1.8	12.2	1.1	-0.9	7.4	0.5
10Y			1.9			2.4			2.1
Panel b – Ongoing costs									
Equity UCITS									
1Y	1.4	1.4	1.4	0.3	0.3	0.3	0.4	0.3	0.2
10Y	1.5	1.5	1.5	0.5	0.4	0.5	0.3	0.3	0.3
Bond UCITS									
1Y		0.8	0.8		0.3	0.3		0.3	0.3
10Y			0.8			0.4			0.3

Note: EU27 equity and bond UCITS gross annual performance (*Panel a*) and ongoing costs (*Panel b*) per management type by investment horizon, geometric mean aggregation,%. 2018 covers the reporting period 2009-2018. 2019 covers the reporting period 2010–2019. 2020 covers the reporting period 2011–2020.
Sources: Refinitiv Lipper, ESMA.

For bonds, focusing on the one-year horizon, the situation reversed: active funds had a slightly negative gross annual performance (– 0.3%) while passive and ETFs had on average gross annual performance around 1% and 0.5%, respectively (ASR-PC.6, *Panel a*).

Costs remained broadly stable (ASR-PC.6 *Panel b*).[35] In general, given that costs are higher for active funds than for passive funds and ETFs, the gross outperformance of actively managed funds needs to be large enough, otherwise it can disappear in net terms.[36] This was the case for

[33] The investment horizons considered in this publication are one-year, five-years and ten-years. Therefore, comparison with findings from previous publications can be carried out only at one and ten years for equity and one year for bonds. At longer horizons, the sample of passively managed bond funds is not large enough to ensure an unbiased analysis.

[34] Among these, for example, there are inverse ETFs that aim to achieve a return that is inverse to the performance of the underlying index (DAX, STOXX, etc.). Inverse ETFs entailed significant negative performances in 2020, especially in the case of leveraged inverse ETFs. Within our sample, leveraged inverse ETFs had an average performance lower than 35% in 2020. Such products may lead investors to lose all their investment or substantially more than they were expecting. This is why these products are aimed at investors that have a good understanding of financial markets.

[35] The focus on ongoing costs is related to two main reasons: the relative importance of this type of costs relative to one-off loads for non-ETF UCITS (around 80% of total costs) and the fact that for ETFs subscription and redemption fees are borne mainly on the primary market, whereas retail investors are mostly concerned with costs related to the secondary market.

[36] In our sample, the share of institutional investors in terms of asset value is higher among passive funds than active funds. For equity, institutional investors hold around 40% of passive fund assets and 30% of active fund assets. As fees for institutional investors are lower than for retail, this

equity at the ten-year horizon covering the period 2011–2020. The annual performance net of ongoing costs for active funds dropped to 6.7%, while it remained above 7% for passive funds and ETFs.

At one-year horizon, the situation changed. Even if declining and turning negative, the loss stemming from investments in actively managed funds was smaller than the loss from investing in passive funds or ETFs. The annual performance net of ongoing costs was – 0.2%, – 0.6% and – 2.2% respectively (ASR-PC-S.55). By simply observing the change over time without taking an investment horizon perspective, we would see more extreme changes in performance. This is very relevant for 2020. Annual performance of actively managed funds, from being deeply negative in 1Q20, improved more strongly than passively managed funds and ETFs. Gross annual performance of equity UCITS in 1Q20 was around – 10% both for active and passive funds and – 7.9% for ETFs. From 2Q20, however, gross annual performance for active funds was significantly higher than passive funds and ETFs. For active equity funds, it was 2.4% compared with 1.7% for passive funds and 1.0% for ETFs (ASR-PC-S.53).

Top-performing active and passive UCITS

Top-25% performing active equity UCITS always outperformed top-25% passive equity UCITS in gross terms. At one-year horizon, the annual gross performance for top-25% performing active UCITS was 12.4%, much higher than the annual gross performance for top-25% performing passive funds, which was 6.1% (ASR-PC.7).

Costs continued to be broadly stable irrespective of the management type. Focusing on ongoing costs, top-25% performers remained at levels identified in last year's edition, around 1.6% at ten years and 1.4% at one year for active funds. For passive funds, they were around 0.4% across both horizons. However, costs for active funds remained around three times higher than costs for passive funds. Carefully evaluating cost levels is key for investors, in order for them to make informed financial decisions. At the ten-year horizon, gross annual performance was 12.1% and 11.6% respectively, for top-25% performing active and passive equity UCITS. After including ongoing costs, however, annual performance for active funds declined to 10.5% whereas the annual performance of passive funds was 11.2%.

ASR-PC.7
UCITS gross performance of top-25% funds
Significantly high for active funds at one year

	Active 2018	Passive 2018	Active 2019	Passive 2019	Active 2020	Passive 2020
Equity UCITS						
1Y	8.6%	6.0%	19.4%	17.8%	12.4%	6.1%
10Y	12.9%	11.7%	15.4%	14.7%	12.0%	11.6%
Bond UCITS						
1Y			14.3%	13.6%	4.0%	4.0%

Note: EU27 equity and bond UCITS gross annual performance for the top 25% performing funds by management type per investment horizon, geometric mean aggregation. 2018 covers the reporting period 2009-2018. 2019 covers the reporting period 2010–2019. 2020 covers the reporting period 2011–2020.
Sources: Refinitiv Lipper, ESMA.

At one year horizon, top-25% performing active funds strongly outperformed passive funds when excluding ongoing costs: respectively 11% and 5.7% (ASR-PC-S.59). If the top-25% performing active funds significantly outperformed passive funds, as shown above, the opposite is true for the bottom-25% of performers. The lowest performers among active funds underperformed passive funds in both gross and net terms. After costs, net annual performance for bottom-25% equity active UCITS was – 13.3% whereas it was – 12.5% for passive funds (ASR-PC-S.61). Concerning bonds, gross annual performance was similar for active and passive funds. After costs active bond funds underperformed passive funds (ASR-PC-S.60).

The past performance of a fund is not necessarily a predictor of future performance. Moreover, even if a good share of funds remains in the cohort of top- or bottom-performing UCITS, this group does not remain constant, complicating the opportunities for investors to consistently choose outperforming funds. For equity funds, around 40% of the top-25% active equity funds identified in 2019 remained in the top 25% in 2020; for passive funds, this share increases to 60%.[37] For bonds, these numbers are much lower: around 20% for active bond UCITS and 14% for passive bond UCITS.[38]

may imply a potential overestimation of the difference in terms of fees and performance between active and passive funds.

[37] See also EFAMA, July 2021, Market Insight Issue # 5

[38] Even if data largely improved over time, the share of passive bond funds compared with active funds is still marginal.

Benchmark analysis

A second key layer of analysis concerns the performance of actively and passively managed equity and bond UCITS against their own prospectus benchmarks (ASR-PC-S.57 and ASR-PC-S.58).[39] Actively managed equity UCITS outperformed, by around 1.5 pps, on average, in gross terms, their own benchmarks across horizons,.[40] However, when costs are considered, the net annual performance of active funds, strongly declined, by around 1.5 pps (1.8 pps at ten years) reaching broadly the same levels as the benchmark at the one- and ten year horizons, and lower at five years (ASR-PC-S.57). Similarly, passive funds reported a gross performance comparable to or slightly above the benchmark, in gross terms. When costs are included, performance declined, by 0.5 pps on average across horizons, reaching slightly lower levels than their own prospectus benchmarks (ASR-PC-S.58). This is in line with what is observed in the US market.[41] When evaluating the net performance of UCITS, the costs associated with investing in a benchmark (e.g. transaction costs) should be considered.

For bonds, on average, active funds outperformed their respective benchmarks in gross and net terms at the ten- and five-year horizons. This is not the case at the short one-year horizon.

The combination of extreme volatility, the highest in recent history, and steep decline in prices followed by a recovery in the month of April 2020 gives the opportunity to perform an ad hoc analysis limited to the beginning of 2020, namely from the outbreak of the pandemic until the start of the recovery in financial markets. (ASR-PC.8). The analysis in this box assumes a completely different perspective from that of the main investment horizon analysis, focusing on a specific time-period and based on daily, rather than annual, data. This stems from the specific objective of analysing the dynamics characterising fund performance in periods of economic and financial stress.

ASR-PC.8

COVID-19: impact on active and passive equity funds

Absence of clear outperformance of active funds

Overall, previous literature and empirical evidence do not lead to conclusive findings of sustained outperformance of actively managed funds versus passively managed funds.[42]

This notwithstanding, EU equity fund investment mostly resides in actively managed funds. This leads one to think that there are additional underlying reasons driving investors' choices beyond a pure performance-driven decision. On one side, there may be supply-related drivers, such as the reduced number of offers of certain types of funds.[43] On the other, a major driver in active investing may be related to the hypothesis that, in periods of economic and financial stress, weaker valuations and amplified volatility should increase the likelihood of losses and poor fund performance. Moskowitz (2002)[44] claimed that active investment seems to provide better during market downturns. In other words, investors may accept a lower degree of net performance of active compared with passive funds in buoyant times, to obtain outperformance and hedge their position against risks and potential losses in turbulent periods.

The first wave of the pandemic led to large market corrections and to an overall increase in financial market stress. The investment fund sector suffered from valuation uncertainty, outflows and, in some instances, heightened liquidity stress. This was then followed by a recovery starting in April 2020. In this context, the outbreak of COVID-19 provides a natural setting to test the specific hypothesis of actively managed funds outperforming their benchmark during market stress.

Against this background, this ad-hoc analysis moves from the longer-time perspective of the main analysis (annual performance across horizons) to a significantly shorter time frame. The scope is focusing on the limited time span covering the ten weeks during which the first wave of the COVID-19 pandemic unfolded, between 19 February and 30 April 2020. During this period, we analyse the daily net performance of funds relative to that of funds' prospectus benchmarks.[45] We distinguish two main subperiods: "Stress", 19 February to 31 March 2020, when equity prices collapsed and volatility heightened; and "Recovery" from 1 to

[39] Please note that the only funds considered are those for which information on the primary prospectus benchmark is available. The number of funds for which information on primary prospectus benchmarks is available represents more than 70% of the total number of funds in our sample, or around 80% in terms of asset value.

[40] In terms of number of funds outperforming their related benchmarks, out of the overall sample of funds, on average, over the last five years, 50% of the funds had a gross performance higher than that of their respective benchmarks.

[41] Please see the Nasdaq insight on Active and Passive Management in 2020 (December 2020).

[42] Malkiel, B., G., 2003; Sushko, V., and Turner, G., 2018; Anadu et al, 2018; Financial Condu Authority, 2017; ESMA, 2021, ASR on Performance and Costs of EU Retail Investment Products.

[43] The drivers behind this can be related either to the production of a fund or to its commercialisation. Either a fund does not exist, or agents distributing the fund refrain from proposing them to their clients, especially if they generate fewer fees.

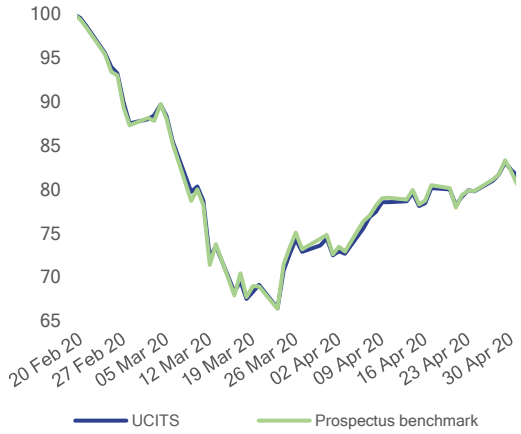
[44] Morskowitz, T., J., 2002, "Discussion", The Journal of Finance.

[45] The data are retrieved from Morningstar Direct.

30 April 2020. Given its specific focus, the conclusions of this small study are limited and cannot be broadly applied to the fund sector. The sample used in this analysis equals EUR 910bn, just below one-third of the overall sample of EU equity UCITS (EUR 3tn in 1Q20). In terms of assets, the active funds included in the sample account for EUR 750bn, whereas passive funds for EUR 166bn (18% of the sample).[46]

ASR-PC.9

Daily net returns of active UCITS and related benchmarks

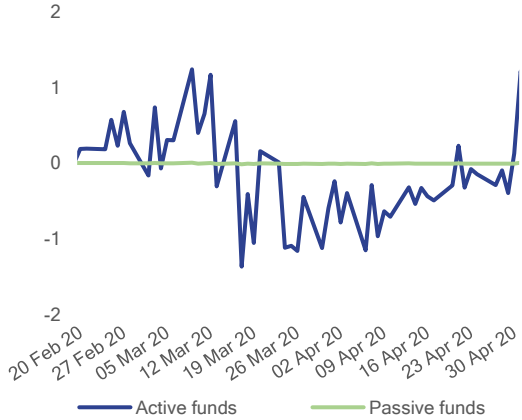


Note: EU27 equity active UCITS, prospectus benchmark and Eurostoxx50, average daily total return index. 19 February 2020 = 100.
Sources: Morningstar Direct, ESMA.

From 20 February 2020 until the end of March 2020, there was a steep fall in net daily returns, measured by the total return index[47]. This was followed by a recovery starting in April 2020 (ASR-PC.9). There was no clear net outperformance of active funds compared with their prospectus benchmarks.

ASR-PC.10

Active UCITS: Benchmark-adjusted net returns



Note: EU27 equity active and passive UCITS, average compounded daily returns, net of ongoing costs, relative to their respective prospectus benchmarks, %,
Sources: Morningstar Direct, ESMA.

Focusing on the benchmark-adjusted net returns of actively and passively managed funds, we can observe that, on average, both active and passive funds underperformed their respective benchmarks. On average, over the entire Stress period, the underperformance of passive funds versus their benchmarks was not significantly different from zero (- 0.004%) and lower than that of active funds (at - 0.04%) Starting from April 2020, during the "Recovery" period, adjusted performance for active funds started to improve at a stronger pace than for passive funds (ASR-PC.10).

The findings of no sustained benchmark-adjusted outperformance for active funds are in line with the outcome of published analyses (e.g., SPIVA Europe Scorecard) and financial news focusing on the unfolding of the first wave of the COVID-19 pandemic.[48] Similar conclusions are also drawn in a study by Pastor and Vorsatz (2020)[49] for the US equity mutual funds Our main analysis, focusing on annual returns and assuming a minimum horizon of one year, reaches similar conclusions. For those investments with a horizon of one year ending in 4Q20, our sample shows an overall outperformance of active funds with respect to passive funds, which is also observable in this ad hoc short-term analysis. When, however, the analysis moves to benchmark-adjusted performance of active UCITS, net of ongoing costs, active funds underperform their own prospectus benchmarks. This is observable also when we look at the longer-term analysis, five and ten years. When focusing at five years, we can observe underperformance both in gross and net terms versus benchmarks, on average. At ten years, there is gross outperformance of active funds versus their own prospectus benchmarks, but this disappears in net terms.[50]

Fund domicile

A significant degree of heterogeneity, in terms of both costs and performance, persisted at a country-by-country level. Comparability across Member States is limited and structural differences are significant. Markets are different in size, in their domestic or cross-border nature, in investor preferences. A key role is played by marketing channels and associated regulatory treatment of costs. Moreover, there are issues related to data availability, especially concerning costs related to the distribution of products, affecting the composition of the sample used in the analysis. [51]

[46] Around 50% (70%) of the value of total EU active (passive) equity UCITS as from data from Refinitiv Lipper.

[47] Morningstar Direct defines the total return as return net of ongoing costs.

[48] SPIVA Europe Scorecard, 2020. Financial Times, November 2020, "Active managers struggle to prove their worth in a turbulent year".

[49] Pastor, L. and Vorsatz, B., 2020, "Mutual Fund Performance and Flows during the COVID-19 Crisis", The Review of Asset Pricing Studies.

[50] For a full analysis please see "Fund performance during market stress - The Corona experience", ESMA, March 2022.

[51] Differences in distribution channels and affiliation of the asset or fund manager can be significantly correlated to performance in net terms. The following studies find that bank-affiliated funds underperform on average relative to

The survey on distribution costs published in the previous edition details the differences in the type of the predominant marketing channels as well as the treatment of distribution costs across Member States.[52] There are countries in which the fee payable to the distributor normally comes from subscription, redemption or transfer fees (e.g. Portugal). In other cases (e.g. Malta), the distribution fee is like a trailer fee, paid on a regular basis, and it is included in the list of "other fees" likely to be paid by the fund. Similarly, like in France, distribution costs are generally embedded in management fees and retroceded to distributors. In Italy, distribution is often remunerated through subscription or redemption fees, not both. Different again is the case of the Netherlands, where a ban on inducements has been in place for more than five years.[53]

The use of platforms by retail investors significantly increased, especially during the first months of 2020. This is particularly relevant for direct investment and trading, as platforms provide easy and convenient access to financial markets (ASR-PC.11). During the first wave of the pandemic, in particular in March 2020, we observe large increases in stock buying and volume traded by retail investors, a trend confirmed by studies in different countries.[54] The extent to which the phenomenon of increased trading is positive or negative from the perspective of investor protection depends on the situation of the individual investor and their motivation for purchasing or selling shares. Reasons for concern stem from the potential undertaking of excessive risks based on unrealistic expectations.

ASR-PC.11

Rapid growth of fund distribution platforms

Fund distribution platforms (e.g. digital intermediaries linking product manufacturers, distributors and investors) have seen a substantial growth in recent years. At the end of 2020, the assets under administration of EU fund distribution platforms amounted to almost EUR 3tn, an increase of almost 40% since 2018 with a growth rate of business-to-business (B2B) platforms of 14.9% in 2020.[55] In the EU, the market seems fairly concentrated with four main B2B platforms accounting for 75% of the market share in 2020.

Most B2B platforms do not, at this stage, provide marketing activities, but rather provide other investment services. There seems to be a general shift from an intermediary position to providing a wider set of 'value added' services (e.g. compliance services, provision of data).

Notably, some platforms have started adopting a business-to-client model. Such platforms are already highly prevalent in the United States and the United Kingdom. The remuneration model of B2B platforms has been following the MiFID II restrictions on rebates. Distribution fees are increasingly replaced by services fees which typically represent a fixed amount or a percentage of an asset manager's AuM on the platform. In addition, different value-added services can be subject to additional layers of fees.

Although fund distribution platforms can bring benefits (e.g. greater convenience and easier access to a wider range of funds, along with increased levels of competition, potentially leading to lower costs), they also pose several risks. Among these are the potential for cyber-attacks and related systemic effects due to the high level of market concentration; the dominant position of a few players; the potential for conflict of interest in the case of wider group structures, combining platforms with in-house asset management groups; and concerns around data privacy and protection.

Given the increasing digitalisation trends, it is likely that these types of platforms will continue to gain ground. Although the currently existing business models are covered by several regulatory frameworks, there is a need to monitor future developments, most notably in the context of a potential shift to the business-to-client environment.

UCITS reporting is based on the domicile of the fund and not on the domicile of the investor. All of this highlights how essential improvements in availability and usability of data are. In this respect, analysis carried out by the single jurisdictions, such as those in Austria and

funds distributed by independent asset managers. See Albareto G., et al., 2020, "Mutual funds' performance: the role of distribution networks and bank affiliation", Temi di discussione, Banca d'Italia and Ferreira, M., A., Matos, P. and Pires P., 2018, "Asset Management within Commercial Banking Groups: International Evidence", Journal of Finance.

52 Please see detailed results of this survey carried out in August 2020 across EU jurisdictions in annex Data sources and limitations of the ESMA third annual statistical report published in April 2021, page 69.

53 Our regression analysis on ongoing charges reported in annex Statistical methods seems to confirm this evidence by showing that the Netherlands has ongoing costs that are, on average lower than those of other major domiciles.

54 ESMA, February 2021, TRV No. 1 2021. ESMA, 2021, TRV No.2 2021, September 2021. AMF, 2020, Retail investor behaviour during the COVID-19 crisis. Consob, 2020, Report 2020 on financial investment of Italian households. FSMA, 2020, Belgians trade up to five times as many shares during the coronavirus crisis. FSMA, 2021, More than 800,000 Belgians invest on the stock market.

55 Platforum, 2021: Platforms May 2021. The figure represents the assets under administration for B2B platforms.

Greece,[56] is crucial in gathering information on the characteristics and main developments in national markets. This is even more relevant in the case of several jurisdictions for which an analysis cannot be developed either because data from the commercial provider are scarce or because of the limited size of the market (ASR-PC.12).

ASR-PC.12

Evidence from Member States

The Polish UCITS market

At the end of 2020, the Polish fund market value was just below EUR 81bn of which UCITS represented EUR 23.5bn (29% of the total market). The analysis focuses on retail fund investment (EUR 17bn) which, for the largest part, was concentrated in bond funds (72%), followed by mixed (14%) and equity funds (13%).

ASR-PC.13

	Equity UCITS	Bond UCITS	Mixed UCITS
	Annual gross performance		
2017	3.2%	1.3%	1.9%
2018	– 12.9%	1.7%	– 5.1%
2019	10.9%	2.4%	4.9%
2020	17.1%	2.9%	6.9%
	Total costs		
2017	4.2%	1.8%	3.3%
2018	4.3%	1.6%	3.1%
2019	4.1%	1.5%	3.3%
2020	4.2%	1.4%	3.0%

Note: Annual gross performance and total costs by asset class,%.
Sources: Polish Financial Supervision Authority, KNF own calculations based on financial statements of the UCITS funds domiciled in Poland.

Main findings of ASR.PC.13:

- There was a high annual performance for 2019 and 2020, across all the assets in which retail investment was concentrated.
- Performance fees have been used to offset the negative effects of reduced ongoing fees, following regulatory actions.
- There was a large difference between retail and non-retail UCITS in terms of fees, in particular for equity funds. In 2020, non-retail equity funds charged 1.3% compared with more than 4% for retail:
  - Some Polish non-retail actively managed equity funds proved to be internationally competitive with charges as low as 0.5%, whereas only one retail equity fund had charges substantially less than 3%.
  - There are high performance fees for retail funds: some funds. Some funds charge their clients substantially more than 4.5% on an annual basis. This practice is not seen in the non-retail segment.

Investor preferences showed significant home bias: less than 10% of 2020 assets was invested in foreign securities. This probably explains the higher performance of bond funds and the lower performance of equity funds compared with other EU countries. Interestingly, funds that buy foreign (domestic) equities underperform (outperform) their benchmarks. This may lead to the conclusion that domestic asset managers compensate clients for their high fees only on the local market.

Performance and costs

As mentioned in previous sections, overall, gross annual performance significantly declined compared with last year's edition (ASR-PC-S.65 to ASR-PC-S.73 and ASR-PC-S.102 to ASR-PC-S.104). In 2020, over one-year investment horizon, the minimum and maximum values of gross annual performances were – 5.4% and 7.6%, respectively. For the same horizon, in 2019, the minimum value was 5% and the maximum value was 15%.At the ten-year horizon, the minimum and maximum were 6.2% and 9.9% in 2020, against 8.6% and 13.9% in 2019 (ASR-PC-S.102). We can observe a similar picture for other asset classes. The developments at one year clearly reflect the impact of the COVID-19 pandemic. Differences remain across countries.

Gross performance is influenced by fund strategies, among other things, determining the portfolio composition of a fund and leading to differences in performances and risks. Equity funds can differ if they are primarily income funds rather than growth funds. Similarly, bond funds can primarily invest in high-yield, investment grade or sovereign bonds. Work aimed at exploiting information on fund portfolio holdings is ongoing.

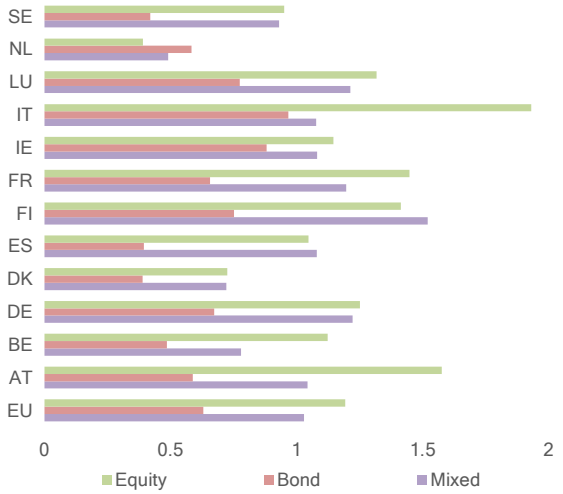
Focusing on costs, the persistent lack of harmonisation among Member States remained large. Across horizons, as also observed in previous years, the lowest cost levels were registered in Denmark, the Netherlands and Sweden, whereas the highest were observed in Austria, Belgium, Ireland, Italy and Luxembourg. Several drivers are behind these dissimilarities, including differences in distribution channels as well as costs and their regulatory treatment. As previously mentioned, the type of marketing channel can change (e.g. banks, insurance service providers, brokerage firms, independent financial advisers, etc.). This, *per se*, may imply variations in the cost level. For example, in some

[56] FMA, 2020, Annual Market Study on Fund Fees charged by Austrian Retail Funds. HCMC, 2020, Survey of fees and charges applicable on UCITS in Greece.

jurisdictions (e.g. Finland, Hungary, Italy, Portugal, Spain), when the distributor is a credit institution, distribution costs may account for more than 50% of total costs. In addition, these costs can be treated differently across markets. For example, there are countries in which distribution costs are embedded in management fees (e.g. France, Spain) and others in which they can be levied through entry or exit fees as well as through the management fees (e.g. Italy, Hungary, Slovakia). Austria also follows this practice, with further requirements in case the fees go beyond a certain threshold. In Luxembourg, the fee payable to the distributor is a priori the entry fee reproduced in the UCITS KIID. [57]

Management fees[58] were heterogeneous across Member States. Between 2019 and 2020 remained similar (ASR-PC.14).

ASR-PC.14
Management fees by domicile
Persistent heterogeneity



Note: Management fees by EU27 country and asset class, retail investors, 2020, %. Other EU27 not included.
Sources: Refinitiv Lipper, ESMA.

Like last year, we include preliminary evidence on transaction costs. However, the limitations surrounding the calculation of transaction costs persist. These fees are based on what the fund declares, involving a large degree of heterogeneity as well as methodological issues. Hence, these numbers should be treated with caution as to their accuracy and comparability.

Equity, bond and mixed funds had transaction costs below 0.25% on average in the EU, but with a large degree of heterogeneity across EU Member States. For equity funds, transaction costs ranged between 0.09% and 0.25%, for bond funds between 0.03% and 0.2% and for mixed funds between 0.08% and 0.2% (ASR-PC.15). These findings continue to be subject to large data impediments, constraining the analysis and the overall transparency.

ASR-PC.15
Transaction fees by domicile
Significant differences in levels across countries

Note: Transaction fees by EU27 country and asset class, retail investors, 2020, %. Portugal and Other EU27 not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Investor domicile

The analysis presented so far is focused on the fund domicile. In the EU, however, a fund domiciled in a Member State is often passported and marketed in other Member States. Therefore, the fund domicile is not necessarily the same as the investor domicile. Against this background, we analyse the performance and costs of funds from the perspective of the country in which the fund is sold or authorised for sale.[59] However, the information in terms of assets, flows, performance and costs is only provided at the fund domicile level. No information on the distribution of these metrics is available for the sold-in countries. Therefore, we apply the fund domicile-based data to the country in which a

[57] Please see footnote 51 for more details.

[58] The management fees in chart ASR-PC.14 exclude distribution fees, which in several countries, for example Spain, are entirely included in management fees. This will imply a level of fees higher than that observed in this analysis and shows how differences in cost treatment at a national level add to the divergences across markets.

[59] The source of data is Refinitiv Lipper, and the data are the same as that used in the fund domicile analysis.

fund is marketed. This analysis may involve some double counting of funds and related metrics.[60]

Performance and costs

Key findings show a reduction in the heterogeneity across Member States and asset classes both in gross performance and costs (ASR-PC-S.77 to ASR-PC-S.82).

This analysis is subject to significant data issues. Overall, we observe a reduction in observable national differences due to regulation, market structure and investor preferences and higher homogeneity across markets. These results are primarily related to the composition of the sample. In order to increase the comprehensively conduct an accurate analysis at a country-by-country level, improvements in availability and usability of data are essential.

ESG UCITS

In 2020, the demand for sustainable products from European investors, including investment funds following environmental, social and governance (ESG) strategies, has continued to grow substantially. Net flows into EU ESG UCITS equity, bond and mixed funds further accelerated throughout 2020, with a value of EUR 67bn. This compares with *outflows* from non-ESG funds in these three asset classes of EUR 119bn.[61] As a result, the AuM of ESG UCITS funds increased to EUR 690bn in 4Q20, or 18% of EU equity, bond and mixed fund AuM. ESG equity funds remain dominant, with EUR 383bn in AuM (i.e., 55% of ESG fund assets in our sample).[62]

In response to this trend, fund managers have again increased their offering of ESG investment products in two ways: first, by launching new ESG funds; second, by introducing ESG elements into the strategy of existing funds.[63] The latter approach has some implications for the sample of ESG UCITS funds covered in this report, given that it somewhat blurs the distinction between ESG and non-ESG fund characteristics, but this concerns only a small minority of funds.

Another major development in the ESG retail fund space concerns the recent rise of ESG ETFs. The number of new ESG ETFs launched in 2020 outpaced for the first time the number of non-ESG ones.[64] In just two years, the AuM of EU ESG equity ETF UCITS in our sample quadrupled to stand at EUR 34bn (9% of EU ESG equity fund assets) at the end of 2020. This highlights the appetite of retail investors in particular for sustainable investments, but also reflects the growing availability of ESG benchmarks that index-tracking funds can use.

In line with the previous report, the approach used in this section is to compare the past performance and costs of ESG and non-ESG funds. Last year, our analysis concluded that ESG equity UCITS outperformed non-ESG peers over a one-year investment horizon, and that ESG non-ETFs were on average cheaper. Since the publication of the report, two studies from national authorities and one industry publication have confirmed the view that European ESG funds tend to be cheaper than non-ESG ones.[65]

When assessing the performance of retail investment products, this report focuses *strictly* on financial considerations. A fundamental question not addressed here is the non-financial performance of sustainable investment products. The availability of information that may be used to perform such an assessment is currently largely inadequate. In this context, the entry into force of the EU Sustainable Finance Disclosure Regulation (SFDR) in March 2021 represents a

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60 Very similar cost levels across countries in the analysis based on investor domicile are driven by the weighting used when aggregating funds, based on the NAV of the fund domicile and not that of the investor domicile. In the Netherlands, for example, the cost figure would have been lower if it accounted for the country's inducement ban.

61 For this year's report, we rely again on the Morningstar definition of sustainable investment fund. Morningstar classifies as 'sustainable investment' the following strategies: ESG integration, ESG company engagement, impact investing, or thematic investing. This definition excludes funds that employ only 'Exclusions', which covers norm-based screening and the exclusion of specific activities/sectors. See "Morningstar Sustainable Attributes", May 2019.

62 Unlike the overall UCITS analysis, the focus of this section on ESG UCITS funds is on the EU27 to ensure consistency with the scope of SFDR disclosure requirements.

63 See Financial Times, 'ESG demand prompts more than 250 European funds to change tack', 16 February 2021.

64 See ESMA Report on Trends, Risks and Vulnerabilities, No.2, 2021, p.46.

65 See Autorité des Marchés, "Costs and performance of marketed funds incorporating a non-financial approach", 11 May 2021 for the French market; Finanzmarktaufsicht, "FMA Market Study 2021 on fund fees charged by Austrian retail funds", 5 July 2021; and European Fund and Asset Management Association, "ESG investing in the UCITS market, a powerful and inexorable trend", Market Insights, Issue #4, 16 March 2021.

key step forward (see annex Regulatory developments).[66] This year's report explores some of the differences between EU funds either promoting either environmental or social characteristics ('light green' funds) or with sustainable investment objectives ('dark green' funds) in relation to past performance and costs.

Performance and costs

Compared with last year, the growth in the ESG retail fund market segment allowed us to enlarge the sample of funds, which now includes bond and mixed funds in addition to equity funds. Bond and mixed ETFs remain out of scope, however, due to small ESG sample size for these asset classes. The analysis focuses on a one-year investment horizon: the large share of new funds and existing funds adopting ESG strategies implies a major reduction in the sample size for longer investment horizons, which could lead to inaccurate conclusions for longer investment horizons.

ASR-PC.16
UCITS gross performance and costs
ESG funds outperformed in 2020

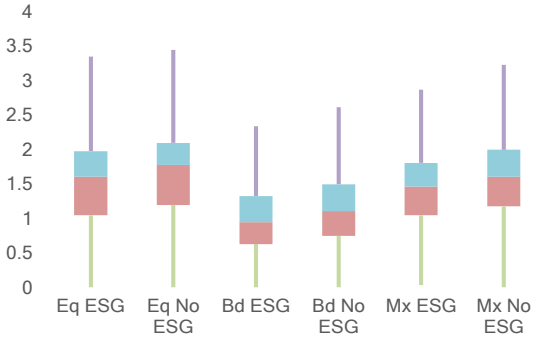
	ESG	Non-ESG
Equity UCITS		
Non-ETFs		
Performance	3.3%	0.8%
Costs	1.5%	1.8%
ETFs		
Performance	-0.7%	-2.2%
Costs	0.8%	0.6%
Bond UCITS		
Performance	-0.3%	-0.3%
Costs	1.1%	1.2%
Mixed UCITS		
Performance	1.1%	-0.4%
Costs	1.6%	1.7%

Note: EU27 ESG and non-ESG UCITS gross annual performance (one year investment horizon) by asset type, geometric mean aggregation. Retail funds only. "ESG funds" sample based on the Morningstar definition of sustainable investments (see footnote 60). Bond and mixed ETFs are excluded due to the small ESG fund sample size.
Sources: Refinitiv Lipper, Morningstar, ESMA.

In 2020, the gross performance of ESG UCITS funds over one year was, on average, 1.9%, (i.e. 2 pps higher than non-ESG UCITS funds). This was driven by outperformance of both equity (2.5 pps) and mixed (1.5 pps) ESG funds, whereas the gross performance of ESG bond funds was on a par with non-ESG ones, at – 0.3% (ASR-PC.18). ESG equity ETFs also had a gross negative performance (– 0.7%), but they outperformed non-ESG equity ETFs by 1.5pp (ASR-PC.16). The relative performance of ESG equity and mixed funds reflects more resilient valuations during the COVID-19 turmoil of sectors that are overrepresented in ESG equity indices and portfolios, such as technology or healthcare, and a stronger recovery of these valuations thereafter.

Regarding costs, the evidence for 2020 confirms findings from the previous year: at 1.4%, the total costs of ESG UCITS funds were on aggregate 0.1 pps below those of non-ESG funds. This difference was mainly driven by TER differentials and can be observed along the entire distribution for active funds, across the three asset classes (ASR-PC.17).

ASR-PC.17
UCITS active fund TER
Lower ESG fund cost distributions[67]



Note: EU27 ESG and non-ESG UCITS total expense ratio for 4Q2020. Retail funds only. "ESG funds" sample based on Morningstar definition of sustainable investments. Passive funds and ETFs are excluded.
The ends of the box plots represent the smallest and largest adjacent values. The smallest adjacent value is obtained by the formula: *Q1 − 3/2 (Q3 − Q1)*, whereas the largest adjacent value is obtained by the formula: *Q3 + 3/2 (Q3 − Q1)*, where *Q1* corresponds to the first quartile and *Q3* to the third quartile.
Sources: Refinitiv Lipper, Morningstar, ESMA

There were, however, important differences between ETFs and non-ETFs: costs in ESG equity UCITS funds (excluding ETFs) were 1.5% compared with 1.8% for non-ESG peers due to TER differentials. Meanwhile, a different picture prevailed for the ETF segment, with total costs of 0.8% for ESG equity ETF UCITS (including 0.3% in TER) versus 0.6% for non-ESG equity ETFs (also 0.3% in TER). It should be noted that ETFs

[66] Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector.

[67] The ends of the box plots represent the smallest and largest adjacent values. The smallest adjacent value is obtained by the formula: $Q_1 - \frac{3}{2}(Q_3 - Q_1)$, whereas the largest adjacent value is obtained by the formula: $Q_3 + \frac{3}{2}(Q_3 - Q_1)$, where Q_1 corresponds to the first quartile and Q_3 to the third quartile.

(especially when purchased by retail investors) are mostly traded on the secondary market, where one-off fees do not apply, and TER and trading costs tend to be more relevant.

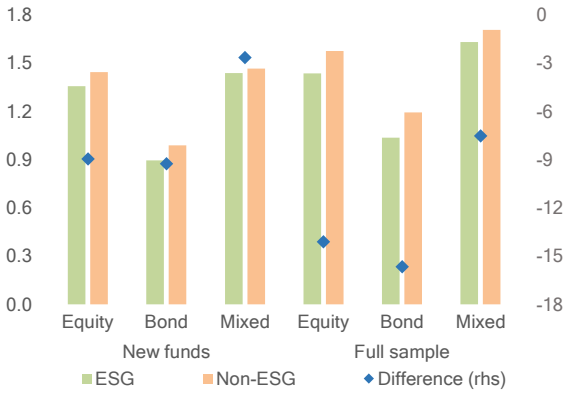
As a result, on a net basis, ESG UCITS funds returned, on average, 0.5% to investors in 2020, compared with – 1.6% for non-ESG funds. The difference between the net performance of ESG and non-ESG UCITS investment vehicles was highest for equity non-ETFs (2.9 pps), and smallest for bond funds (0.2 pps).

Gross performance gaps were confirmed across asset classes when considering management strategies: actively managed ESG equity, bond and mixed funds outperformed non-ESG ones by 2.6 pps, 0.3 pps and 1.6 pps, respectively, on a gross basis (ASR-PC-S.96). The gap between ESG and non-ESG fund returns increases to 5.8 pps for passively managed equity strategies (ASR-PC-S.100).[68] Cost differences between ESG and non-ESG funds were very similar across management strategies (ASR-PC-S.101). Overall, the net performance of equity and mixed funds remained significantly higher in ESG equity and mixed funds, regardless of the management strategy.

The relative cheapness of ESG funds compared with other funds remains somewhat counter-intuitive, considering the extra costs they incur (e.g. in terms of analysis and access to data needed to implement ESG strategies). One explanation brought forward is that investment fund costs have decreased over time to attract investors, reflecting growing competition in the fund industry.[69] Given the recent development of ESG funds, this could explain why, on average, they are less expensive than non-ESG funds.

To control for this, we restrict the universe to retail UCITS funds with active management strategies launched in 2019.[70] This sample includes 241 ESG funds, with total assets of EUR 41bn, or 7% of the initial sample of actively managed ESG funds. In comparison, the 798 non-ESG funds launched in 2019 account for 5% (EUR 134bn) of the initial non-ESG sample. New ESG funds were on average 0.1 pps (bond funds) to 0.3 pps (equity funds) cheaper than the full ESG fund sample, whereas non-ESG funds were 0.3 pps (both equity and bond funds) cheaper than the full non-ESG fund sample (ASR-PC.18). This seems to confirm the view that competitive pressures lead to lower fees being charged by newer funds. However, this does not fully account for the difference between ESG and non-ESG fund costs: new ESG funds remained on average cheaper than new non-ESG peers, by around half as much as for the full sample (i.e. below 0.1 pps).

ASR-PC.18
UCITS total fund costs: New funds vs. full sample
New ESG funds were cheaper



Note: EU27 UCITS equity, bond and mixed fund total costs in 2020. One-year investment horizon, ESG vs. non-ESG funds, in %, and difference between ESG and non-ESG funds, in basis points (right axis) New funds were funds launched in 2019.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

This result was also confirmed by a series of quarterly regressions on 2020 data. The results show that ESG funds are less costly than their non-ESG peers across the four quarters even after controlling for the age and the size of the funds.[71] Further work will be needed to understand the underlying factors driving the relative cheapness of ESG funds. Other possible explanations could for example stem from differences in investment strategy, investment policy, geographical focus, etc. Understanding where cost divergence between ESG and non-ESG funds originates from would further require

[68] This part of the analysis excludes passively managed bond funds and mixed funds due to ESG sample size limitations.

[69] See European Fund and Asset Management Association, "ESG investing in the UCITS market, a powerful and inexorable trend", Market Insights, Issue #4, 16 March 2021.

[70] ETFs and passively managed funds are excluded due to the small ESG fund sample size.

[71] For further details, see annex Statistical methods.

granular data on distribution costs and on-going fees, which are currently not available.

ESG strategies

There are multiple ways for a fund to incorporate a non-financial approach. In this section we analyse the costs and performance of funds according to the way ESG features are integrated. We divide funds into three main categories: impact funds, funds integrating other ESG approaches and funds employing exclusions only. [72]

On top of that, since the entry into force of the SFDR in March 2021, EU fund managers are required to disclose sustainability-related information on their funds under Article 8 ('light green' products with sustainability characteristics) or Article 9 ('dark green' products with sustainable investment objectives)[73].

Our sample includes around 2,000 ESG funds at the end of 2020. Impact funds represent almost 40% of these funds (i.e. almost 800 funds). The rest of the category is composed of around 1,200 funds with other ESG strategies. We also include in the sample more than 1,300 funds employing exclusions only. There are only a few funds disclosing information under Article 9 of the SFDR (almost 300 funds), whereas the number of funds disclosing under Article 8 is nine times larger.

Equity is the main asset class across all ESG approaches, with a share oscillating between 51% (funds employing exclusions only) and 58% (impact funds). The share of equity funds is also higher for Article 9 products (67%) than for Article 8 products (53%). These results are similar if we consider the AuM instead of the number of funds.

In 2020, impact funds performed better in gross and net terms than funds employing exclusions only and other ESG strategies. This result holds for the three asset classes considered. In 2020, the net performance of equity impact funds stood at 2.7%, compared with 0.5% for funds with other ESG strategies and – 0.03% for funds employing exclusions only (ASR-PC.21). The average net outperformance of impact funds compared with other ESG funds and exclusions only funds was equal to 0.6 pps for bonds funds and 1.6 pps for mixed funds.

Differences in total costs were small across ESG funds: the spread between the most and the least expensive category ranges from 0.2 pps for bond funds to 0.3 pps for equity funds. Impact funds turned out to be the cheapest type of bond and mixed funds integrating a non-financial approach, with costs amounting to 1.0% and 1.5%, respectively. The costs of impact equity funds and other ESG equity strategies were almost identical, at around 1.5%.

Regarding funds disclosing sustainability-related information under SFDR, Article 9 products were the best performers in net terms despite higher costs across the three asset classes. The differences between Article 8 and Article 9 products in terms of costs (0.3 pps) and net performance (0.1 pps) appeared generally limited for equity funds but were more pronounced for the two other asset classes. With total costs of 1.2% and 1.4%, bond and mixed funds disclosing under Article 8 were cheaper than those disclosing under Article 9, whose costs were, respectively, 0.3 pps and 0.8 pps higher. However, Article 9 products outperformed (by 1.7 pps for bond funds and 0.5 pps for mixed funds). The outperformance of Article 9 products might be explained by the relatively high share of impact funds (ASR-PC.24).

It should be noted that, as regards the disclosure of information under Article 8 or Article 9 of the SFDR, the situation is still very fluid. A number of asset managers are still in the process of updating the characteristics and/or objectives (as well as the documentation) of the funds they manage. Moreover, the high degree of heterogeneity in the approaches taken so far

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[72] According to Morningstar definitions, funds employing exclusions and without any other ESG approach are not considered to be sustainable investments; these are therefore excluded from the analysis of ESG funds in the previous section. However, given the large number of funds employing exclusions that are disclosing under Article 8 of the SFDR, they are included in this section. Impact funds "seek to make a measurable impact alongside financial return on specific issue areas through their investments". See Morningstar Sustainable Attributes, May 2019 and in Annex of this report for further details.

[73] It should be noted that in the rest of this section we analyse the 2020 costs and performance of funds disclosing under Articles 8 or 9 of the SFDR since March 2021 or classified as sustainable by Morningstar in July 2021.

suggests that best practices have not been established yet.[74]

[74] See for example Morningstar, "SFDR: Four months on", 27 July 2021.

ASR-PC.19

Gross performance of UCITS funds

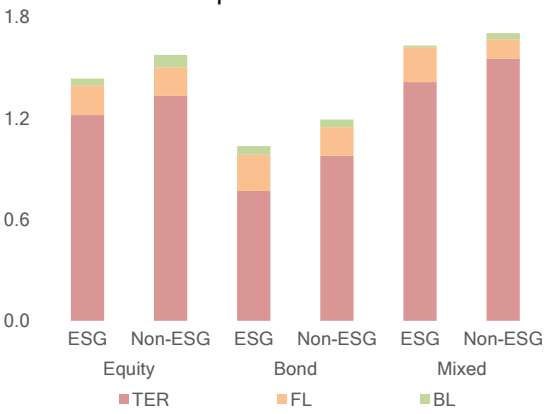
ESG funds outperformed across asset classes

Note: EU27 UCITS equity, bond and mixed fund gross annual performance in 2020. ESG vs. non-ESG funds, in %
Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC.20

Total costs of UCITS funds

ESG funds less expensive

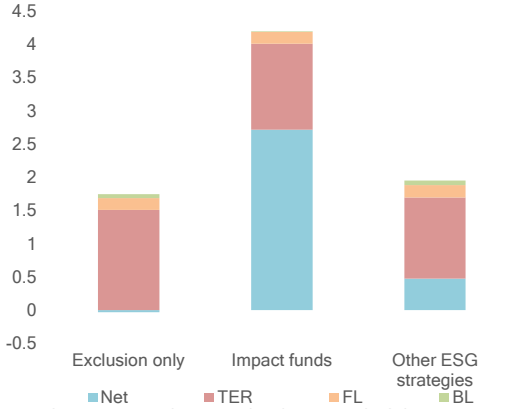


Note: EU27 UCITS equity, bond and mixed fund total costs in 2020, classified as on-going costs (TER), subscription fees (FL) and redemption fees (BL). One-year investment horizon, ESG vs. non-ESG funds, in %
Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC.21

Net performance of equity funds by ESG strategies

Higher performance for impact funds



Note: Gross annual performance of EU27 equity UCITS for retail investors in 2020 by ESG strategy (without any consideratrion of the SFDR classification) and classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), %. Equity UCITS ETFs are included. Exclusion only represent funds that only employ exclusions whereas impact funds "seek to make a measurable impact alongside financial return on specific issue areas through their investments".
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.22

Net performance of bond funds by ESG strategies

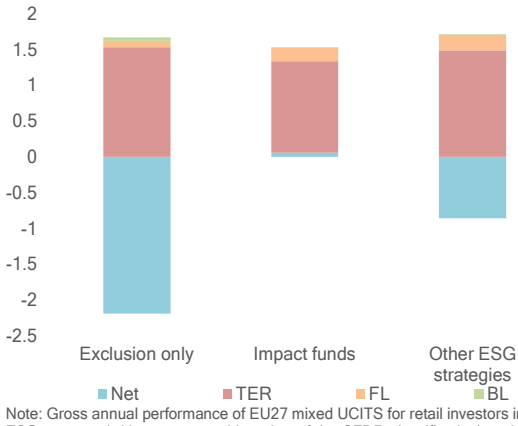
Higher net performance for impact funds

Note: Gross annual performance of EU27 bond UCITS for retail investors in 2020 by ESG strategy (without any consideratrion of the SFDR classification) and classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), %. Bond UCITS ETFs are included. Exclusion only represent funds that only employ exclusions whereas impact funds "seek to make a measurable impact alongside financial return on specific issue areas through their investments".
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.23

Net performance of mixed funds by ESG strategies

Higher net performance for impact funds

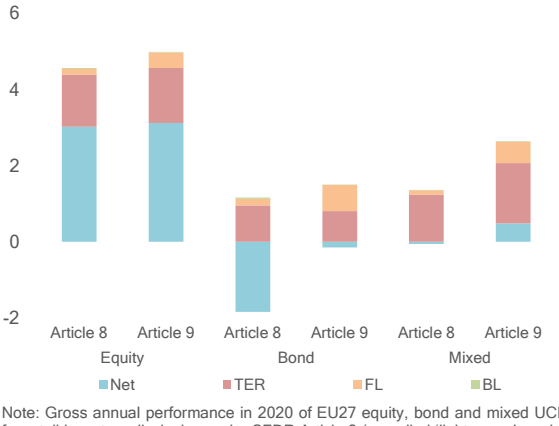


Note: Gross annual performance of EU27 mixed UCITS for retail investors in 2020 by ESG strategy (without any consideratrion of the SFDR classification) and classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), %. Mixed UCITS ETFs are included. Exclusion only represent funds that only employ exclusions whereas impact funds "seek to make a measurable impact alongside financial return on specific issue areas through their investments".
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.24

Net performance of SFDR Art.8-9 funds

Higher net performance for Article 9 products



Note: Gross annual performance in 2020 of EU27 equity, bond and mixed UCITS for retail investors disclosing under SFDR Article 8 (so-called 'light green' products with sustainability characteristics) or Article 9 (so-called 'dark green' products with sustainability objectives) products (without any consideration of the ESG approach) and classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), %. UCITS ETFs are included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Summary findings

This analysis reports on the evolution of performance and costs of UCITS across asset classes and countries at EU level. It looks at performance and costs by management type, distinguishing between active funds, passive funds and ETF UCITS, and by funds' and investors' domiciles. We also develop an analysis of UCITS funds focusing on ESG strategies.

The key findings of our analysis include:

Gross performance

— The COVID-19 pandemic had an impact on our analysis throughout. Low or negative performance and high uncertainty are evident irrespective of the type of asset, management or domicile.

— Investing long-term significantly reduces the risks related to swift and large changes in the valuation of financial products.

Costs and net performance

— Costs remained a critical component when evaluating the ultimate benefits of an investment. A ten-year investment of EUR 10,000 in a portfolio composed of equity bond and mixed funds led to a gross value of EUR 18,000 (EUR 15,400 after costs). The investor paid around EUR 2,600 in costs.

— Total costs were higher for retail investors than for institutional investors, on average.

— Costs for cross-border funds were higher than those for domestic funds. The main drivers lie in differences in distribution channels, costs and related cost treatment.

— Cost levels have reduced only moderately from the traditionally higher levels previously observed in the EU.

Structural market features

— Heterogeneity across Member States persists, linked to structural market differences, and lack of harmonisation in national regulation.

— The heterogeneity across Member States reduced when the analysis was centred on the investment focus.

— In terms of assets, 67% (55%) of funds included in our sample was effectively sold cross-border in two (three) countries including the domicile.

— Cross-border funds were, on average, larger than funds sold only in their domicile.

— Of the managers of UCITS in our sample, 15% manages 90% of assets.

— Around 60% of assets was concentrated in funds reporting ongoing costs belonging to the bottom half of our distribution.

ETF UCITS and management type

— ETF UCITS performance was in line with that of other passive UCITS investing in similar assets.

— Costs were significantly higher for active UCITS than for passive funds and ETFs.

— There was net underperformance of active equity and bond UCITS, on average, compared with passive and ETF UCITS at the ten-year horizon.

— There was strong outperformance of the top-25% active equity UCITS compared with the top-25% passive UCITS, at one year horizon. The cohort of UCITS changes over time. For equity funds, around 40% of the top-25% active equity funds in 2019 remained as such in 2020. As for passive funds, this share increases to 60%.

— There was net underperformance for the top-25% active bond UCITS compared with passive UCITS on average across horizons.

ESG UCITS

— ESG equity, bond and mixed funds outperformed non-ESG peers, reflecting the strong performance of specific sectors since the COVID-19 crisis.

— ESG funds remained cheaper than non-ESG peers, with the exception of ETFs. This remained true when focusing exclusively on newer funds (launched in 2019).

— Impact funds performed better than other ESG strategies; and funds disclosing under Article 9 of the SFDR (including some impact funds but not limited to these) performed better in net terms than those disclosing under Article 8, despite somewhat higher costs.

Investment funds: Retail AIFs

Summary

Alternative Investment Funds (AIFs) constitute the second largest market for retail investments, with a value of EUR 5tn, around EUR 700bn of which is held by retail investors (Retail AIFs). Around half of retail investment was concentrated in AIFs following more traditional strategies targeting primarily asset classes such as equities and bonds, followed by real estate funds at 25% increasing from last year especially concerning strategies related to commercial real estate. Gross and net annualised returns of AIFs sold to retail investors reflect the effects of the COVID-19 pandemic, declining to 4% and 3% respectively for funds of funds and 5% and 4% for the type of funds in the category Others.

The incentive to invest in Alternative Investment Funds (AIFs) is related to the potential for above-average returns and risks. However, AIFs often involve lower market transparency, lower liquidity and so potentially higher risk than more traditional types of investment.

The following analysis focuses on this market segment and specifically on AIFs sold to retail investors (retail AIFs). It is based on data from the Directive on Alternative Investment Fund Managers (AIFMD) regime, regulating managers of AIFs in the EU.[75]

AIFs under the AIFMD include a very wide range of investment products and funds, excluding those authorised under the UCITS Directive. The definition of predominant AIF types covers not only hedge funds (HF), but also private equity (PE) funds, venture capital (VC), real estate (RE), funds of funds (FoFs), Other AIFs (Others) and, as a residual category, "None" of the above.[76]

Market overview

The size of the EU AIF industry was EUR 5.4tn at the end of 2020, a 17% decrease from 2019. The market remained mostly composed of professional investors.[77] The share of retail investors continued to slightly decrease, declining to 13% at the end of 2020, from 15% in 2019 (ASR-PC-S.106). The total NAV for retail AIFs fell to around EUR 700bn from almost EUR 1tn in 2019. The lower values of assets may be explained by the decline in valuations characterising 2020, mainly in relation to the effects of the COVID-19 pandemic, and also in relation to potential re-adjustment of investment portfolios and outflows from alternative products. The drop in valuations and increased volatility characterising 2020 could have discouraged retail AIF investment towards lower-risk products. Moreover, retail investment in AIFs is subject to underestimation, as retail investors may buy products invested in AIFs through banks or insurance firms, which fall in the cohort of professional investors.

Almost all (more than 95%) of the assets of AIFs sold to retail investors benefited from the passporting regime (i.e. they can be sold across the EU) (ASR-PC-S.107). Retail clients were primarily falling in the predominant AIF type classified as Others (47%), Real Estate (RE) (25%) and Fund of Funds (FoFs) (24%).[78] Compared to 2019, there was a slight decline of retail investment in the type Others and FoFs,

[75] Directive 2011/61/EU. For an overview of the EU AIF market please see ESMA ASR on AIFs, 2022. The United Kingdom is no longer part of the sample.

[76] Annex IV, Commission delegated regulation (EU) No 231/2013 supplementing Directive 2011/16/EU. The residual category of 'other AIFs', labelled as 'Others' includes the following investment strategies: commodity and infrastructure funds together with conventional non-UCITS investment funds pursuing more traditional strategies and targeting primarily traditional asset classes such as equities and bonds. The 'other AIF' type includes a further residual category of other unspecified strategies, 'other-other'. Often 'special funds' set up by single investors like insurance undertakings and pension funds fall into this residual category. According to the ESMA Guidelines, AIFMs should select "None" as predominant AIF type where the investment strategy of the AIF does not permit the identification of a predominant AIF type.

[77] Professional investors are identified following the criteria specified in Directive 2011/61/EU, article 4 (1ag) and Annex II of Directive 2014/65/EC.

[78] ESMA, 2020, "ESMA Annual Statistical Report - EU Alternative Investment Funds". In the Level II Commission Delegated Regulation (EU) No 231/2013, AIFs are classified into five main types: hedge funds (HF), real estate funds (RE), funds-of-funds (FoFs), private equity funds (PE), and other AIFs (Others).

whereas investment in RE largely increased, going from 17% to 25%. The share of the category Others, in 2020, was 3 pps lower than 2019, going from 50% to 47%. The participation of retail clients in hedge funds (HF) and private equity (PE) remained marginal (ASR-PC-S.108).

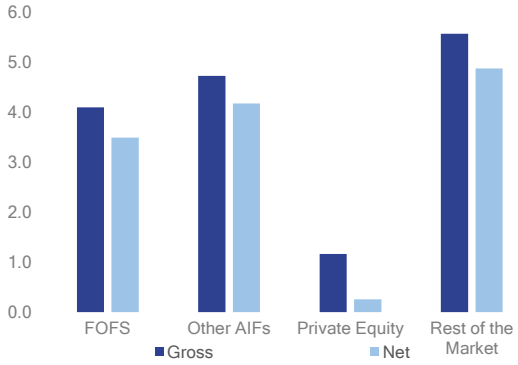
AIFs can invest in a variety of assets, including property and commodities, and rely on a high degree of flexibility around the strategy followed when they invest.[79] Focusing on retail clients, most of the NAV was concentrated in the strategy 'Other' (at 45%), slightly decreasing from 52% in 2019. Investment in the commercial real estate (CRE) strategy significantly increased to 19% in 2020 from 14% in 2019. This may raise prudential concerns. Funds primarily focusing on fixed income (FI) and equity followed at 17% and 10%, respectively (ASR-PC-S.109).

Retail AIF performance

As in last year's report, we focus on gross and net performance. A full costs analysis cannot be carried out as there is no available information on costs and costs composition. The sample of funds corresponds to just below 75% of the total NAV for AIFs entirely sold to retail investors, around EUR 510bn.[80]

ASR-PC.25 shows annualised monthly performance for 2020 by fund type. Performances dropped in 2020 due to the pandemic. The majority of retail assets, more than 70%, are held in FoFs and Others. Focusing on these types of funds, returns strongly improved between 2018 and 2019, but the opposite was observed in 2020. Gross returns decreased to 4% for FoFs and 5% for Others in 2020, from 11% and just beyond 8%, respectively, in 2019. Similarly, net returns declined to 3% for FoFs and 4% for Others, compared with 10% and just below 8% in 2019.[81]

ASR-PC.25
Retail AIFs gross and net performance
Subdued returns in 2020



Note: EEA30 AIFs annualised monthly gross and performance by fund type, %, 2020. Reported according to AIFMD. Predominant fund type "Other AIFs" = fixed income funds, equity fund, infrastructure funds, commodity funds, and other funds; PE=private equity funds; RoM= rest of the market and includes hedge funds and those funds whose type is not indicated; no cost reporting available from regulatory or commercial data sources.
Sources: National Competent Authorities, ESMA.

Summary findings

The main results are as follows:

— In 2020, retail investors accounted for 13% of the total NAV for the AIF market.

— Assets invested in retail AIFs were concentrated in the type of AIFs classified as Others (47%), RE (25%) and FoFs (24%).

— Most of the NAV was concentrated in the strategy 'Other' (47%). Investment in the CRE strategy significantly increased to 19% in 2020 from 14% in 2019. This may raise prudential concerns.

— In 2020, annualised monthly gross and net performance of those fund types in which retail investment was concentrated, namely FoFs and Other funds, significantly decreased compared with 2019.

— A full costs analysis is impeded due to data unavailability on cost composition.

[79] ESMA, 2018, AIFMD: A framework for risk monitoring, TRV No.1 2018.

[80] For more details refer to the Annex on Statistical methods.

[81] The net performance is subject to reporting issues that joint work between ESMA and the national competent authorities (NCAs) aim to resolve. See Annex Data sources and limitations

Structured Retail Products

Summary

SRPs, with an outstanding value of EUR 400bn in 2020, remain a much smaller market than UCITS and AIFs sold to retail investors. Across national markets within the EU, the size of SRP markets and the profile of product types sold vary considerably. Regulatory data are only starting to be available, and data from commercial providers are limited, constraining the scope for analyses of costs and performance. To address this issue ESMA has created a new database based on key information documents for SRPs, enabling the first EU-wide analysis of disclosed performance scenarios and costs. Total costs are largely attributable to entry costs. They vary substantially by country and by pay-off type, but they do not tend to depend on issuance size or underlying type. The analysis of performance scenarios shows that there is little difference in simulated returns between moderate and favourable scenarios.

Structured products are investments whose return is linked to the performance of one or more reference indices, prices or rates (reference values). Such reference values may include stock indices, the prices of individual equities or other assets, and interest rates. The return of a structured product is determined by a pre-specified formula, which sets out how the product performs in different scenarios defined with respect to the reference value(s). For instance, if a stock index falls over a specified time interval, the formula may determine that the product yields zero return for the investor, whereas if the index increases then the investor receives a positive return in proportion to the increase.

The total outstanding stock of SRPs held by EU retail investors at the end of 2020 was around EUR 400bn. This is far less than holdings in UCITS, which, according to data available for this report, have a value of more than EUR 4.1tn for retail investors, and constitute slightly more than half of the holdings in AIFs sold to retail investors (EUR 700bn).[82]

Different types of structured products are offered to retail investors in the EU, many with complex pay-off structures. This, together with the existence of significant costs and charges for retail investors, prompts continued market surveillance.

Moreover, unlike long-term investment products such as funds, many structured products may be designed for hedging purposes or to speculate on price movements over a period of months or years. Consequently, structured products should – as a general rule – not be regarded as long-term investments in the same way as funds.

Various payoff structures are possible. For example, a 'knock-out' feature may be triggered based on a threshold level of the underlying assets at a given point in time. Knock-outs may be triggered based on various statistics calculated from a basket of reference assets. 'Barriers', which provide limited or conditional capital protection, may be designed in various ways. Other payoff features, such as coupons and participation rates, can also be varied by the product designer. The large number of different types of payoffs are likely to preclude an exhaustive analysis of costs and performance for every type of structured product.

Risk levels may vary even across products that share many similar features. Even if two products have capital protection and the same underlying asset, for example, they may offer different expected returns, depending on their structure.

Product distribution is another source of heterogeneity in the market for structured products. First, some standardised products are issued on a continuous basis, while others are issued as part of a tranche with a pre-determined subscription period.[83] Second, the EU market involves both bank-issued and exchange-issued products. There is geographical variation in this respect, e.g., exchange-based issuance tends to be more common in Germany while bank-based issuance is seen more in Italy.

[82] The financial net worth of EA households stood at around EUR 27tn in 4Q20. Outstanding amounts of SRPs in the EU were around EUR 400bn in December 2020, according to the dataset used in this research.

[83] According to the commercial data used in this section, approximately three quarters of outstanding product volumes at the end of 2020 in Europe were tranche products.

Market overview

The retail market for structured products made up around 2% of the financial net worth of EU households in 2020. From 2011 to 2017 there was a continual downward trend in the total value of outstanding SRPs (ASR-PC.114), although since 2018, this metric has stabilised. At the same time, the total number of outstanding products has seen a major, continuing increase, indicating a decrease in issuance sizes.

In 2020, volumes outstanding stood at around EUR 400bn, having reached a historical high of EUR 800bn in 2010. In contrast, numbers of outstanding contracts continued to rise sharply, reaching over 9mn at the end of 2020, up from around 7mn the previous year. These opposing trends are not explained by major decreases in the term of products but may be associated with market practices such as increased issuance of products with early redemptions, generating higher turnover. The threshold to obtain the early redemption may be more frequently met in periods of positive market performance such as those seen in recent years, leading to new products being frequently issued. Another relevant factor is that an increasing number of products have been listed on exchanges. These products tend to be issued in smaller volumes than over-the-counter (OTC) products, the latter typically being sold through large distribution networks. A final possible change in market practices is an expanding range of products across the EU market. In addition to changing market practices, several regulatory changes have characterized this market in recent years, both country specific and EU wide, aimed at enhancing consumer and investor protection.[84]

There was considerable heterogeneity among retail markets for structured products across Member States in terms of distribution channels, types of products issued and the size of the market.[85] Sales volumes in 2020 were highest in Italy, followed by France and Germany (ASR-PC-S.114). Germany remains the national market with the highest stock of outstanding products by value.

The level of capital protection of a product is one indication of the level of downside market risk an investor faces. The share of products with a capital guarantee of at least 100% was 20% in 2020, down 5 pps from the previous year and far lower than 2011, when the proportion was 72%. The share of products with no capital protection increased from 24% in 2011 to 62% in 2020 (ASR-PC.116). Intermediate levels of capital protection continued to represent only a marginal share of products by sales volume The trend of declining capital protection is likely to be at least in part attributable to the low interest rate environment and the consequent search for yield by investors, although supply factors may of course also be an important determinant.[86]

Turning to the term of products sold, 69% of products by volume were sold with more than three years to maturity (ASR-PC.117).[87]

Regarding types of underlying assets, the vast majority of sales volumes – around 94% in 2020 – related to products with equities or equity indices as underlying, as opposed to other types of underlying such as interest rates, exchange rates or commodities (ASR-PC.118). This share has continued to grow over the last few years, whereas sales volumes of products with interest rates as underlying fell to just 1% in 2020, down from 24% in 2011. This trend may relate to the very accommodative monetary environment. Retail investors may have expected that interest rates would remain near the lower bound during this period and hence looked to riskier assets for real returns.

Performance and costs

As part of its efforts to expand the assessment of SRPs, ESMA has developed new routines[88] to extract additional information from Key Information Documents (KIDs), which are produced for these products under the PRIIPs KIDs Delegated Regulation.[89] By law, KIDs must

[84] For further details, see Annex Regulatory developments of this report. See also ESMA Opinion, 2014, "Structured Retail Products – Good practices for product governance arrangements", ESMA/2014/332.

[85] For a summary of popular product types in a selection of Member States, see ESMA TRV no.2, 2018, pp. 52-65.

[86] In a low interest rate environment, it may be harder to offer products with capital protection that also have attractive rates of return.

[87] For products that have not yet expired, this statistic captures the maximum theoretical maturity; otherwise, it captures the actual maturity.

[88] ESMA, 2021, "54 000 PRIIPs KIDs – how to read them (all)", TRV No.1 2021.

[89] Commission Delegated Regulation (EU) 2017/653.

be provided to retail investors when they consider purchasing a packaged retail investment and insurance-based product (PRIIP). The structure, content, presentation, and length of the KID are tightly regulated, as per the PRIIPs Regulation and Delegated Regulation. For example, the Delegated Regulation specifies dozens of phrases that must be mentioned in specific positions in the KID, and in some cases accompanied by numbers calculated using precise formulae.

All of this information can be extracted and combined into a database and, to this end, ESMA staff have constructed a data sample of 23,274 KIDs issued between 1 January 2018 (when the requirement to produce KIDs began to apply) and 31 December 2020 (the data cut-off point for this report).[90] This is an increase of approximately 7,000 documents compared to the database underlying last year's analysis, which results in a sample of KIDs issued evenly over the three years 2018–20. The following information of relevance for the ASR can then be extracted and further analysed:

— various cost figures: total costs, as well as entry costs, exit costs, transaction and performance fees, carried interest, and 'other ongoing costs';
— absolute and percentage product returns under different performance scenarios;
— the Summary Risk Indicator, which aggregates estimated PRIIP credit (default), market (adverse market price) and liquidity risks, using a standardised methodology;
— additional descriptive information: the recommended holding period, product issuance date, product ISIN, product currency and other similar metadata.

The following sub-sections explore messages of interest arising from this extracted information, first with respect to performance and then with respect to costs. Note that sample sizes in the following figures will vary and will be below the full sample size of 23,274, as some information either may not have been reported for certain products or may not be possible to extract due to technical issues that arise when loading and identifying information in PDF documents.

Performance

The PRIIPs KIDs Regulation requires SRPs to present retail investors with four different possible performance scenarios, whose calculations are governed by a detailed methodology set out in the Regulation. The scenarios are favourable (90th percentile of simulated returns), moderate (50th percentile of returns, i.e. the median), unfavourable (10th percentile), and stress (1st or 5th percentile, depending on the type of product).[91]

ASR-PC.26 displays the variation in performance returns across the different performance scenarios in the data sample, and the share of the data sample in each of the return buckets. From the figure, the simulated product returns under both the stress scenario and the unfavourable scenario, as expected, are typically below the moderate scenario returns. However, in line with what emerged from last year's analysis, the simulated moderate and favourable scenario returns are very similar to each other and are clustered tightly (i.e. the boxes are not very 'wide'). This raises the question of whether these scenarios are sufficiently distinct for structured products and provides evidence in support of the efforts of the Joint Committee of the European Supervisory Authorities in late 2018 / early 2019 to consult on revising the PRIIPs KIDs Delegated Regulation scenario calculation methodologies.[92] The limited differentiation between moderate and favourable scenario returns might also be due to a number of products having payoff structures which frequently "cap" outperformance, failing to fully exploit the market's upside risk.

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[90] Duplicate products (i.e. the same product but with multiple KIDs across European languages) have been reduced to a single KID. Where multiple KIDs are available for the same product and the same language, the earliest KID (i.e. oldest KID) is used as a basis for these assessments. The aim is to focus on primary market issuance as much as possible.

[91] For the avoidance of doubt, PRIIPs KIDs do not include any backward-looking (ex-post) performance information; only forward-looking simulations are available in the KID.

[92] European Supervisory Authorities, October 2019, Joint Consultation Paper concerning amendments to the PRIIPs KID

One might think that product-specific differences could be driving such divergences across scenarios. However, the very large sample size suggests that the divergences go beyond product-specific features and are more related to the scenario calculation methodologies. Moreover, results are unchanged (and are available upon request) if the difference across the favourable and moderate scenarios in each individual KID is first taken and the range for that difference is plotted (i.e. take the difference between the two scenarios within each product and then plot that difference).

Turning to specific products, ASR-PC.27 presents the variation in simulated moderate scenario returns across the dataset, grouped by PRIIP (structured product) payoff type. Interestingly, a non-negligible share of PRIIPs in many payoff type categories, such as Protected Tracker and Worst-of-Option payoff types, appear to offer negative returns should the moderate scenario materialise, despite this being the 'middle' scenario (i.e. neither favourable nor unfavourable). It is unlikely that many issuers would voluntarily present such figures to potential retail investors, which demonstrates the benefit of the requirement, in the PRIIPs KIDs Delegated Regulation, for performance returns to be expressed net of costs. These results are an interesting avenue for further research and monitoring.

Elsewhere, it is interesting to examine whether more popular products – measured in terms of sales – are associated with greater or less risk, as measured by the Summary Risk Indicator (SRI) which ranges from 1 (lowest risk) to 7 (highest risk). If the riskiest products are also those that sell the most, this would suggest a distribution of risk across the financial system that may have not previously been observed[93].

To this end, ASR-PC.28 illustrates the distribution of stress scenario returns across the PRIIPs KIDs in the data sample, grouped according to recommended holding period and sales volume categories. Products are grouped according to maturity buckets to ensure comparability, since longer-maturity products are likely to have materially different return profiles due to the simulation methodology in the PRIIPs KIDs Delegated Regulation. As the chart shows, within each recommended holding period group, SRPs that have been more widely sold have similar downside risk (measured by stress scenario returns) to less popular products. Thus, it does not appear that retail investors are purchasing more of (i.e. are disproportionately exposed to) the riskier products.

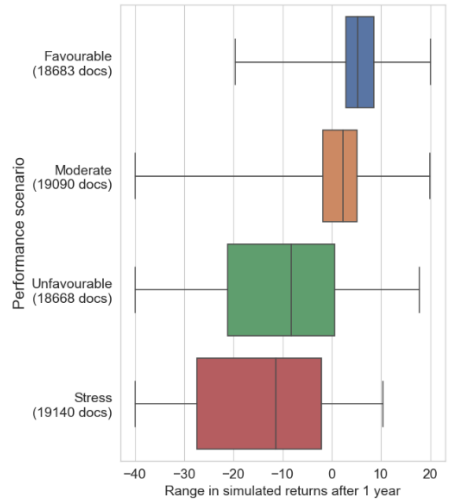
ASR-PC.29 examines the extent to which the SRI varies with each performance scenario for structured products. This is an interesting point when bearing in mind the legislative purpose of the SRI, as set out in recital (5) of the PRIIPs Delegated Regulation, that *"information on the risks should be aggregated as far as possible and numerically presented as a single summary risk indicator […] in order for retail investors to fully understand those risks*". There is some initial variation in simulated returns across SRI categories within the favorable scenario. This appears sensible, because favorable scenario returns reflect the 90th percentile of simulated returns and thus represent 'upside risk' for an investor. Moreover, there is little variation in simulated returns across SRI categories within the moderate scenario simulated returns. However, within more pessimistic scenarios (which are most likely to be reflecting the 'risk' situation that the legislator had in mind in the recital above), the SRI is associated with some clear differences in simulated returns: the higher the SRI for a SRP, the lower the simulated returns in both the unfavorable and stress scenarios. This provides evidence that the SRI calculation methodology in the PRIIPs KID Delegated Regulation is functioning as intended (i.e. as in the above-mentioned recital), from an investor protection perspective.

[93] One caveat is that only aggregate sales figures are available, implying that it is also possible that few investors are purchasing larger amounts of riskier products.

ASR-PC.26

Completeness of performance scenario information

Similar favourable and moderate scenarios

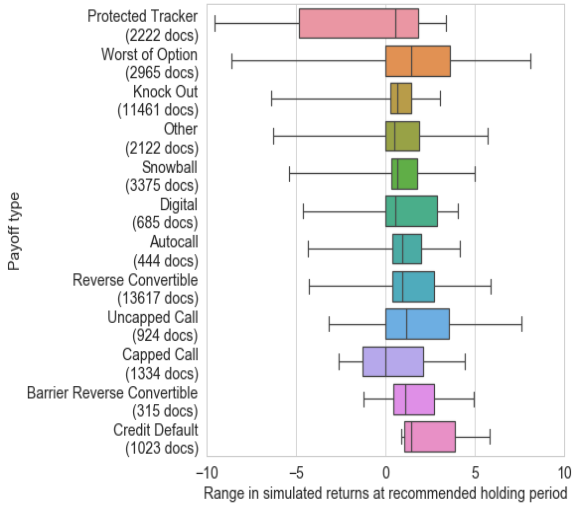


Notes: Range in performance returns for 19,533 PRIIPs in each performance scenario category, using only scenarios that may occur after 1 year of holding the PRIIP. The scenario calculation methodology is set out in the PRIIPs KIDs Regulation. Similar results are obtained when comparing scenario returns at product maturity (or recommended holding period), rather than 1 year. The vertical line in each box shows the median simulated return in that performance scenario category. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that category.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.27

Moderate scenario returns across payoff types

Many cases of low or negative scenario values

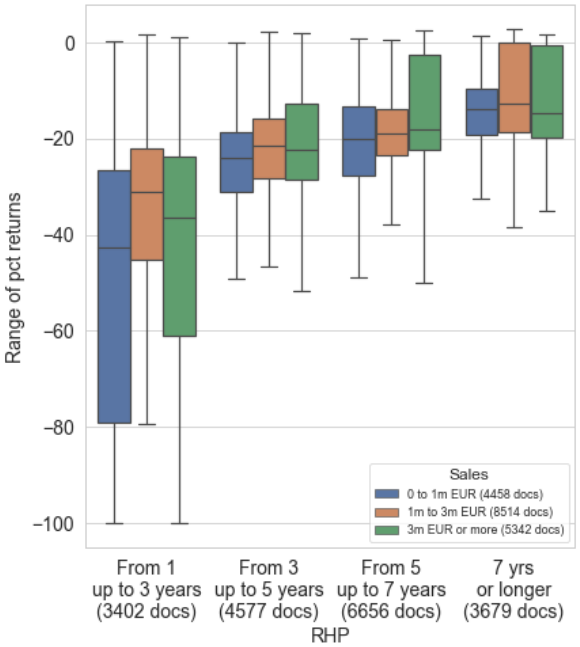


Note: The chart presents the range in moderate scenario returns (after costs) at the product maturity / recommended holding period for PRIIPs grouped by payoff type. The vertical line in each box shows, within each payoff type, the median moderate scenario returns (after costs) at the recommended holding period. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that payoff type. Note that one product can contain multiple payoff types. 'Other' comprises all PRIIPs containing payoff types that have 300 or fewer observations in the data sample.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.28

Variation in stress scenario returns across PRIIPs

More popular products carry similar risk

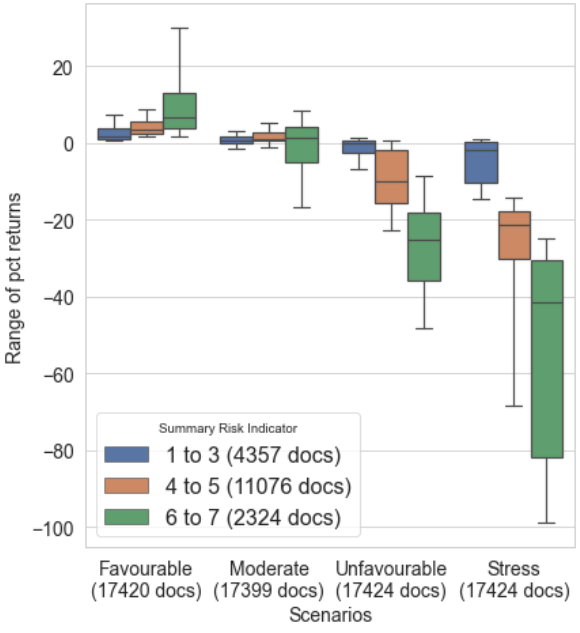


Note: The chart shows the range in the median stress scenario return (in%) for 18,314 PRIIPs, grouped by estimated sales volume and recommended holding period. Box edges are the 25th and 75th percentile simulated returns across the group, and additional lines ('whiskers') represent the 10th and 90th percentiles for that same group.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.29

Evaluating the SRI

SRI consistent with volatility of product's performance



Notes: The boxes and vertical lines indicate the range of returns (at the recommended holding period) across PRIIPs grouped by the SRI. The SRI aggregates the estimated Credit Risk (default risk) and Market Risk (adverse market price risk) associated with the PRIIP. The necessary simulations and formulae used to produce the SRI are set out in the PRIIPs KIDs Regulation. The SRI ranges from 1 (lowest risk) to 7 (highest risk). The horizontal line in each box shows the median KID simulated return rate for that specific performance scenario and SRI grouping. Box edges are the 25th and 75th percentile simulated returns across the group, and additional lines ('whiskers') represent the 10th and 90th percentiles for that same group.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

Costs

The two key types of costs involved are those embedded in the product when it is issued (reduction in yield attributed to costs), and costs involved in distributing the product, such as sales commissions. The analysis in this report focuses on the former.

KIDs are required to include information on the total costs of the structured product. In the PRIIPs KIDs Delegated Regulation, total costs are expressed as a percentage reduction in yield (RIY) earned by the investor. As an initial view, ASR-PC.31 illustrates the range in RIY across EU countries, in terms of markets in which the product is sold. This perspective disregards differences in product types, which may also contribute to explain this variation. Nevertheless, monitoring the evolution in cost dispersion across countries is useful in the context of the Capital Markets Union.

Continuing this theme, ASR-PC.32 provides an assessment of the variation in total costs by payoff type, in a similar spirit to ASR-PC.27. Payoff types are associated with a significant variation in total costs, which most likely reflect the relative degree of complexity in the product (i.e. the extent of 'structuredness' of the SRP). At the same time, there does not appear to be any clear correlation between total costs and the SRI, or between total costs and the recommended holding period for each product (not shown). In other words, it is not the case that riskier, or longer-maturity SRPs have higher costs than their less risky or lower-maturity counterparts.

ASR-PC.33 examines the breakdown of total costs across underlying asset types, for example for SRPs whose underlying asset is composed of a single equity product ('Equity (Single Share)'), whose underlying asset is composed of a single equity index ('Equity (Single Index)'), and so forth. SRPs backed by single equities tend to have higher costs than SRPs backed by other underlying assets, including baskets of assets and indices.[94] Hence, the existence of a plurality of reference assets does not seem to lead to higher costs *per se*. This again suggests that it is rather the 'structured' nature of SRPs' payoff (the most challenging part for investors to assess) that drives costs.

Analogously to ASR-PC.28, which examined whether a pattern could be observed between structured retail product riskiness and sales volume, ASR-PC.34 investigates whether higher-selling SRPs are associated with lower total costs, which might be explained by some form of economies of scale in EU SRP markets. In fact, we do not observe a negative correlation between sales volume and costs. On the contrary, lower-selling products (blue bars, up to EUR 1mn in sales) appear to be associated with lower costs for investors, particularly products whose recommended holding period is less than seven years

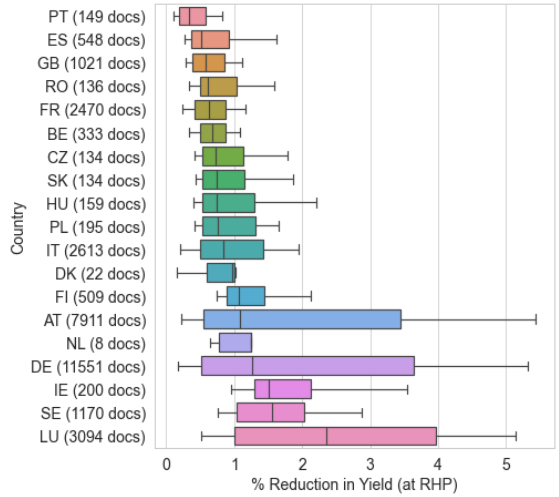
Finally, ASR-PC.34 displays how much each cost type accounts for the total costs (RIY) of SRPs in the dataset, using the pre-determined categories set out in the PRIIPs KIDs Delegated Regulation. Expenses are usually front-loaded in the form of entry costs (these are the only costs in 92% of the cases where information on total costs was retrieved). Some products also foresee recurring costs applied over the product's lifetime. Other cost types are mostly absent, although there is substantial missing information. This shortcoming may be explained by the fact that issuers choose not to indicate some cost categories (such as performance fees and carried interest) in the KID if they do not apply to such products. Finally, in rare cases single cost components exceed the total cost indicated elsewhere in the KID, suggesting possible inconsistencies in the calculation methodology.

[94] This is also confirmed if splitting into maturity buckets.

ASR-PC.30

Range in total costs for PRIIPs by country

Substantial variation in total costs by country

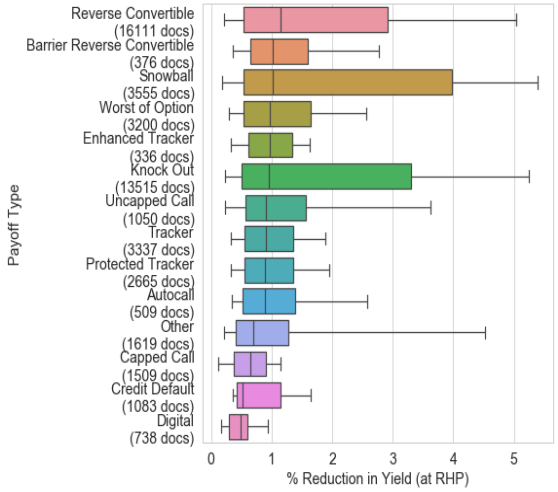


Note: Each bar displays the range in percentage total cost (RIY) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by country. Countries indicate locations of sale (one product can be sold in multiple countries). The vertical line in each box shows the median percentage cost. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that country group.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.31

Range in total costs for PRIIPs by payoff type

Substantial variation in total costs by payoff type

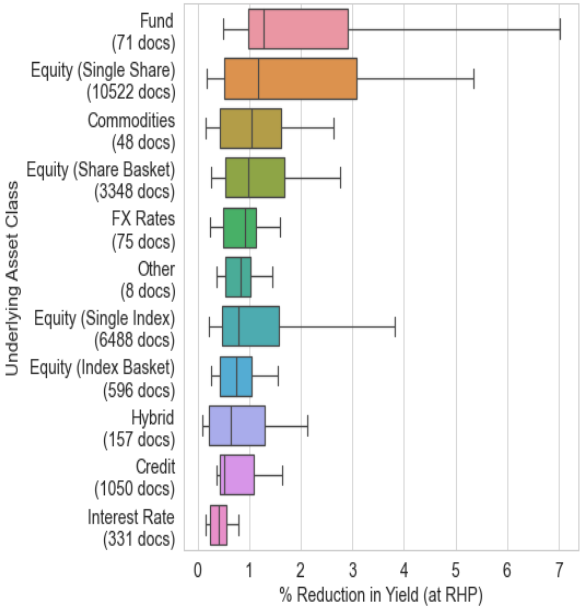


Note: Each bar displays the range in percent total cost (RIY) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by pay-off type. The vertical line in each box shows the median percent cost. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that payoff type. 'Other' comprises all PRIIPs containing pay-off types that have 300 or fewer observations in the data sample.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.32

Range in total costs for PRIIPs by underlying asset

No clear link between underlying asset and costs

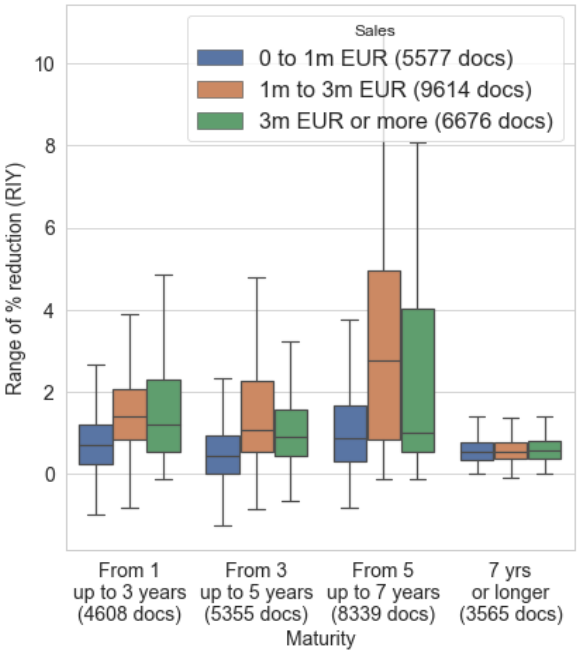


Note: Each bar displays the range in median percentage total cost across PRIIPs in the data sample, grouped by underlying asset types and maturities. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that underlying asset type. "Other" includes Real Estate, Inflation, and other uncommon underlying asset types. Numbers in parentheses indicate the number of scanned KIDs belonging to that particular underlying asset class. Sources: ESMA, Structuredretailproducts.com, financial entities' websites

ASR-PC.33

Range in total costs for PRIIPs by sales and maturities

No apparent economies of scale in sales



Note: Each bar displays the range in median percentage cost (RIY) across PRIIPs in the data sample, grouped by estimated sales volume and maturities. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that sales volume and maturity group.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.34

Breakdown of PRIIPs expenses

Entry costs make up the majority of total costs

	Entry costs	Exit costs	Transaction costs	Other ongoing costs	Performance fees	Carried interest
Accounts for more than 100% of the RIY	0.4%	0.1%	0%	0%	0%	0%
Accounts for 100% of the RIY	92%	0%	0%	0.6%	0%	0%
Above 0% and less than 100% of the RIY	4%	0.1%	0%	4%	0%	0%
Equal to 0%	3%	60%	36%	56%	15%	15%
Not countable: Not provided in KID	0.3%	40%	64%	39%	85%	85%
Number of docs where info provided	17,974	10,913	6,491	10,990	2,699	2,699

Note: This table shows the breakdown of the total costs of each individual PRIIP over its recommended holding period into the cost components mandated to be reported in the KID.

Sources: StructuredRetailProducts.com, financial entities' websites, ESMA calculations.

Summary findings

SRPs are a relatively small market compared with other financial instruments such as UCITS. SRPs should not in general be regarded as long-term investments like investment funds. They may be designed for hedging as well as speculative purposes and their structure may involve a significant level of complexity and reduced transparency. These features, in addition to their range of pay-off profiles and associated risks and costs, make SRPs an important area for monitoring and analysis in the context of ESMA's investor protection objective.

The total value of SRPs held by EU retail investors decreased slightly in 2020. Volumes and types of SRPs sold in national markets within the EU showed much heterogeneity. Notable trends in recent years have been characterised by a decrease in capital protection levels and in product terms.

In terms of simulated returns and costs, the patterns that were identified in last year's report largely persist.[95] The key findings are as follows:

— Once costs were taken into account, the simulated returns for a number of SRPs were below zero. This illustrates the benefit of mandating, as done in the PRIIPs KID Delegated Regulation, that performance scenario information provided to investors in the KID be made available net of costs.

— The SRI required to be produced for an SRP appears to correlate significantly with the simulated returns in more pessimistic performance scenarios: the higher the SRI, the lower the simulated returns in both the unfavourable and stress scenarios. This provides evidence that the SRI calculation methodology in the PRIIPs KID Delegated Regulation is functioning as intended from an investor protection perspective.

— Total costs for SRPs are usually paid up-front when the product is subscribed. These costs appear to vary substantially depending on the country in which they are marketed, as well as by the underlying pay-off type.

— There appears to be little correlation between total costs and the underlying asset type, and total costs do not appear to be lower for products that are more popular with retail investors (i.e. economies of scale do not appear to materialise in the market for SRPs).

[95] This is true even when analysing separately the sample of products issued in 2020.

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Annexes

Regulatory developments

During the reporting period, numerous initiatives and regulatory changes were undertaken that affected the performance of retail investment products, directly or indirectly. The focus of the current edition adds to previous reports, including the most recent regulatory and supervisory developments.

UCITS

Related to the distribution of investment funds within the EU across Member States are the Directive[96] and Regulation[97] on the cross-border distribution of collective investment undertakings of 20 June 2019, published on 12 July 2019. The transposition of the Directive into national law is to be done by 2 August 2021, whereas the new Regulation has been in effect since 1 August 2019. [98] Pursuant to Article 5 of the Directive, the Commission will assess the merit of implementing the concept of "pre-marketing" for UCITS[99] by 2 August 2023.

Moreover, in June 2021, following the requirement of art.8 of Regulation 2019/1156, ESMA published a report regarding marketing requirements and marketing communications under that regulation.[100] It presents an overview of marketing requirements referred to in Article 5(1) of the Regulation in all Member States and contains an analysis of the effects of national laws, regulations and administrative provisions governing marketing communications, based also on the information received from NCAs in accordance with Article 8(1) of the Regulation.

ESMA's work in relation to harmonising the way fund managers charge performance fees to retail investors has progressed and, in 2020, ESMA published the Guidelines on performance fees in UCITS and certain types of AIFs.[101] The common requirements allow convergence in how NCAs supervise performance fee models and disclosure across the EU. The guidelines are applicable to both UCITS and certain types of AIFs, in order to ensure a level playing field and a consistent level of protection to retail investors. Furthermore, ESMA has published some Questions and Answers in order to ensure a convergent application of the guidelines among Member States.[102]

In 2020, ESMA launched a Common Supervisory Action (CSA) on the supervision of costs and fees, which is ongoing. The CSA's aim is to assess the compliance of supervised entities with the relevant cost-related provisions in the UCITS framework, and the obligation not to charge investors undue costs. The CSA also covers entities employing Efficient Portfolio Management (EPM) techniques to assess whether they adhere to the requirements set out in the UCITS framework and ESMA Guidelines on ETFs and other UCITS issues. Throughout 2021, NCAs have shared knowledge and experiences through ESMA to ensure supervisory convergence in how they supervise cost-related issues, and ultimately enhance the protection of investors across the EU. This work follows the identification of this topic as a Union Strategic Supervisory Priority. Under this Priority, ESMA said that NCAs would undertake supervisory action in 2021, coordinated by ESMA, on costs and fees charged by fund managers.[103]

In July 2021, ESMA published its fourth annual

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96 Directive (EU) 2019/1160 of the European Parliament and of the Council of 20 June 2019 amending Directives 2009/65/EC and 2011/61/EU with regard to cross-border distribution of collective investment undertakings.

97 Regulation (EU) 2019/1156 of the European Parliament and of the Council of 20 June 2019 on facilitating cross-border distribution of collective investment undertakings and amending Regulations (EU) No 345/2013, (EU) No 346/2013 and (EU) No 1286/2014.

98 The list with the main amendments to the UCITS can be found in the 2020 ESMA ASR Report "Performance and Costs of Retail Investment Products in the EU".

99 Directive 2009/65/EU of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS).

100 ESMA, 27 May 2021, Final Report – Guidelines on marketing communications under the Regulation on cross-border distribution of funds.

101 ESMA, 2020, Guidelines on performance fees in UCITS and certain types of AIFs.

102 ESMA, 17 December 2021, Questions and answers - Application of the UCITS Directive. ESMA 17 December 2021, Questions and answers, Application of the AIFMD.

103 See ESMA identifies costs and performance and data quality as new union strategic supervisory priorities.

report on the sanctions issued under the UCITS Directive from 1 January 2020 to 31 December 2020.[104] The data published so far show that the sanctioning powers are not equally used among NCAs and the number and amount of sanctions issued at national level remains relatively low.

Also worth noting is the extension of the deadline for UCITS to provide PRIIPs KIDs to 30 June 2022 from 31 December 2021.[105]

AIFMD[106]

Besides the developments identified last year, of note is the publication, in July 2021, of the second ESMA annual report on the use of sanctions under the AIFMD.[107] Key findings show that a reduced number of NCAs are responsible for a majority of sanctions, and in general the numbers at a national level appear relatively low.

PRIIPs

Following what was reported in last year's edition,[108] on 27 July 2021, the Joint Committee of the European Supervisory Authorities (ESAs) has received a Call for Advice from the Commission on a number of areas concerning the PRIIPs Regulation, in the context of the review of the Regulation.[109] This includes a general survey on the use of the PRIIPs KID across the EU, and a survey of the practical application of the rules laid down in the PRIIPs Regulation. ESAs should deliver their Advice to the Commission by 30 April 2022. In addition, the Commission has extended the exemption for UCITS from the PRIIPs Regulation until 30 June 2022 from 31 December 2021. Moreover, on 7 September 2021, it adopted the Delegated Regulation amending the PRIIPs RTS (level 2).[110]

MiFID II[111]

The main new development concerning MiFID II/MiFIR relates to the presentation of the results of the 2020 CSA on MiFID II suitability requirements.[112] Main findings show that there is an adequate level of firms' compliance with key elements of the suitability requirements. However, shortcomings and areas of improvement have emerged with regard to the requirement to consider the cost and complexity of equivalent products, the costs and benefits of switching investments and suitability reports.

In addition, ESMA published final guidelines on obligations on Market Data, [113] as well as the annual report on regulatory technical standards on the delegated regulation 2017/583. (RTS 2). [114]

SFDR

On 10 March 2021, the new EU Sustainable Finance Disclosure Regulation (SFDR)[115] entered into force, and, with it, the obligation for asset managers to start disclosing sustainability-related information in pre-contractual documentation and on their websites.

Under the new requirements, fund managers must explain how they integrate sustainability risks in their investment policy and their likely impact on the fund investments (Article 6). For funds that promote environmental or social characteristics (Article 8), managers also have to disclose information on how those characteristics are met. For funds with a sustainable investment

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104 ESMA, July 2021, Report - Penalties and measures imposed under the UCITS Directive in 2020.

105 ESMA, 30 June 2021, Marketing requirements and marketing communications under the Regulation on cross-border distribution of funds.

106 Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010.

107 ESMA, November 2020, Report - Penalties and measures imposed under the AIFMD Directive in 2020.

108 ESMA, 2020, "Annual Statistical Report Performance and costs of retail investment products in the EU".

109 European Commission, 27 July 2021, "Call for advice to the Joint Committee of the European Supervisory Authorities regarding the PRIIPs Regulation".

110 COMMISSION DELEGATED REGULATION (EU)-C(2021) 6325

111 Directive 2014/65/EU of the European Parliament and the Council on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU.

112 ESMA, 21 July 2021, Public Statement.

113 ESMA, 18 August 2021, Final Guidelines on the MiFID II/ MiFIR obligations on market data

114 ESMA, 23 July 2021, MiFID II/MiFIR Annual Report under Commission Delegated Regulation (EU) 2017/583 (RTS 2).

115 Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector.

objective, they have to explain how that objective is to be attained (Article 9).

From June 2023, financial market participants will need to start disclosing indicators on the "Principal Adverse Impacts" that their investment decisions and value chains have on the environment and society. This reporting will be based on a set of 64 indicators, 18 of which are mandatory.

Data sources and limitations

An assessment of the performance and cost of investment products in the remit of ESMA is structurally impeded by the absence of relevant regulatory data: UCITS fund data are not accessible at EU level, AIFMD regulatory data do not cover granular evidence on fund costs, and on SRPs, comprehensive coverage by regulatory data do not exist, nor do commercially available data provide the level of granularity and accuracy required for the purposes of our reporting.

This annex reports on:

— Data and related limitations for this ESMA report, distinguishing by type of retail product considered.

UCITS

The largest amount of data is gathered from Refinitiv Lipper and Morningstar Direct. Data based on disclosure requirements stemming from EU directives and regulations have only started to become available over the most recent years and currently do not cover the complete time horizon as requested by the European Commission. Data from the UCITS Directive and PRIIPs are not yet available and usable at EU level.

This lack of data has three main implications:

— Information based on the domicile of the fund rather than on the domicile of the investor is used.

— There is very limited granularity and lack of harmonisation in cost data and absence of information on distribution costs and performance fees.

— Commercial providers' cost data partly use a different cost taxonomy from that used in the current EU regulation, as reported below.

The issue concerning the use of information based on the domicile of the fund rather than that of the investor remains. Available data are based on the domicile of the fund. This is related to the absence of information on the investor domicile, which has a significant impact if a fund is sold cross-border. Therefore, we are unable to capture what are known as "round-trip" cases, where a fund management company of a specific Member State produces a fund through its subsidiary based in another market and then sells the fund in the Member State (this is usually the case when a market serves as a global platform, such as in Ireland and Luxembourg). This situation is relevant for a number of Member States, such as Italy.[116] Moreover, relying on commercial data implies that the distributions within asset classes are dependent on the availability of data. As, clarified in the methodology, the funds are retained in the sample if information on gross annual performance, ongoing costs, flows, and asset value is jointly available. It may be that we need to discard several observations because of a lack of information. This, in turn, may skew the final results towards higher or lower values. This was the case, for example, for bond and mixed UCITS, respectively in 2019.

Ongoing costs and entry and exit fees

Using commercial data has the implication that the costs considered are aggregated into ongoing costs and one-off (entry and exit) fees.

Ongoing costs – These are proxied by the total expense ratio (TER). The TER includes all charges paid to the fund itself to cover the costs of resources used to design and operate the fund, as well as to pay for external services employed in the process. However, the TER is provided at an aggregate level and components of the TER are not available in our database. Accordingly, potential different practices in the TER computation are not captured (including the costs charged by funds in which UCITS invest) and that

[116] In Italy, according to a study from Assogestioni, even if the number has declined over recent years, more than 30% of open-ended funds are identified as round-trip funds.

contributes to explaining the high variability of costs across countries.

Availability of data has been improving. Compared with the first edition of this report, we developed an analysis based on more data available at a more disaggregated level: management fees and transaction fees. The data source is Morningstar Direct. These fees stem from the reporting related to MiFID II requirements[117] and are based on what the firm, or the fund in our case, declares, involving a large degree of heterogeneity as well as methodological issues. This, in turn, relates to the fact that a methodological debate on the calculation of these costs is ongoing. Therefore, extreme variability may be visible and results across domiciles should be analysed critically.

Entry and exit fees – These are reported at their maximum level for each fund share class by Refinitiv Lipper. This is in line with regulatory requirements. It may lead to an overestimation, as actual entry and exit fees are often subject to negotiation and may vary for individual fund transactions. EC regulation No 583/2010 specifies that a statement disclosing the actual entry and exit fees should be issued where applicable.[118] This means that the UCITS KIIDs will report them. These statements, however, are either not accessible or not reported in a harmonised format (layout or languages, etc.).

For ETF UCITS, Refinitiv Lipper also reports entry and exit fees at their maximum level for each share class. We include this information in the analysis. However, the focus goes to ongoing costs, as one-off fees apply only when investors subscribe or redeem shares on the primary market, whereas they do not apply when investors trade on the secondary market, where bid–ask spreads should be factored in.

Performance fees

We do not include performance fees in our analysis as the reporting field for performance fees is not adequately completed, either in Refinitiv Lipper or Morningstar Direct, to provide consistent results.

An underlying reason for the scarcity of data is the heterogeneity in the way performance fees are computed across markets due to a lack of EU regulatory requirements on calculation and reporting of performance fees.[119]

Distribution fees

Distribution costs are a crucial component affecting the total cost borne by investors. The assessment of distribution costs is, however, significantly impaired due to scarce data availability and significant heterogeneity across markets and across channels, but also, for the same channel, across investors. Lack of harmonisation means there is variation in the level of granularity, data format and language. Distribution costs may be part of the analysis to the extent that they are included in ongoing costs and/or the entry charges presented in the KIID. However, they are not included as a specific cost as we are not able to identify such fees.

Previous ESMA reports[120] highlight the lack of transparency and the heterogeneity across Member States. From a regulatory perspective, Directive 2019/1160[121] aims, among other things, to eliminate regulatory barriers to the cross-border distribution of funds, as well as to improve transparency by aligning national marketing requirements and regulatory fees.

In order to obtain more in-depth information on distribution fees across Member States, ESMA carried out a detailed survey of Member States, through NCAs, in August 2020[122] and another in August 2021, aiming to identify the main changes from the previous year. No significant changes were identified. As for previous years, the key

[117] Commission Delegated Regulation (EU) 2015/565, Annex 2.

[118] Articles 10 and 11, Commission Regulation (EU) No 583/2010.

[119] For more details on regulatory developments please refer to the related annex Regulatory developments, in this report.

[120] ESMA, 2020, "Annual Statistical Report Performance and costs of retail investment products in the EU".

[121] Directive (EU) 2019/1160 of the European Parliament and of the Council of 20 June 2019 amending Directives 2009/65/EC and 2011/61/EU with regard to cross-border distribution of collective investment undertakings.

[122] Please see detailed results of this survey carried out in August 2020 across EU jurisdictions in the annex on Data sources and limitations of the ESMA third annual statistical report published in April 2021, page 69.

finding remains the lack of harmonisation in distribution channels and cost treatment.[123]

Taxonomy of costs: EU regulation and commercial data

There are differences in the definitions of costs used by Refinitiv Lipper and by current EU Regulation: UCITS Directive and Delegated Acts, MiFID II and the PRIIPs regulation.

Ongoing costs

UCITS: Chapter IX, Section 3, of the Level 1 Directive (2009/65/ES) refers to key investor information (KIID) and art. 78(3) specifies that KIID must also provide information on cost and charges. Details of the content and format are to be provided in delegated acts adopted by the Commission (art. 78(7)).

UCITS KIID: From the UCITS Directive, details on content and format have been left to be developed further by means of implementing measures, which should be specific enough to ensure that investors receive the information they need in respect to particular fund structures (Recital (1) Commission Regulation (EU) No 583/2010). Article 10 (3) of the Commission Regulation No 583/2010 defines the charges and their presentation.

For ongoing costs (Article 10 (2)(b)), a single figure is to be shown for charges taken from the UCITS over a year, representing all annual charges and other payments taken from the assets of the UCITS over the defined period, and based on the figures for the preceding year.

The following is the definition of the reporting of charges in Annex II of the UCITS regulation:

"Ongoing charge: []% charges taken from the fund under certain specific conditions."

CESR guidelines: CESR guidelines on the methodology for the calculation of the ongoing charges figure in the KIID contain the definition of the ongoing charge figures to be disclosed, including an indicative but not exclusive list of the types of ongoing charges. As per the guidelines, ongoing charges include the following:

- All payments to the management company of the UCITS, directors of the UCITS if an investment company, the depositary, the custodian(s) and any investment adviser, also including any person to whom they have delegated any function.
- All payments to any person providing outsourced services to any of the above.
- Registration, regulatory fees and similar charges.
- Audit fees.
- Payments to legal and professional advisers.
- Any costs of distribution.
- Cost charged to the funds in which the UCITS are invested where such funds represent a material share of the UCITS' portfolio.
- Charges and payments that do not form part of the amount to be disclosed as ongoing charges in the KIID including but not limited to entry/exit charges, a performance-related fee payable to the management company or investor advisor, transaction costs, interest on borrowing and payments to third parties.

PRIIPs: Details are referred to the Commission Delegated Regulation (EU) 2017/653.

Anne VI refers to the methodology for the calculation of costs. Part I, refers to the list of costs, one-off fees, recurring costs and incidental costs. Recurring costs are payments deducted from the assets of an AIF or UCITS and represent the following: expenses necessarily incurred in their operations; any payments, including remunerations, to parties connected with the AIF or UCITS or providing services to them; and costs. Annex VI sets out the harmonised way to measure and disclose transaction costs.

The cost indicator to be used is the reduction in yield (RIY). In terms of what recurring costs include (as per the CESR guidelines previously reported (see above)), this is in line with PRIIPs.

Regarding undue costs, ESMA has produced a supervisory briefing on the supervision of costs addressed to NCAs, which focuses on how NCAs supervise the relevant cost-related provisions under UCITS and AIFMD and on the managers' obligation to prevent undue costs being charged to investors.

MIFID II: Directive 2014/65/EU of the European Parliament and of the Council.

Article1 of MiFID II sets out the scope: "The MIFID II Directive applies to investment firms, market operators, data reporting service

[123] For more details, please see footnote 121.

providers and third-country firms providing investment services or performing investment activities through the establishment of a branch in the Union. […]".

UCITS funds and managers are generally exempt from MIFID II, except to the extent that they also conduct MIFID investment services and activities in relation to financial products.

Articles 24(4) and (5) of MiFID II refer to costs and charges to be reported and how to report them. Article 24(13) of MiFID II empowers the Commission to adopt delegated acts to ensure compliance with the principles set out in Art. 24 of MiFID II. Article 50 of the Commission Delegated Regulation 2017/565 then prescribes in more detail how the disclosures should be made.

Annex II of this regulation includes examples on disclosures on ongoing charges.

Commercial data: Refinitiv Lipper data are mainly based on information provided by the fund management company. Total Expense Ratio (TER) can include one of the following figures.

- Expense Ratio (ER)
- Fund Expense Ratio (FER)
- Management Expense Ratio (MER)
- Ongoing Charges (OC)
- Total Expense Ratio (TER)

For the EU, TER mostly refers to ongoing charges and is used as a proxy for ongoing costs.

More details can be found in the Refinitiv Lipper paper "Adjusted Performance Lipper Calculation Definition Methodology Research Team".

Entry and exit charges

UCITS KIID: Article 10 (2)(a) of Commission Regulation No 583/2010 clarifies that entry and exit charges shall each be the maximum percentage that might be deducted from the investor's capital commitment to the UCITS".

Article 11(1)(a) follows by clarifying that:

- regarding entry and exit charges, it must be made clear that the charges are always maximum figures, as in some cases the investor might pay less.
- a statement must be included stating that the investor can find out the actual entry and exit charges from their financial adviser or distributor.

PRIIPs: Annex VI, Part 1 List of costs, includes the definition of one-off costs. A one-off cost is an entry or exit cost that is either paid directly by the retail investor or deducted from a payment received by or due to the retail investor.

One-off costs include, but are not limited to, the following types of up-front initial costs that are to be taken into account in the cost amount to be disclosed in the KIID: distribution fee, to the extent that the amount is known to the management company.

If the actual amount is not known to the management company, the maximum of the possible known distribution costs for the specific PRIIP must be shown: constitution costs (up-front part), marketing costs (up-front part) and subscription fee including taxes.

MIFID II: Annex II of Regulation 2017/585 shows how entry and exit fees should be reported by MiFID investment firms.

Commercial data: Maximum subscription (redemption) fees or front (back) loads are disclosed as percentages of the initial investment (withdrawals). Both are reported according to the fund disclosure.

As most institutions report the maximum fees, as required by the regulation, these are the fees available.

Performance fees

UCITS KIID: Article 12(3) of the Regulation No 583/2010 provides or the inclusion of a performance fee to be disclosed in accordance with Article 10(2) (c) of the same regulation. The amount charged during the UCITS previous financial year is to be included as a percentage. Details on the presentation of charges are reported in the annex Regulatory Developments.

PRIIPs KID: Annex VI harmonises the way to measure and disclose performance fees.

CESR guidelines: In the guidelines (p 2) it is specified that a performance-related fee payable to the management company or any investor advisor "shall not form part of the amount to be disclosed as ongoing charges in the KIID".[124]

MIFID II: Annex II of Regulation 2017/585 includes examples of how to report performance fees. These are considered incidental costs.

[124] CESR/09-949.

Commercial data: Performance fees are not included in the TER.

ESMA Guidelines on performance fees in UCITS and certain types of AIFs: The Guidelines aim to harmonise the way fund managers charge performance fees to retail investors, as well as the circumstances in which performance fees can be paid. The guidelines are applicable to both UCITS and certain types of AIFs, in order to ensure a level playing field and a consistent level of protection to retail investors. Based on the guidelines, any losses/underperformances should be compensated for a period of at least five years before a performance fee can be paid.[125]

UCITS ESG

Although the SFDR introduced a possible definition of ESG funds disclosing under Articles 8 or 9 of the SFDR going forward (see annex Regulatory developments), the classification process by fund managers appears to be still very much in progress. In order to have a representative and stable sample (compared with last year) of the universe of ESG UCITS funds, this report relies on the Morningstar definition of "Sustainable investment".

The definition of ESG funds used in this report relies on the flag "Sustainable investment" available in Morningstar data. Morningstar defines a Sustainable Investment fund as a fund explicitly indicating any kind of sustainability, impact, or ESG strategy in its prospectus or offering documents.

According to Morningstar, sustainable investments include three main types of funds: ESG funds (relying on ESG integration and/or ESG engagement), impact funds, "which seek to make a measurable impact alongside financial return on specific issue areas through their investments", and environmental sector funds.

Funds may use more than one sustainable investment strategy, and/or combine them with exclusions. However, Morningstar considers that strategies relying on exclusions only are not sustainable investments.

For the purpose of analysing ESG strategies, this report relies on the following approach:

- Exclusion strategies refer to funds employing exclusions only;
- Impact funds refer to any fund seeking to make a measurable impact, whether or not this is combined with another ESG strategy;
- Other ESG strategies refer to any sustainable investment fund other than impact funds.

AIFs sold to retail investors

The reporting obligations established by the AIFMD and the Implementing Regulation provide a standard data collection framework and ultimately improve transparency to NCAs. These obligations together with PRIIPs requirements should ultimately enable NCAs and ESMA to acquire a complete overview of the structure of AIFs and AIFMs. Not all the data currently reported, however, show an adequate level of quality. Together with the high degree of diversity and complexity in the AIF industry, the quality of relevant information poses challenges from an analytical perspective. ESMA together with NCAs is continuing to work on improving the coverage and quality of AIFMD data. Nonetheless, even if from an AIFMD perspective work is still ongoing trying to ameliorate data quality, data to be collected from PRIIPs are not yet available. This lack of information had an impact on the type of studies previously developed as well as on the current study, which focuses on alternative investments.

Focusing on the current analysis, given the lack of data and lingering data quality issues, a full analysis has not yet been fully developed. This implies a sample analysis of gross and net performances and not of the full universe. Data reporting is however improving. Because, in the AIFMD, reporting on costs is not required, a cost analysis is, so far, missing. In addition, there is no commercial database at our disposal that consistently and comprehensively covers this segment of the market.

SRPs

No regulatory data are available on SRPs across the EU. The PRIIPs regulation has been applicable only since 1 January 2018; KIDs-based data would not cover products issued before this date. Moreover, data on the costs

[125] See annex Regulatory Developments for more details.

faced by investors are not generally available, for most EU Member States, even if, under the PRIIPs regulation, cost estimates are required to be published in the KIDs. However, such data are not required to be reported to ESMA, meaning that the information is dispersed across large numbers of documents.

One issue to bear in mind is that these data depend on the methodology and pricing models used, which may vary between providers.

Approaches to replication

If costs are not disclosed by the issuer, or the credibility of the issuer's disclosure is questionable, an own estimate of costs can be made, although this can be complex.

Structured products can be understood as products that combine at least two single financial instruments of which at least one is a derivative (Das, 2000). The law of one price thus suggests that a structured product's price can be calculated simply by adding together the prices of its components. A cost estimate may then be derived by comparing the price a retail investor pays with the prices of the component instruments that would replicate the product's pay-offs.

For example, in options markets, a reverse convertible is a bond that can be exchanged into shares of common stock at the discretion of the issuer. A long position in a reverse convertible can therefore be replicated by a long position in a coupon-bearing bond issued by the issuer of the reverse convertible, and a short position in a put option (i.e. a written put). A structured product with reverse convertible pay-offs can be similarly priced or valued.

To come up with a fair price for a structured product, its components must be correctly identified. For every structured product, there are many ways to replicate its payoff structure. For example, a reverse convertible can be replicated by a long position in a bond and a short position in a put option or by a combination of bonds, a short call, and a forward contract. Economic reasoning suggests that the most efficient replication of a structured product is done using the fewest possible components.

Two approaches exist to find the prices of different structured product components. One is to observe the prices of the components that are traded on an exchange and to use a financial model for those that are not traded. This approach, used by, for example, Szymanowska et al. (2009),[126] uses few assumptions. However, it will not always be possible to find the respective components on an exchange, as sometimes the component does not exist, or there is no incentive to trade it on an exchange.

Another approach is to use a financial model for all components of the structured product. This approach does not run the risk of issuer bias and virtually every option can be priced. However, using a financial model for the option component can be time-consuming. In addition, decisions should be taken with respect to the model that will be used and the inputs. These decisions, for example regarding the assumed volatility, can have a big impact on the price. Replicating prices using financial models is by far the most common approach taken in research. A detailed summary of results of this approach can be found in ESMA (2013). [127]

[126] Szymanowska, M., Horst, J., T. and Verd, C., 2009, Reverse Convertible Analyzed.

[127] ESMA, 2013, Economic Report Retailisation in the EU.

Statistical methods

We have developed a specific methodology when calculating past performance and costs for funds to account for different aggregation and investment horizons as well as type of data available. This annex reports on the following:

— Statistical methods referring to the main methodology of the analysis.
— Robustness checks focusing on survivorship bias and on potential issues related to the choice of type of panel if balanced or unbalanced.

UCITS analysis

Data is at entity-specific share class level and cover a ten-year period between January 2010 and December 2019. As previously mentioned, for the UCITS analysis we rely on commercial data providers, as data based on reporting requirements under EU law are not available for the entire reporting period.

We use the following data for our analysis[128]:

— Gross annual performances.
— TER data as a proxy for ongoing costs.
— annual fund value as a proxy for NAV.
— annual net flows.
— EU Member State inflation rates.

Data scope and availability are likely to change and improve over time. Therefore, the methodology is designed in a flexible way. In practice this means that the different cost elements are treated separately. This allows the addition of cost categories over time and the incorporation of data from different data sources where this improves the analysis. This is reflected in this year's report, which includes an analysis of management fees following the merging of data gathered from Morningstar Direct with those obtained from Refinitiv Lipper.

We distinguish between the following:

— Gross performances.
— Ongoing costs.
— Performance net of ongoing costs, which equals the difference between gross returns and TER.
— Net performances, which equals gross returns net of TER and subscription and redemption fees charged directly by the fund (proxied by entry and exit charges).
— Net performances minus inflation, where annual inflation is provided on a monthly basis. It is downloaded from the ECB statistical data warehouse and it is based on Eurostat data.
— Given the potential misclassification of asset classes between commercial providers and national supervisors, we relied on the classification of national supervisors when possible.
— We exclude extreme values (± 1%) from the distribution of gross performance.

The analysis does not cover the impact of taxation on fund performance.

Turning to the technical specification of individual metrics used in this study, the gross performance of a fund, r^G, represents the gross performance of the portfolio, in which the fund is invested in and ongoing costs are proxied by the TER. Both r^G and TER are obtained directly from the data provider. Performance net of TER, r^N, is therefore:

$$r^N = r^G - TER$$

Next, we factor in subscription and redemption fees (front load (FL) and back load (BL)) by deducting respective fees as weighted by the ratio of net flows to fund values (FV). Hence performance net of TER and subscription and redemption fees, r^{NL}, is:

$$r^{NL} = r^N - \left|\frac{net\ flows}{FV}\right|(FL/BL)$$

The variable r^{NL} denotes the performance net of ongoing costs FL and BL. These fees are provided as time-invariant information and the maximum fees are used when information on actual fees is not available. This implies a potential upward bias.

[128] The data is retrieved from Refinitiv Lipper (performances, TER, net flows, fund value) are annual data at quarterly frequencies. We are also able to retrieve static information on front and back fees, asset types, domiciles and jurisdictions in which the share class is marketed. For inflation, annual inflation rates at monthly frequencies come from the ECB Statistical Data Warehouse.

Information on net flows[129] is considered to take into account the fact that these fees are not applied constantly over time, but rather depend on actual redemptions or subscriptions of investors. We weight these fees by the ratio of net flows over fund value across quarters, limiting their impact.[130] The weighting is structured in this way in order to account for potential variability in the holding period. In future reports, once more granular data on actual subscription and redemption fees are available a more accurate calculation will be possible.

Finally, we also subtract inflation (i.e. the inflation rate π for the country in which the respective fund is domiciled), and generate the metric on returns net of TER, subscription and redemption fees, and inflation:

$$r^{NLI} = r^{NL} - \pi$$

Data on inflation are retrieved from the ECB Statistical Data Warehouse and refer to the annual Harmonised Index of Consumer Prices (HICP) rate of change for the Euro Area changing composition.

Data are available at share class level. To have data at an aggregated level, we aggregate data at share class level through a weighted average by the size of the share class within the size of the domicile for the specific asset class considered. To have data by time horizon, we then compute a geometric average across time according to the time horizon considered.

Regressions on the UCITS sample

In order to statistically validate our findings on cost, we perform a regression analysis on the overall UCITS sample between 2011 and 2020. We keep only data for the final quarter of each year and estimate the following equation using ordinary least squares (OLS) with time and characteristics dummies:

$$TER_{i,y} = \alpha_0 + \alpha_1\, year_y + \alpha_2\, Investors_i + \alpha_3\, Mgmt_i + Asset_i + \alpha_5\, Domicile_i + \alpha_6\, Age_{i,y} + \alpha_7\, Log(Net\ assets)_{i,y} + \alpha_8\, Performance_{i,y-1} + \alpha_{AMC} + \varepsilon_{i,y}\ .^{131}$$

ASR-PC.35

Regression analysis of the TER

Cost differences even after adding control

OLS with and without FE per Management Cos

Dependent variable: TER

	Panel a- no FE	*Panel b – with FE*
Year: 2017 to 2020	(–) ***	(–) ***
Institutional	– 0.624 ***	– 0.636 ***
Passive	– 0.656 ***	– 0.488 ***
Equity	0.493 ***	0.485 ***
Mixed	0.494 ***	0.438***
Domicile (base: NL)	(+) ***	(+) ***
Age	0.011 ***	0.011 ***
Size	– 0.034 ***	– 0.027 ***
Gross performance N-1	0.002 ***	0.003 ***
Obs.	213,203	213,199

Note: *Year* is a dummy for each year between 2017 and 2020, reported compared with 2016. *Institutional* is a dummy taking the value of 1 if a fund is institutional and 0 if it is retail. *Passive* is a dummy taking the value of 1 if the fund is passively managed. *Equity* (*Mixed*) is a dummy taking the value of 1 if a fund belongs to the equity (mixed) asset class; the base class is the bond fund class. *Domicile* is a dummy for each EU domicile; reported is the relation with respect to the Netherlands. The domiciles considered are those referred to in the main analysis. *Age* measures the age of the fund from its inception day expressed in years. *Size* represents fund size in terms of net assets in log terms. FE = fixed effects. Significance levels are reported: 0.01 (***), 0.05 (**), 0.1 (*).

Sources: Refinitiv Lipper, ESMA.

The regression's results (ASR-PC.35) show:

- A declining trend in TER since 2016.
- Lower costs for institutional funds and passive funds (excluding ETFs).
- A negative and significant relation between the net assets and the TER, which is also in line with the finding that larger funds tend to have lower costs than small funds.
- A positive, yet very small, and significant relation between the fund's age and the TER.
- On average, lower costs for funds domiciled in the Netherlands compared with the other major domiciles considered.

[129] Please note that Refinitiv Lipper provides net flows and does not distinguish between inflows and outflows.

[130] When the weights are negative, we only consider redemption fees, otherwise, we consider only subscription fees. Weights are between 0 and 1. This could potentially create an upward bias towards smaller or newly created funds. We could also overestimate the impact as, by considering quarterly frequencies we could include subscription and redemption fees at potentially higher frequencies than those actually incurred by investors.

[131] $TER_{i,y}$ is the total expense ratio per fund at the end of each year, $year_y$ is the time dummy, $Investors_i$ is a dummy indicating the type of investors authorised to invest in the share class, $Mgmt_i$ is a dummy distinguishing active and passive funds (ETFs are not included), $Asset_i$ is a dummy indicating the funds' underlying assets (equities, bonds or mixed), $Domicile_i$ is a dummy indicating the domicile of the fund, $Age_{i,y}$ is the age of the fund, $Log(Net\ assets)_{i,y}$ is the logarithm of the fund value at the end of each year, $Performance_{i,y-1}$ is the fund's gross performance for the previous year and α_{AMC} is a characteristic dummy identifying the asset management company (AMC).

We also perform a series of quarterly regressions on 2020 data to focus on ESG funds (ASR-PC.36). The following equation was estimated using OLS with robust standard errors:

$$TER_{i,q} = \alpha_0 + \alpha_1 Domicile_i + \alpha_2 Mgmt_i + \alpha_3 Asset_i + \alpha_4 ESG + \alpha_5 Age_{i,q} + \alpha_6 log(net\ assets)_{i,q} + \alpha_{AMC} + \varepsilon_{i,q}.$$ [132]

The results show that ESG funds are less costly compared to their non ESG peers across the four quarters even after controlling for the age and the size of the funds.

ASR-PC.36
Regression analysis of the TER for ESG funds
ESG funds remained cheaper

OLS with robust errors
Dependent variable: TER

	1Q20	*2Q20*	*3Q20*	*4Q20*
Passive	−0.504 ***	−0.526 ***	−0.519 ***	−0.529 ***
Equity	0.565 ***	0.555 ***	0.551 ***	0.542 ***
Mixed	0.494 ***	0.475 ***	0.476 ***	0.475 ***
ESG	−0.088 ***	−0.086 ***	−0.085 ***	−0.080 ***
Age	0.017 ***	0.018 ***	0.018 ***	0.019 ***
Size	−0.022 ***	−0.020 ***	−0.020 ***	−0.021 ***
Obs.	35,263	37,862	38,955	40,006

Note: *Passive* is a dummy taking the value of 1 if the fund is passively managed. *Equity* (*Mixed*) is a dummy taking the value of 1 if a fund belongs to the equity (mixed) asset class, the base class is the bond fund class. *ESG* is a dummy taking the value of 1 if a fund is an ESG fund. *Age* measures the age of the fund from its inception day expressed in years. *Size* represents fund size in terms of net assets in log terms. Significance levels are reported: 0.01 (***), 0.05 (**), 0.1 (*).
Sources: Refinitiv Lipper, ESMA

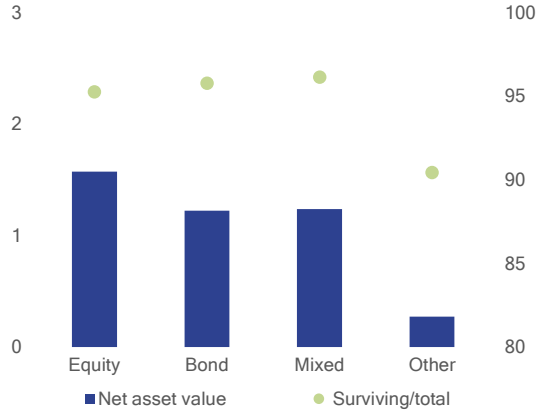
UCITS robustness checks

Surviving and non-surviving funds

This section refers to the potential for survivorship bias. Survivorship bias stems from the reliance on a sample of performances of only existing funds in the market without considering those that have disappeared. In turn, this may result in an overestimation of fund past performance. The same analysis previously focusing only on funds identified as surviving is now run for both surviving and non-surviving funds.

Focusing only on retail investors at the end of 2020, the overall sample of funds, surviving and non-surviving, stood at EUR 4.3tn, almost 5% higher than the sample focusing only on surviving funds (ASR-PC.37). The difference is the highest for funds primarily investing in equity (if we exclude the category other funds). Surviving funds represented, at the global level, 95% of surviving and non-surviving funds. This is a significant increase compared with last year's analysis, in which surviving funds were 75% of surviving and non-surviving funds. It probably reflects the COVID-19 pandemic, which has had a larger impact on recent funds.

ASR-PC.37
Surviving and non-surviving funds for retail investors
Limited differences

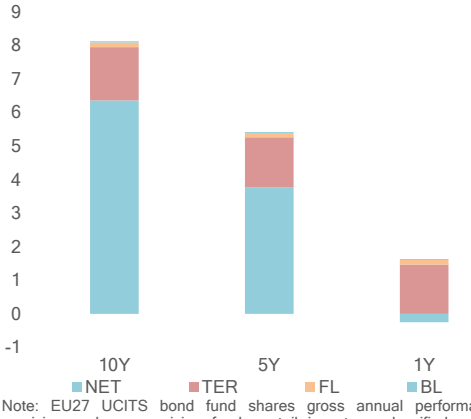


Note: EU27 UCITS universe, in terms of fund value by asset class, surviving and non surviving funds, retail investors, 4Q20, EUR tn. Ratio only surviving funds over total funds by asset class on right-hand axis.
Sources: Refinitiv Lipper, ESMA.

However, this does not affect results in terms of performance and costs that remained at the same levels as in the main analysis across time horizons and asset classes. As an example, focusing on equity, ASR-PC.38 shows that gross annual performance for the ten year horizon was 8.2% for the surviving sample and 8.1% for the sample including both surviving and non-surviving funds. Similarly, the difference in terms of gross performance for the one-year horizon is less than 0.1 pps.

[132] See footnote 128 for variable definition, keeping in mind that the frequency is now quarterly (*q*), and the focus is on 2020. *ESG* provides indication if a fund is classified as ESG or not.

ASR-PC.38
Equity UCITS surviving and non-surviving performance
Results in line with main analysis



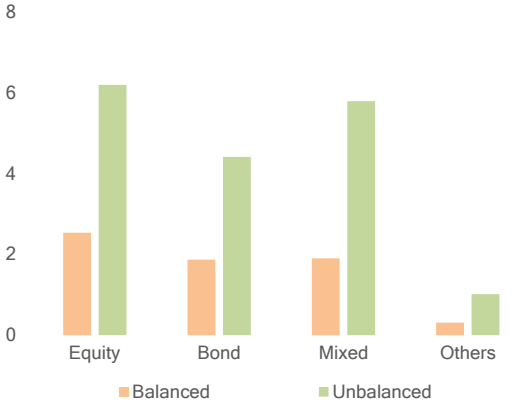
Note: EU27 UCITS bond fund shares gross annual performance, surviving and non-surviving funds, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Reporting period from 1Q11 to 4Q20
Sources: Refinitiv Lipper, ESMA.

Balanced and unbalanced panels

The long horizon that the report needs to cover, 2011–2020, implies that we would have a large number of funds entering and exiting the market. This issue raises the question regarding the type of sample to rely on: balanced or unbalanced. A balanced sample will include only funds with data over the entire time horizon. The number of fund shares remains constant in the sample (i.e. over the three-year horizon we consider only those funds present from the beginning to the end of the three years). An unbalanced sample includes all fund shares for which data are available at some point during 2011–2020. The number of fund shares will therefore change over time. This may raise concerns about if and how results might change when the two different samples are considered. The following analysis reports on the comparison between balanced and unbalanced samples at an aggregate level for the five-year horizon.

Focusing on the three largest retail asset classes, moving from an unbalanced to a balanced panel over the five-year horizon the number of fund shares reduced by more than 60% (ASR-PC.39).[133] For equity and mixed funds, the unbalanced sample reports, on average, between 3,500 and 4,000 funds more than the balanced sample. In the case of bonds this difference was about 2,500 funds.

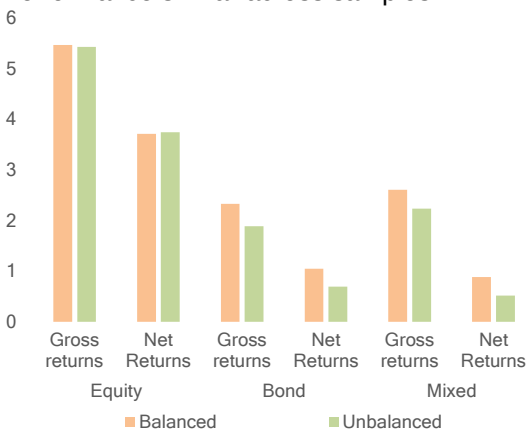
ASR-PC.39
Number of funds per asset class 5Y horizon
Number of UCITS reduces by more than 60%



Note: EU27 UCITS universe, number of funds per asset class, balanced and unbalanced samples. 5Y horizon, thousands. Others include alternative strategies and money market.
Sources: Refinitiv Lipper, ESMA.

In terms of gross and net performances, when we considered the two different samples, the difference was negligible for equity funds, and limited for bonds and mixed funds (ASR-PC.40).

ASR-PC.40
Performance per asset class 5Y horizon
Performance similar across samples



Note: EU27 UCITS gross and net performances for the largest retail asset classes, balanced and unbalanced samples. 5Y horizon, %.
Sources: Refinitiv Lipper, ESMA.

For equity UCITS, in both gross and net terms, performances remained the same across the two samples. We observed a slight difference mainly in the case of bonds and mixed UCITS.

Moving from five- to one year, as expected, the differences were much smaller as the two samples, balanced and unbalanced, were more similar. In terms of number of funds, the unbalanced sample reduces by around 12% on

[133] Alternative and money market UCITS are not considered in the analysis on performances of balance and unbalanced sample. This is due to the fact that the larger asset classes on which retail investment is focused are equity, bond and mixed funds. Moreover, the reduced size of the sample for alternative and money market UCITS, especially at longer time horizons, does not provide significant results.

average. As to be expected, the longer the time period, the larger the change in number of UCITS. In terms of gross performances, deviations were also negligible. More significant differences are observable for net performance, which is always higher in the case of the balanced panel. This may stem from the fact that new funds are cheaper than older ones.

Because the differences were limited, we based the main analysis on an unbalanced panel in order to use the largest number of observations.

AIFs sold to retail investors

Data come from AIFMD reporting. Over 2019, coverage largely improved, with data now covering the entire market. Data concerning market size, by type of investor, fund category and geographical focus, are yearly fund level data. Aggregation is then performed using the mean of a simple average.

AIF gross and net performance analysis

The current report also provides a sample analysis of fund gross and net returns for 2019. The definition of gross returns stems from the European Commission delegated regulation[134] supplementing the AIFMD. This means having monthly returns at a fund-by-fund level (gross/net of management and performance fees). We then annualise the monthly returns and aggregate across funds. This aggregation consists of a weighted average across fund categories, using NAV or AuM as available.[135]

The focus is on those funds with 100% retail investment. For 2019, this was around EUR 700bn or 70% of the total retail investment in AIFs.

Unlike the market overview analysis, however, we based this analysis on a smaller sample of funds. The sample reduced because we excluded certain types of funds:

- Those funds for which data on performance were not at all available.
- Those funds for which data were available only for less than eight out of the twelve months of the year 2018.
- Those funds for which data on gross and net performances, and NAV were not jointly available.
- There were instances in which net returns were higher than gross returns. These cases were excluded. But this indicates potential problems a priori in the reporting, which is under investigation.
- Those funds reporting monthly gross performance outside the range ± 10%. This did not have an impact on the final NAV. The decision was linked to background analysis on hedge fund data based on Heurekahedge. The maximum and minimum gross performance for the ten years up to 2019 did not exceed the range identified above.

[134] Commission Delegated Regulation 231/2013 supplementing Directive2011/61/EU (reporting obligations of NCAs are reported in Article 24 of the Directive). The details on the reporting templates can also be found in the “AIFMD reporting IT technical guidance (rev.4). [Updated]” published by ESMA.

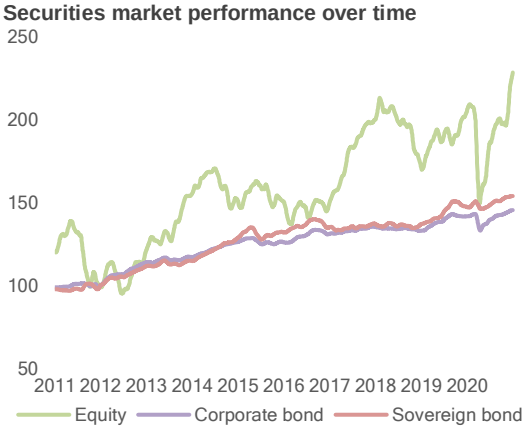
[135] In our sample NAV and AuM do not significantly differ.

Statistics

Market environment

ASR-PC-S.1

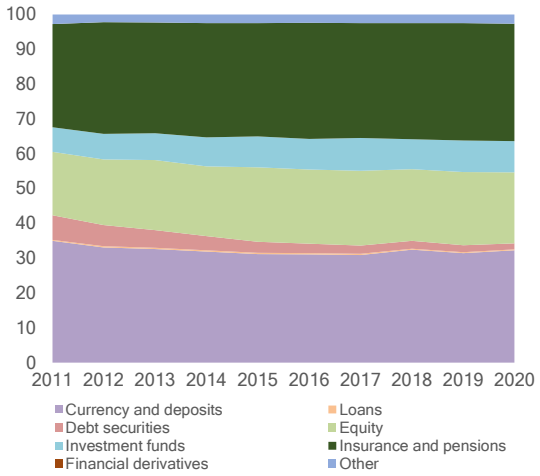
Securities market performance over time



Note: Return indices on European equities (Datastream regional index), EA corporate and sovereign bonds (iBoxx EUR, all maturities), monthly averages, December 2011 =100.
Sources: Refinitiv Datastream, ESMA.

ASR-PC-S.2

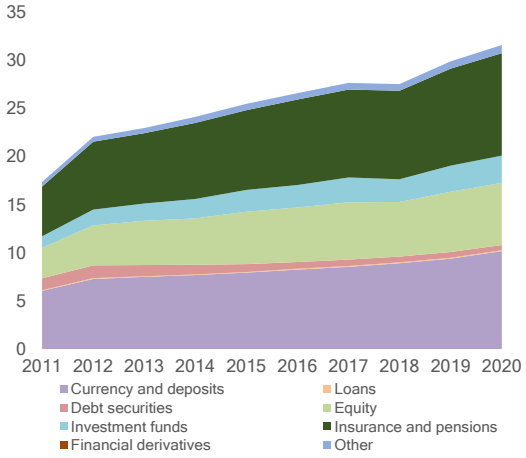
Structure of household financial assets



Note: Share of households financial assets in the EU, %.
Sources: Eurostat, ESMA.

ASR-PC-S.3

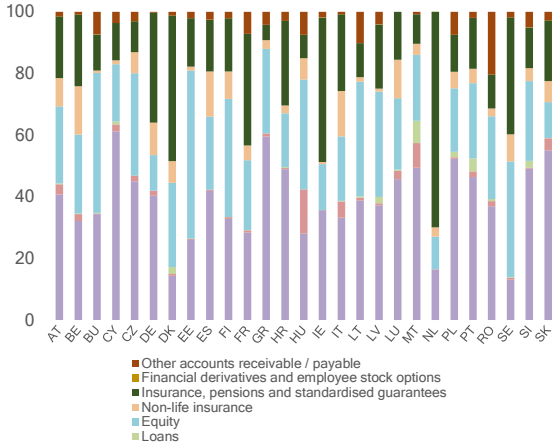
Household financial assets



Note: Households financial assets in the EU, EUR tn.
Sources: Eurostat, ESMA.

ASR-PC-S.4

Structure of household financial assets by fund domicile



Note: Structure of financial assets by Member State, 2020, %.
Sources: Eurostat, ESMA.

ASR-PC-S.5

EU inflation

Inflation on a decreasing trend over the last five years

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
EU 27	2.8	2.3	0.8	-0.2	0.2	1.1	1.4	1.6	1.6	0.2
AT	3.4	2.9	2.0	0.8	1.1	1.6	2.3	1.7	1.8	1.0
BE	3.2	2.1	1.2	-0.4	1.5	2.2	2.1	2.2	0.9	0.4
BG	2.0	2.8	-0.9	-2.0	-0.9	-0.5	1.8	2.3	3.1	0.0
CY	4.2	1.4	-1.3	-1.0	-0.6	0.1	-0.4	1.0	0.7	-0.8
CZ	2.8	2.4	1.5	0.0	-0.1	2.1	2.2	1.6	3.2	2.4
DE	2.8	2.4	1.5	0.0	-0.1	2.1	2.2	1.6	3.2	2.4
DK	2.4	1.9	0.5	0.1	0.3	0.3	0.8	0.7	0.8	0.4
EE	4.1	3.6	2.0	0.1	-0.2	2.4	3.8	3.3	1.8	-0.9
ES	2.3	3.0	0.3	-1.1	-0.1	1.4	1.2	1.2	0.8	-0.6
FI	2.6	3.4	1.9	0.6	-0.2	1.1	0.5	1.3	1.1	0.2
FR	2.7	1.5	0.8	0.1	0.3	0.8	1.2	1.9	1.6	0.0
GR	2.2	0.3	-1.8	-2.5	0.4	0.3	1.0	0.6	1.1	-2.4
HR	2.1	4.4	0.5	-0.1	-0.3	0.7	1.3	1.0	1.3	-0.3
HU	4.1	5.1	0.6	-0.8	1.0	1.8	2.2	2.8	4.1	2.8
IE	1.5	1.7	0.3	-0.3	0.2	-0.2	0.5	0.8	1.1	-1.0
IT	3.7	2.6	0.6	0.0	0.1	0.5	1.0	1.2	0.5	-0.3
LT	3.5	2.9	0.5	-0.1	-0.2	2.0	3.8	1.8	2.7	-0.1
LV	3.9	1.6	-0.4	0.3	0.4	2.1	2.2	2.5	2.1	-0.5
LU	3.4	2.5	1.5	-0.9	0.9	1.6	1.6	1.9	1.8	-0.3
MT	1.5	2.7	1.0	0.4	1.3	1.0	1.3	1.2	1.3	0.2
NL	2.5	3.4	1.4	-0.1	0.5	0.7	1.2	1.8	2.8	0.9
PL	4.6	2.1	0.6	-0.7	-0.4	0.9	1.7	0.9	3.0	3.4
PT	3.5	2.1	0.2	-0.3	0.3	0.9	1.6	0.6	0.4	-0.3
RO	3.2	4.6	1.3	1.0	-0.7	-0.1	2.6	3.0	4.0	1.8
SE	0.4	1.0	0.4	0.3	0.7	1.7	1.7	2.2	1.7	0.6
SI	2.1	3.1	0.9	-0.1	-0.6	0.6	1.9	1.4	2.0	-1.2
SK	4.6	3.4	0.4	-0.1	-0.5	0.2	2.0	1.9	3.2	1.6

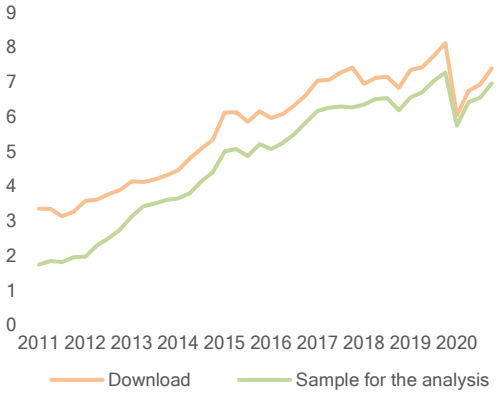
Note: Annual inflation measures the change over the year in the prices of consumer goods and services acquired, used or paid for by households. Consumer price inflation is measured by the Harmonised Index of Consumer Prices (HICP),%.
Sources: Eurostat.

UCITS

Market Overview

ASR-PC-S.6

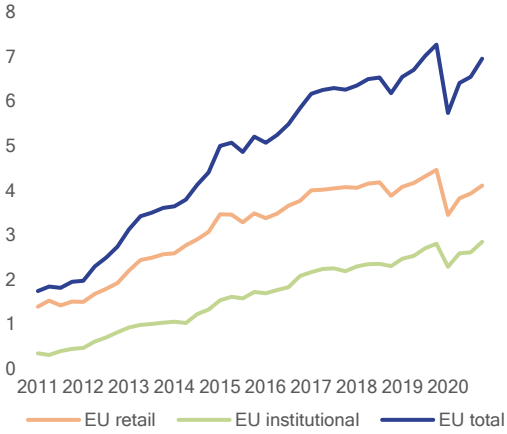
UCITS market size



Note: EU27 UCITS market size in terms of fund value, EUR tn. Population, all observations for which fund value and fund performance are available. Sample, all observations for which fund value, fund performance, net flows, subscription and redemption fees are available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.7

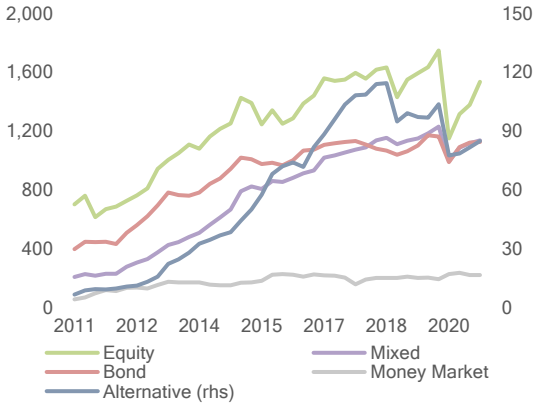
UCITS market size by type of investor



Note: EU27 UCITS market size in terms of fund value, by type of investor, EUR tn.
Sources: Refinitiv Lipper, ESMA,

ASR-PC-S.8

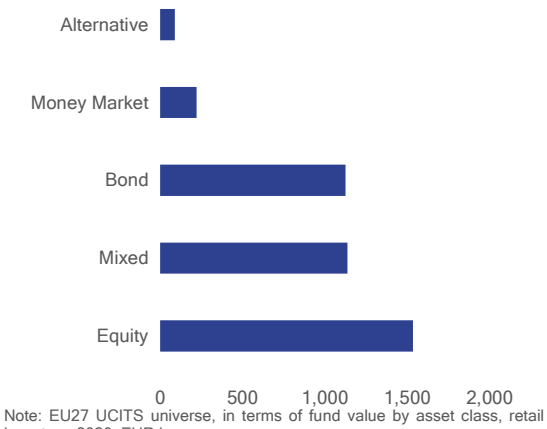
UCITS retail market size by asset class



Note: EU27 UCITS market size in terms of fund value, by asset class, retail investors, EUR bn. Money Market refers to MMF UCITS. Alternative strategies on the right hand side axis (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.9

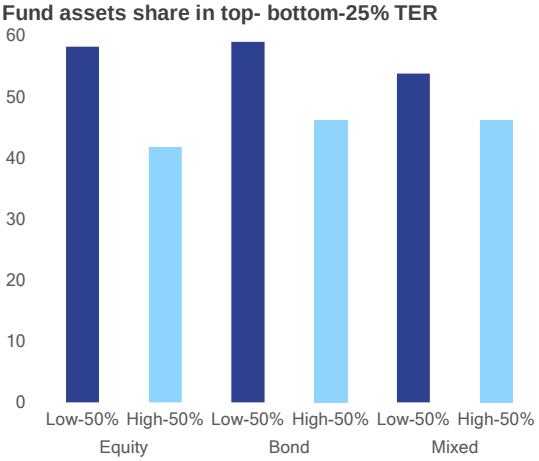
UCITS retail market by asset size – 2020



Note: EU27 UCITS universe, in terms of fund value by asset class, retail investors, 2020, EUR bn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.10

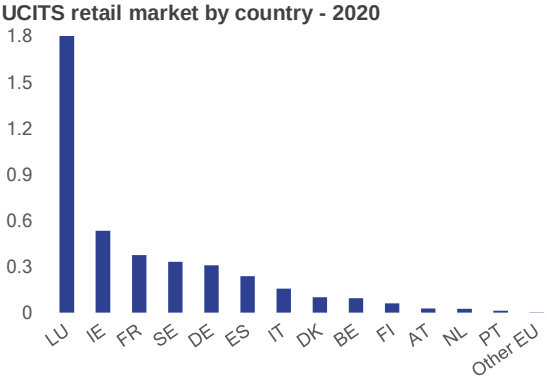
Fund assets share in top- bottom-25% TER



Note: EU27 UCITS share of NAV held in the low-50% and high-50% in terms of ongoing costs as measured by the TER, %.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.11

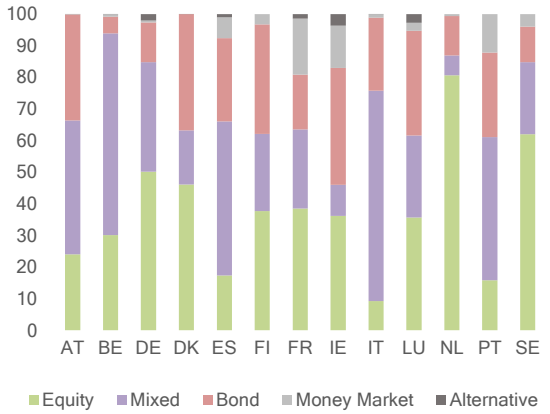
UCITS retail market by country - 2020



Note: EU27 UCITS universe in terms of fund value, retail investors, 2020. All observations for which information on fund value, fund performance, netflows, subscription and redemption fees available, EUR tn. Other EU27 includes: BG, CY, CZ, EE, GR, HR, HU, LT, LV, MT, PL, SI, SK, RO.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.12

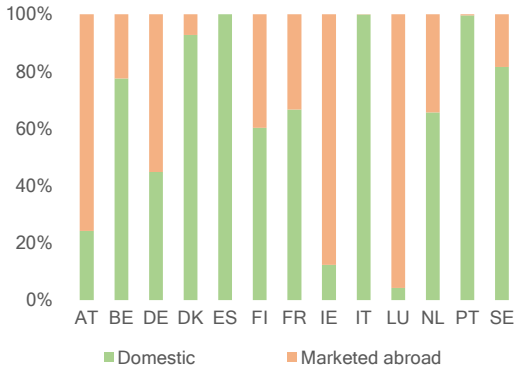
Retail asset class share by Member State - 2020



Note: EU27 UCITS share of asset classes over total national fund value per domicile, retail, 2020, %. Other EU27 not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.13

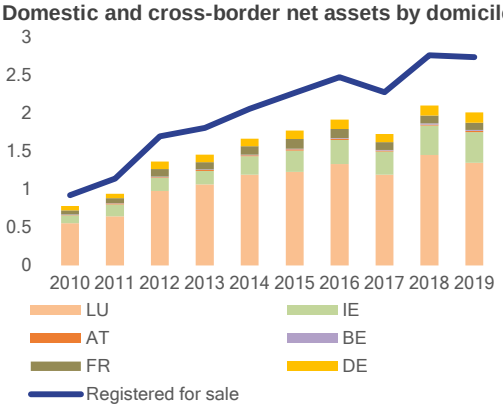
Domestic funds and funds marketed abroad



Note: EU27 UCITS share of net asset value, by destination (domestic and marketed abroad) per member state, 2020. Domestic funds are those funds distributed only in the member state where the fund is domiciled, and those domiciled in LU and IE and distributed only in LU and IE and the reported member state. Marketed abroad represent those funds distributed in at least one member state other than the domicile.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.14

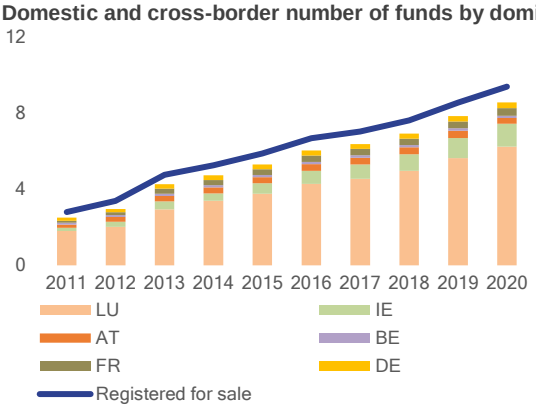
Domestic and cross-border net assets by domicile



Note: EU27 UCITS cross-border fund, AuM. Cross-border UCITS are funds available for sale in at least three countries including their domicile, retail investors. Reported are selected domiciles presenting the largest number of cross-border funds in the EU27. Registered for sale refer to those UCITS that can be sold cross-border
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.15

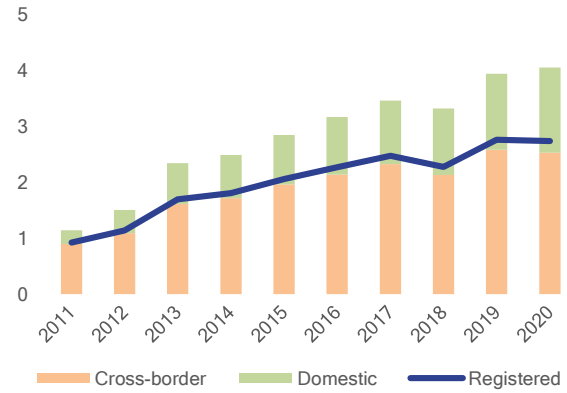
Domestic and cross-border number of funds by domicile



Note: Number of cross-border EU27 UCITS, defined as UCITS available for sale in at least two countries including their domicile, retail investors. Reported are selected domiciles presenting the largest number of cross-border funds in the EU27, thousands. Registered for sale refer to those UCITS that can be sold cross-border
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.16

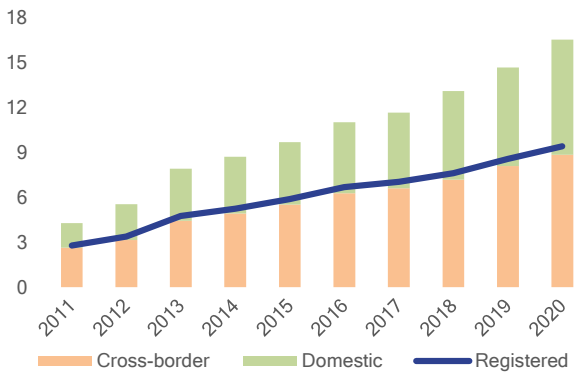
EU UCITS assets: cross border marketing by 2 countries



Note: Domestic registered and cross-border EU27 UCITS total net assets. Registered are funds registered to be sold beyond domicile's borders. Cross-border are defined as funds distributed at least in two countries including their domicile, EUR tn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.17

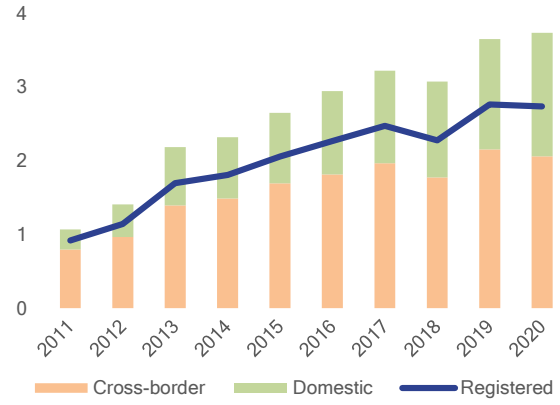
EU UCITS fund number: cross border marketing by 2 countries



Note: Number of domestic and registered and cross-border EU27 UCITS Registered are funds registered to be sold beyond domicile's borders. Cross border are defined as funds distributed at least in two countries including the domicile, thousands.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.18

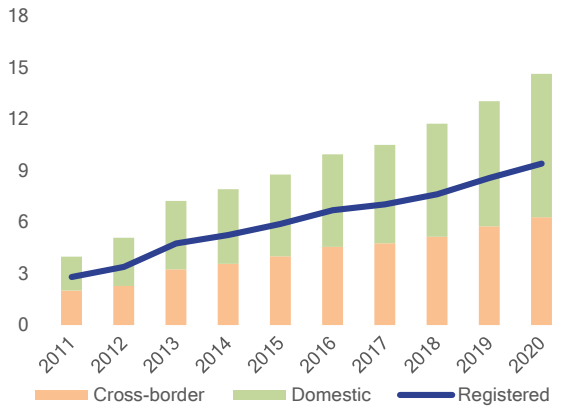
EU UCITS assets: cross border marketing by 3 countries



Note: Domestic and cross-border EU27 UCITS total net assets. Cross-border funds are defined as funds distributed at least in three countries including their domicile, EUR tn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.19

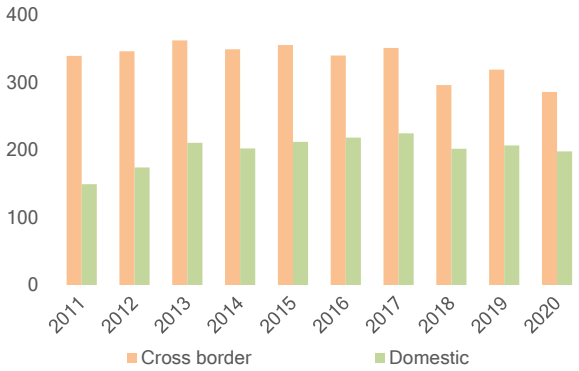
EU UCITS fund number: cross border marketing by 3 countries



Note: Number of domestic and cross-border EU27 UCITS. Cross-border are defined as funds distributed at least in three countries including their domicile, thousands.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.20

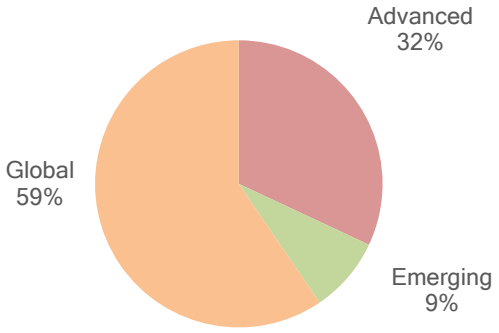
EU UCITS average size by marketing profile



Note: Number of domestic and registered and cross-border EU27 UCITS. Registered are funds registered to be sold beyond domicile's borders. Cross-border are defined as funds distributed at least in two countries including their domicile, EUR mln.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.21

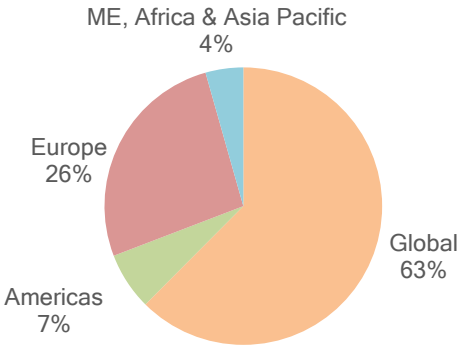
Fund investment by economic development focus



Note: EU27 UCITS share of total net asset value by investment focus based on the economic development of a country, 2020, %.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA

ASR-PC-S.22

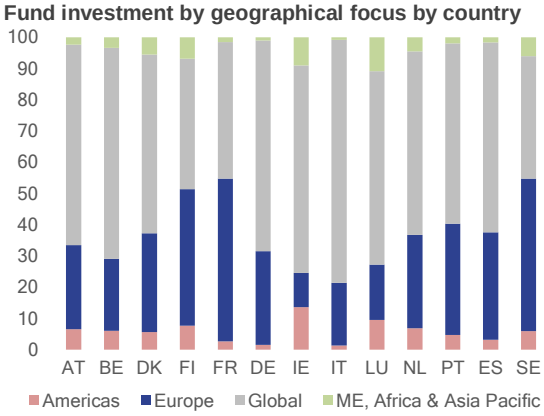
Fund investment geographical focus



Note: EU27 UCITS share of total net asset value by geographical investment focus, 2020, retail investors %.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA

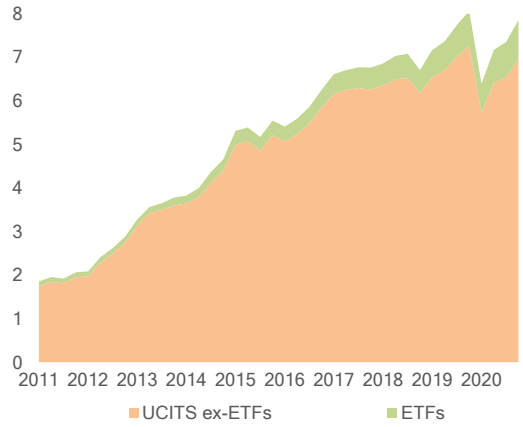
ASR-PC-S.23

Fund investment by geographical focus by country



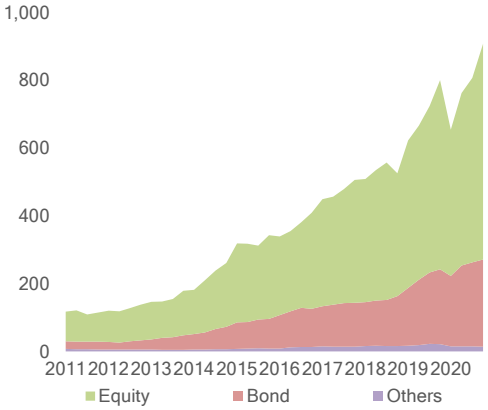
Note: EU27 UCITS share of total net assets across EU Member States by geographical investment focus for retail investors, 2020, %. ME = Middle East. Global refers to those funds not specifically indicating if the investment focus is Europe or outside Europe. Other EU not reported.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.24
ETF UCITS market size



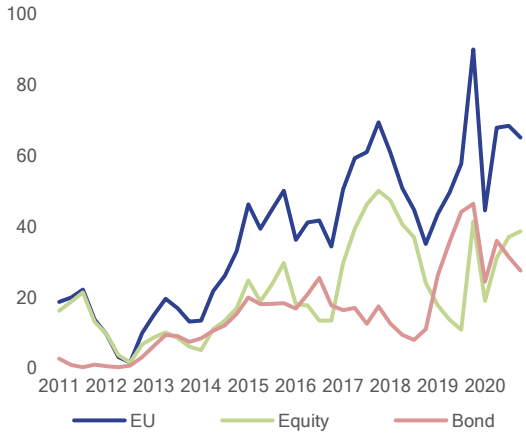
Note: EU27 UCITS market size in terms of fund value, distinguishing between UCITS excluding ETFs and UCITS ETFs,EUR tn.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.25
ETF UCITS fund value distribution by asset class



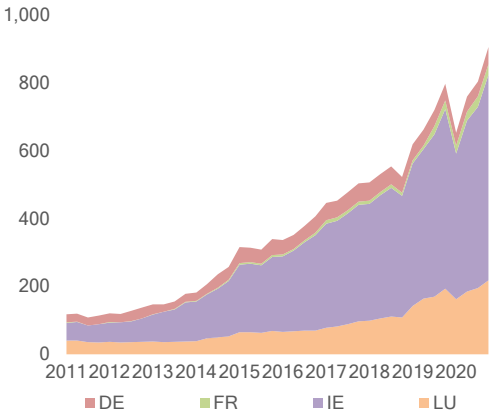
Note: Fund value evolution of EU27 UCITS ETFs over time by asset class, in EUR bn.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.26
ETF UCITS net flows



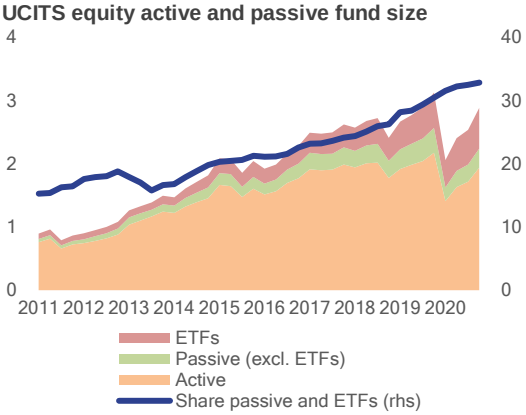
Note: EU27 UCITS ETF annual net flows, EUR bn.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.27
ETF UCITS equity fund value distribution by domicile



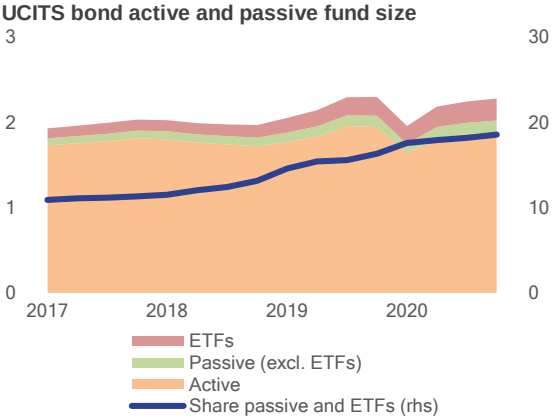
Note: EU27 UCITS ETFs universe in terms of fund value by domicile, over time, EUR bn. Only the four largest domiciles reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.28
UCITS equity active and passive fund size



Note: Market size for EU27 UCITS equity, actively and passively managed, and ETFs. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn. Share of passive and ETFs in %, right-hand size.
Sources: Refinitiv Lipper, ESMA.

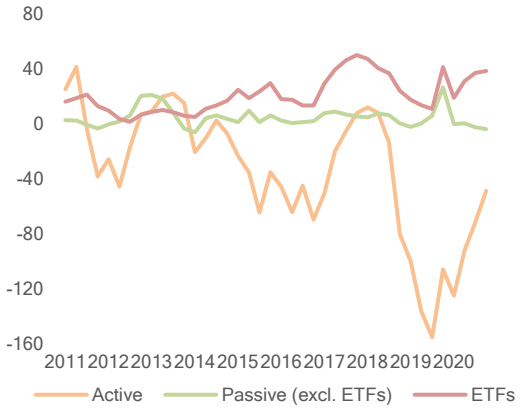
ASR-PC-S.29
UCITS bond active and passive fund size



Note: Market size for EU27 UCITS bond, actively and passively managed and ETFs. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn. Share of passive and ETFs in %, right-hand size.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.30

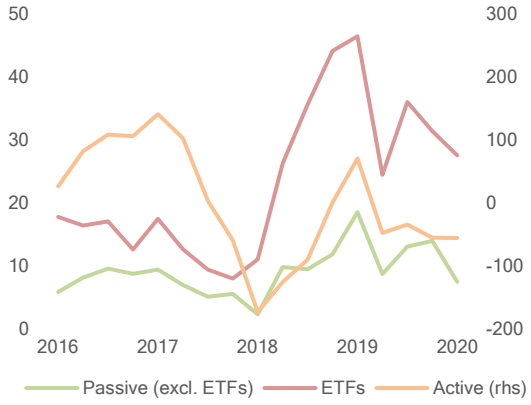
UCITS equity active and passive fund net flows



Note: EU27 equity UCITS by management type, active passive, and ETFs. Annual net flows at quarterly frequencies, EUR bn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.31

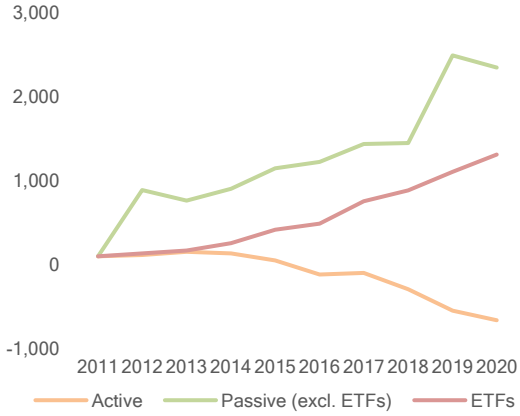
UCITS bond active and passive fund net flows



Note: EU27 bond UCITS by management type, active passive and ETFs. Annual net flows at quarterly frequencies, EUR bn. Active on right-hand axis (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.32

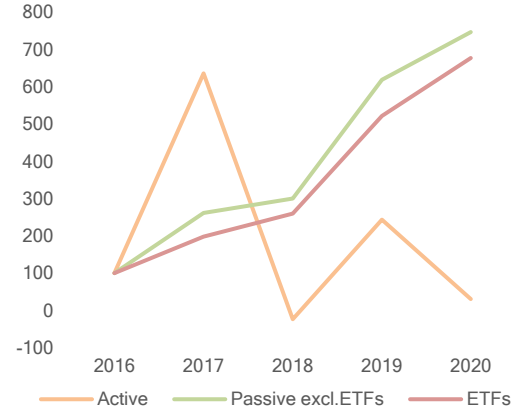
UCITS equity active and passive fund cumulated flows



Note:: EU27 equity UCITS by management type, active passive, and ETFs. Cumulative netflows, 2011 = 100.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.33

UCITS bond active and passive fund cumulated flows



Note:: EU27 bond UCITS by management type, active passive and ETFs. Cumulative netflows, 2016 = 100
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.34

UCITS market share of domiciles by asset class retail investors

	AT	BE	DE	DK	ES	FI	FR	IE
Equity	0.4	1.8	10.1	3.0	2.7	1.5	9.4	12.6
Mixed	1.0	5.3	9.4	1.5	10.2	1.3	8.3	4.6
Bond	0.8	0.4	3.5	3.3	5.6	1.9	5.8	17.6

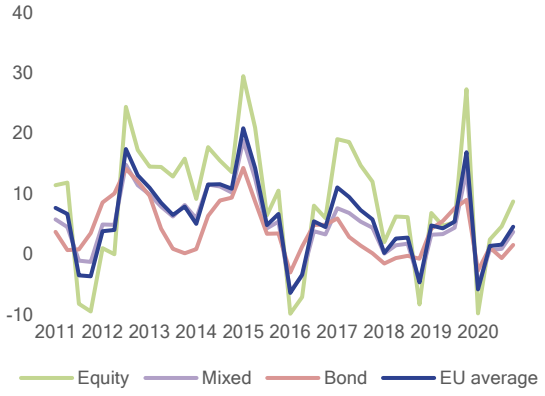
	IT	LU	NL	PT	SE	Other EU
Equity	0.9	42.6	1.4	0.1	13.4	-
Mixed	9.2	41.9	0.1	0.5	6.6	-
Bond	3.2	54.1	0.3	0.3	3.3	-

Note: Share of national fund value over the total EU27 per domicile, retail investors, by asset class, 2020,%. If share less than 0.1% not reported.
Sources: Refinitiv Lipper, ESMA.

Performance and costs

ASR-PC-S.35

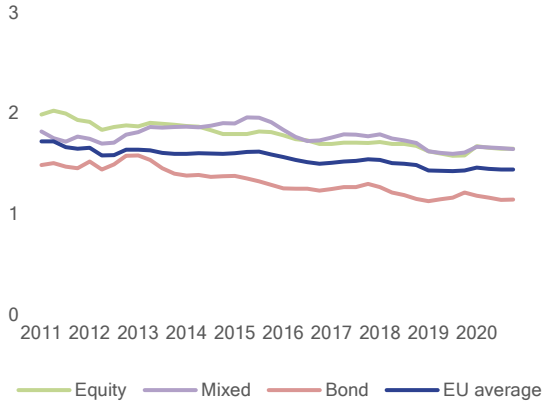
UCITS annual gross performance retail investors



Note: EU27 UCITS universe, gross annual performance by asset class, retail investors, in %. Money Market refers to MMF UCITS. Primary y-axis cut-off at +40% and -10%.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.36

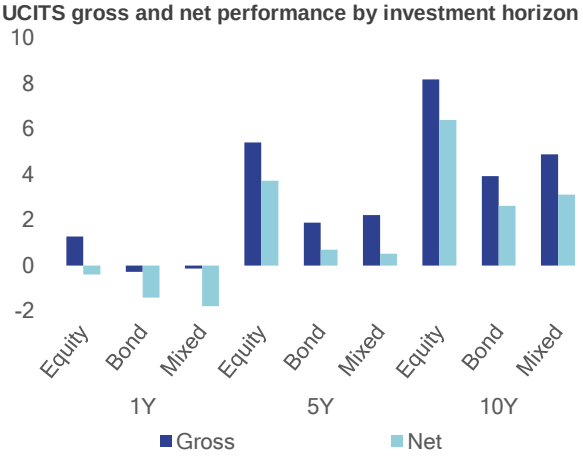
UCITS fund costs - retail investors



Note: EU27 UCITS universe, total costs as ongoing costs, subscription and redemption fees, by asset class, retail investors, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.37

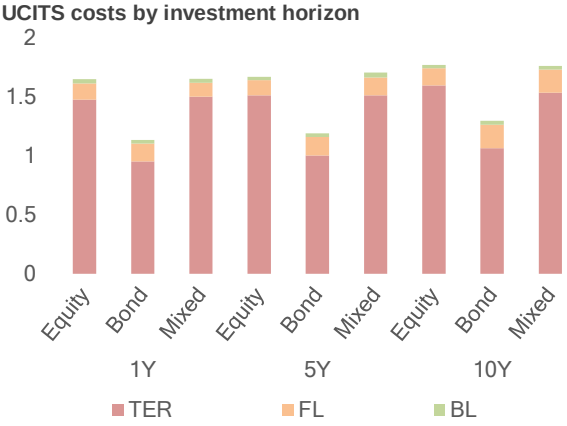
UCITS gross and net performance by investment horizon



Note: EU27 UCITS annual gross and net performance, by investment horizor and asset class, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.38

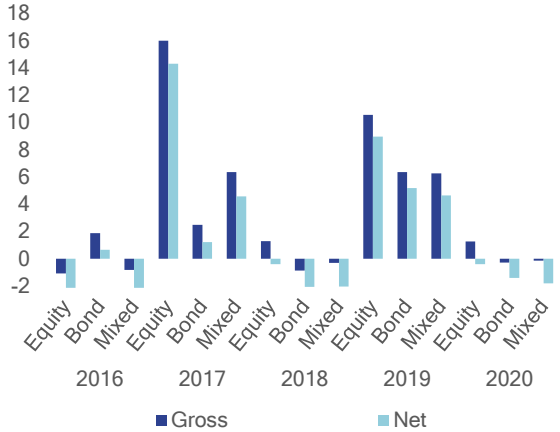
UCITS costs by investment horizon



Note: EU27 UCITS annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, by investment horizon and asset class, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.39

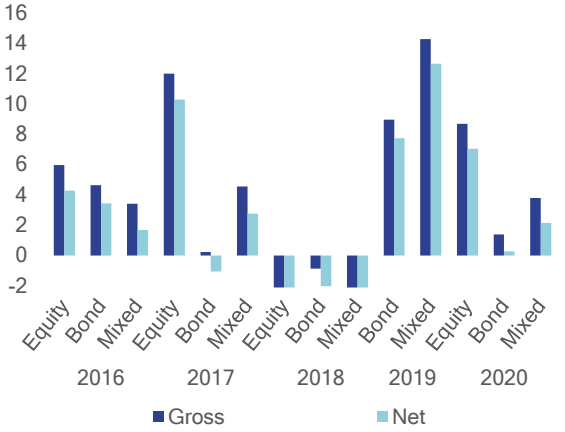
UCITS year-on-year gross and net performance



Note: EU27 UCITS annual gross and net performance, by asset class, retail investors, 1Y investment horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.40

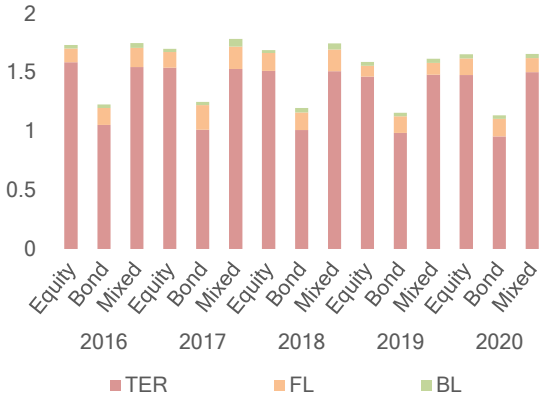
UCITS end of-year gross and net performance



Note: EU27 UCITS annual gross and net performance, by asset class, retail investors, end of year, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.41

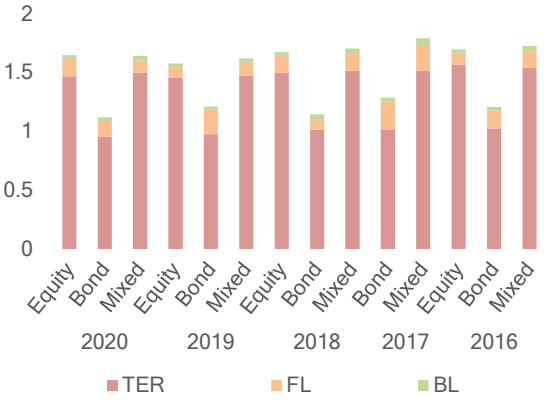
UCITS year-on-year costs



Note: EU27 UCITS annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption, by asset class, retail investors, 1Y investor horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.42

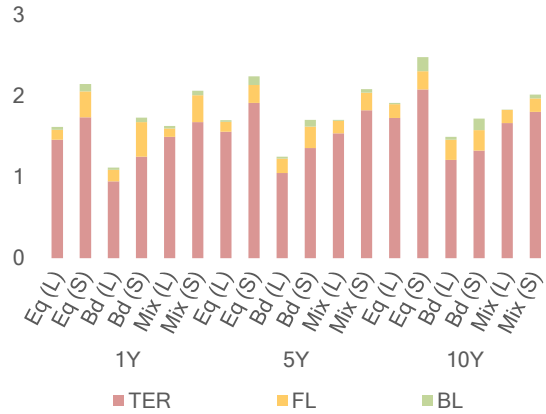
UCITS end of-year costs



Note: EU27 UCITS annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption, by asset class, retail investors, end of year, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.43

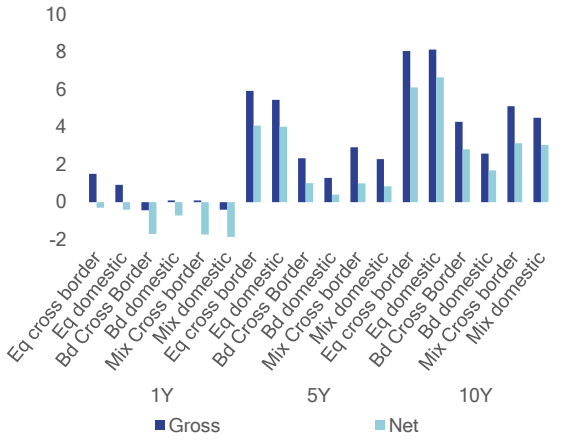
Costs by largest and smallest funds



Note: EU27 UCITS total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, by size and asset class, %. L=largest-25% and S=smallest-25%.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.44

UCITS performance by marketing profile



Note: EU27 UCITS annual gross and net performance, by marketing country and asset class, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.45

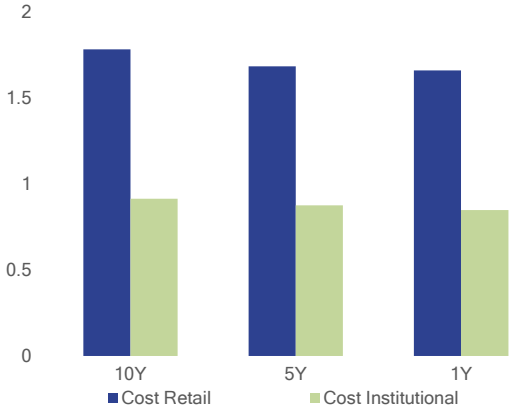
UCITS total costs by marketing profile

Note: EU27 UCITS annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, by marketing country and asset class, %.
Sources: Refinitiv Lipper, ESMA.

Costs by type of investor

ASR-PC-S.46

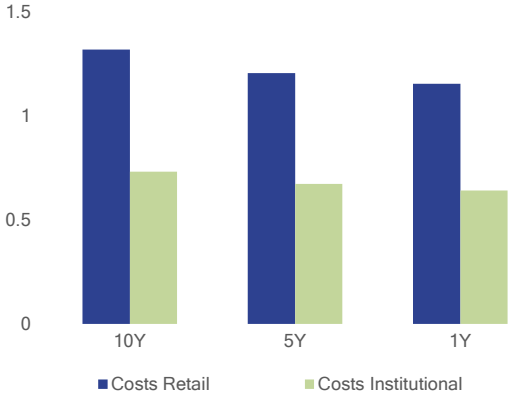
Equity UCITS costs by investor type



Note: EU27 UCITS equity fund shares total costs classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and type of investor, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.47

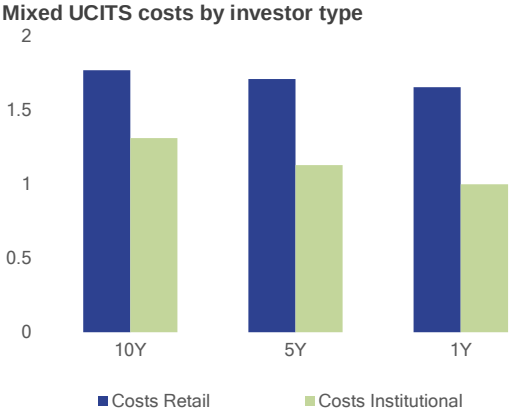
Bond UCITS costs by investor type



Note: EU27 UCITS bond fund shares total costs classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and type of investor, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.48

Mixed UCITS costs by investor type



Note: EU27 UCITS mixed fund shares total costs classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and type of investor, %.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by risk class

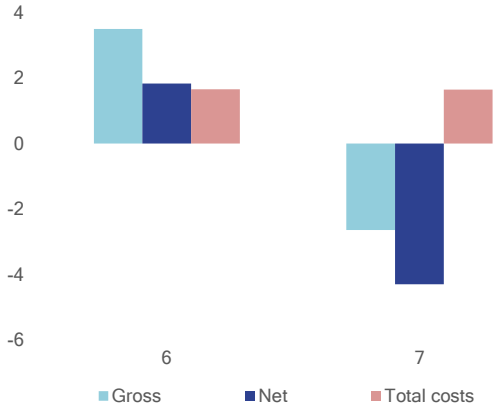
ASR-PC-S.49

UCITS value of assets by SRRI class

Note: EU27 UCITS SRRI distribution in terms of asset value by asset type, retail investors, 2020, EUR thousands.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.50

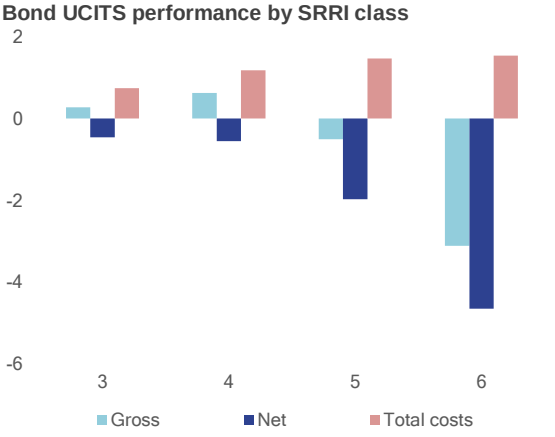
Equity UCITS performance and costs by SRRI class



Note: EU27 UCITS equity fund shares annual gross and net returns, and total costs, retail investors, by SRRI risk class, 2020, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.51

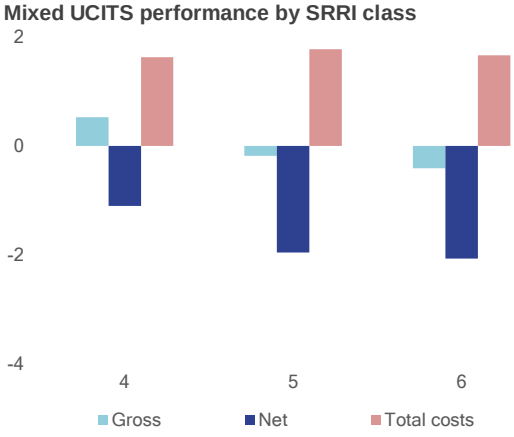
Bond UCITS performance by SRRI class



Note: EU27 UCITS bond fund shares annual gross and net returns, and total costs, retail investors, by SRRI risk class, 2020, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.52

Mixed UCITS performance by SRRI class

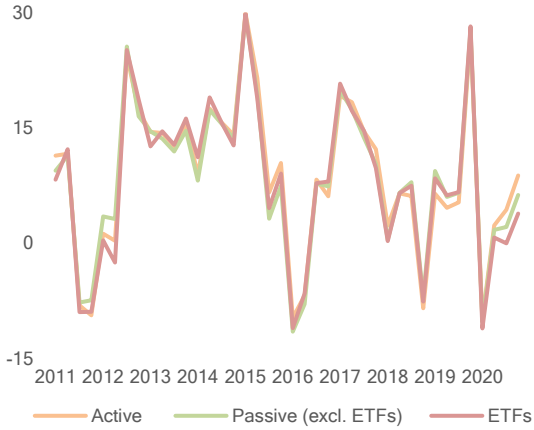


Note: EU27 UCITS mixed fund shares annual gross and net returns, and total costs, retail investors, by SRRI risk class, 2020, %.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by management type

ASR-PC-S.53

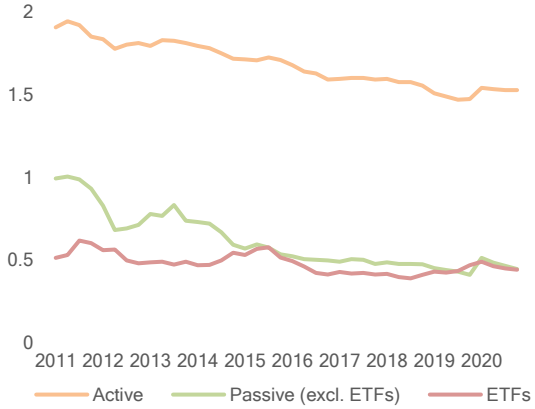
UCITS annual gross performance by management type



Note: EU27 UCITS equity, active passive and ETFs, evolution of gross annual performance, %. Retail and institutional investors.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.54

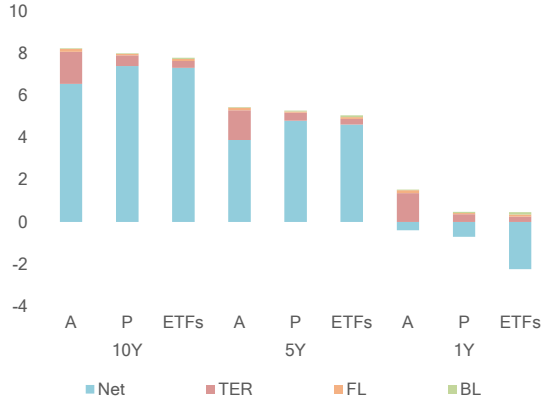
UCITS fund total costs by management type



Note: EU27 UCITS equity, active passive and ETFs, evolution of total costs calculated as ongoing costs, subscription and redemption fees, %. Retail and institutional investors.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.55

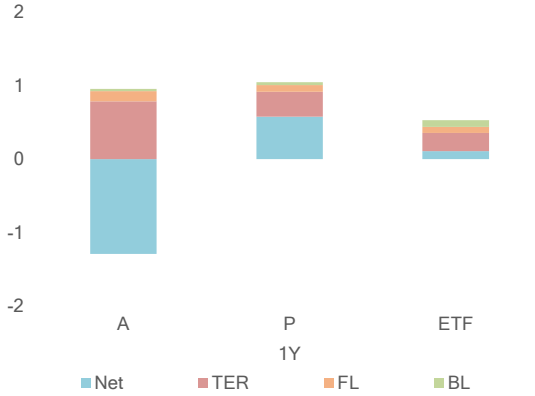
Equity UCITS performance active, passive and ETFs



Note: EU27 equity UCITS gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type, active (A), passive (P) and ETFs, by time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.56

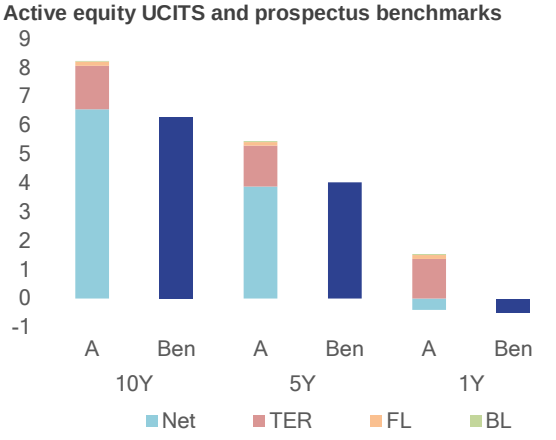
Bond UCITS performance active, passive and ETFs



Note: EU27 bond UCITS gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type, active (A), passive (P) and ETFs, by time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.57

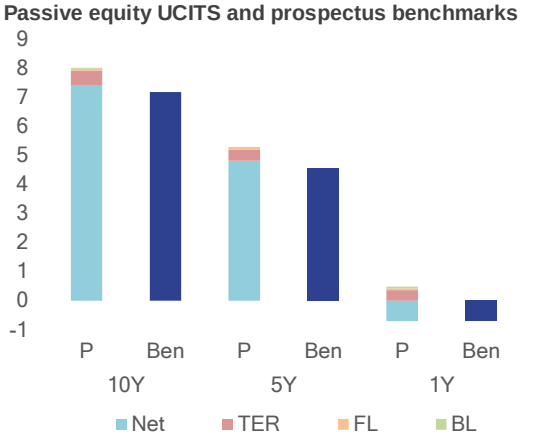
Active equity UCITS and prospectus benchmarks



Note: EU27 UCITS equity active (A) and respective benchmarks (Ben) gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.58

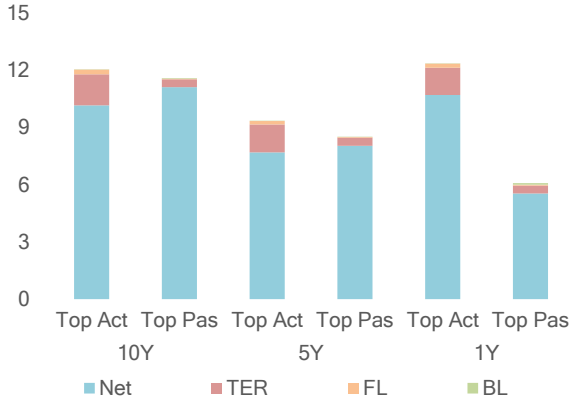
Passive equity UCITS and prospectus benchmarks



Note: EU27 UCITS equity passive (P) and respective benchmarks (Ben) annual gross performance, in % classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.59

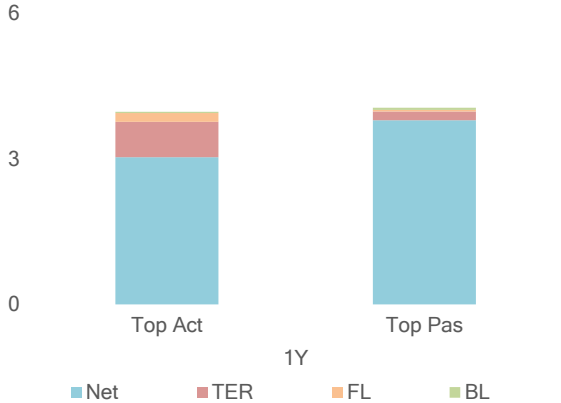
Top performing active and passive equity UCITS



Note: EU27 UCITS equity funds annual gross performance, top-25% performing active and passive funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.60

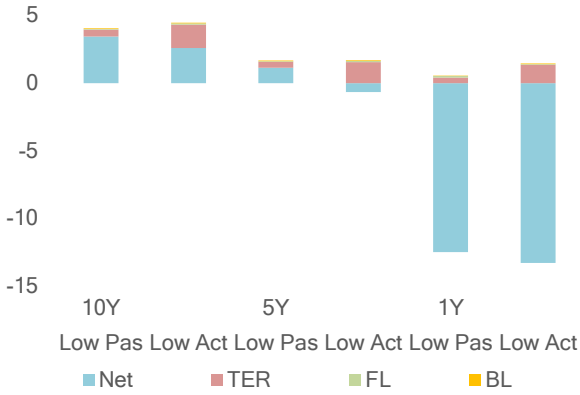
Top performing active and passive bond UCITS



Note: EU27 UCITS bond funds annual gross performance, top-25% performing active and passive funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.61

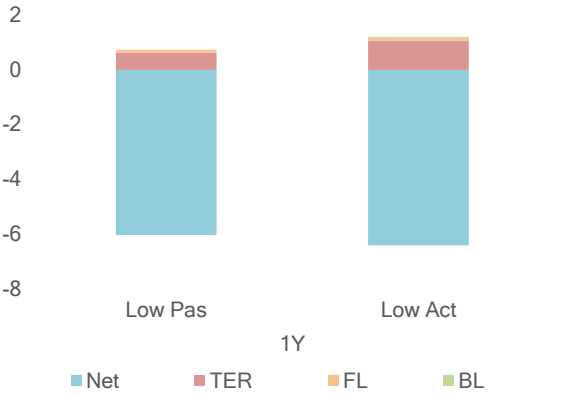
Bottom performing active and passive equity UCITS



Note: EU27 UCITS equity funds annual gross performance for the bottom-25% performing active and passive funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.62

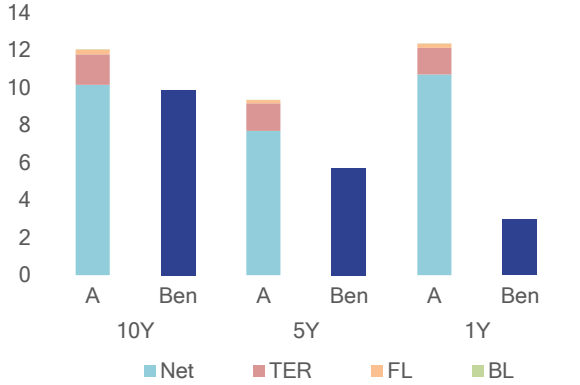
Bottom performing active and passive bond UCITS



Note: EU27 UCITS bond funds annual gross performance for the bottom-25% performing active and passive funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.63

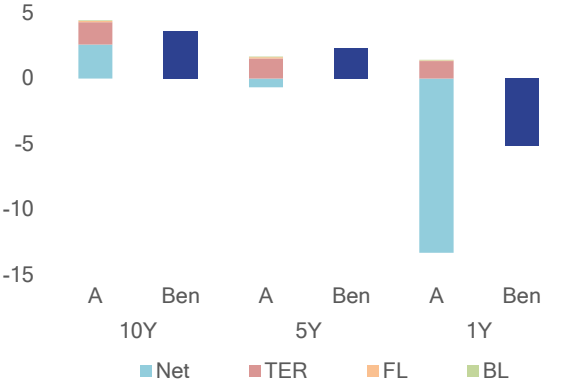
Top performing active equity UCITS and benchmarks



Note: EU27 UCITS equity active (A) and respective benchmarks (Ben) gross annual performance for the top-25% performing funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.64

Bottom performing active equity UCITS and benchmarks

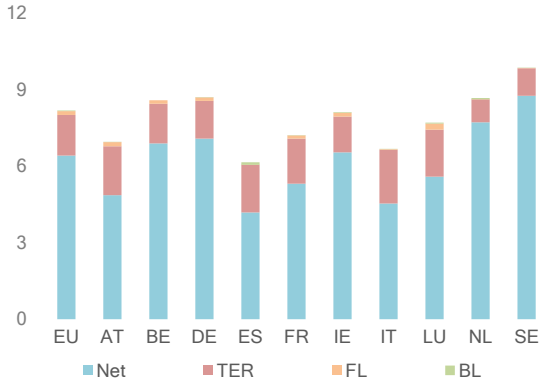


Note: EU27 UCITS equity active (A) and respective benchmarks (Ben) gross annual performance for the bottom-25% performing funds, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by fund domicile

ASR-PC-S.65

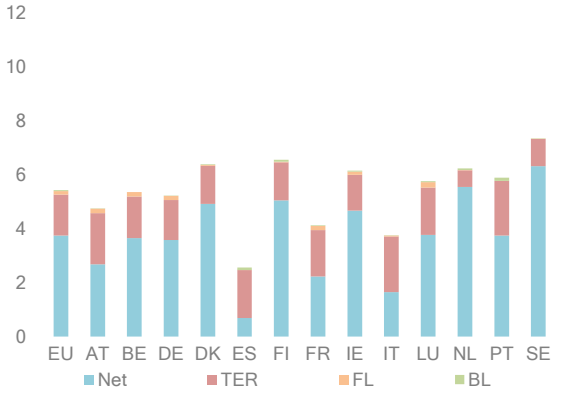
Equity UCITS by fund domicile – 10Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon %. DK, FI, PT and Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.66

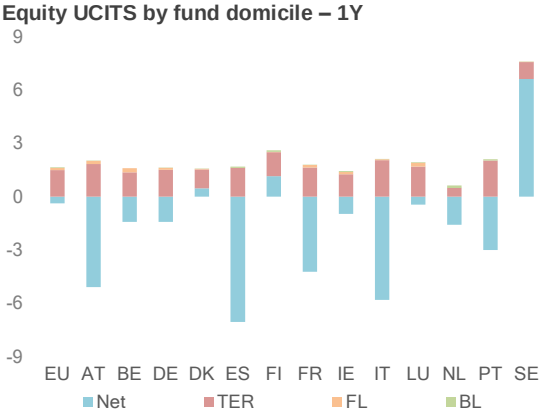
Equity UCITS by fund domicile – 5Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 5Y horizon, %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.67

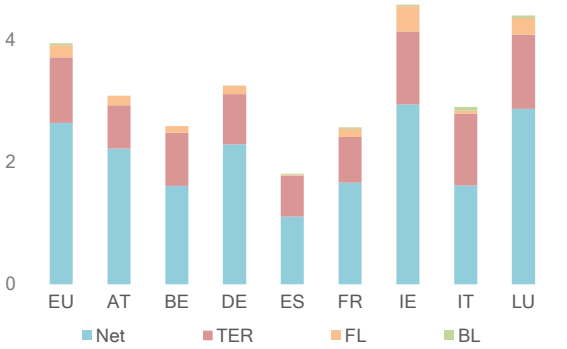
Equity UCITS by fund domicile – 1Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon %. Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.68

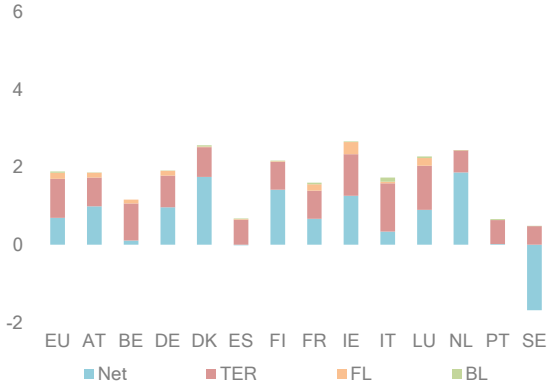
Bond UCITS by fund domicile – 10Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon %. DK, FI, NL, PT, SE and Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipperiv Lipper, ESMA.

ASR-PC-S.69

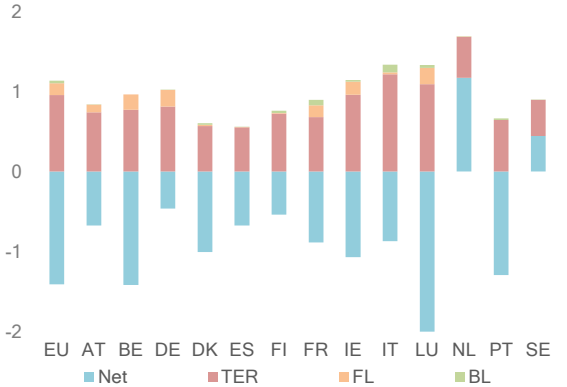
Bond UCITS by fund domicile – 5Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 5Y horizon, %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.70

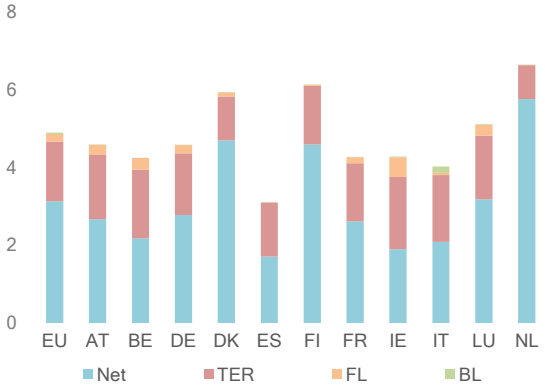
Bond UCITS by fund domicile – 1Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon %. Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.71

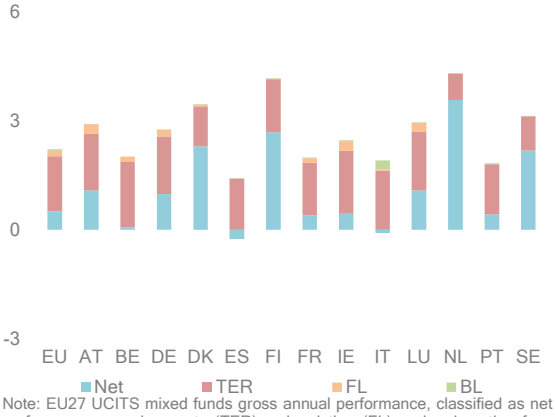
Mixed UCITS by fund domicile – 10Y



Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 10Y horizon %. DK, FI, NL, PT, SE and Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.72

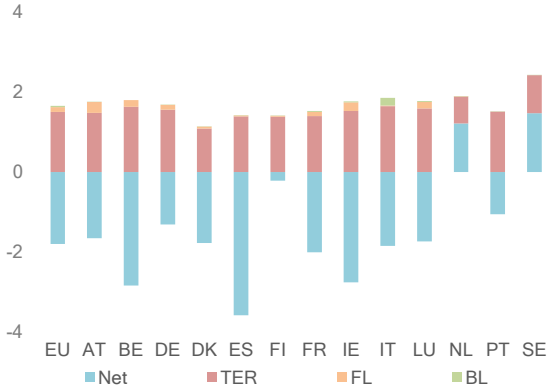
Mixed UCITS by fund domicile – 5Y



Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 5Y horizon, %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.73

Mixed UCITS by fund domicile – 1Y

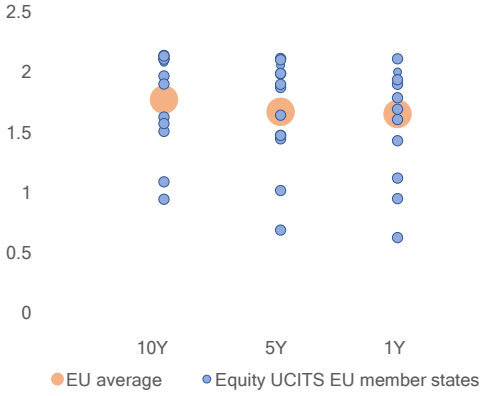


Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon %. Other EU27 countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

EU UCITS cost dispersion across fund domiciles

ASR-PC-S.74

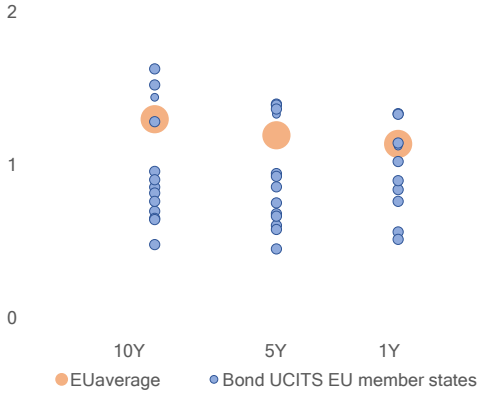
Equity UCITS cost dispersion, retail investors



Note: EU27 UCITS equity fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for DK, FI, and PT at 10Y. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.75

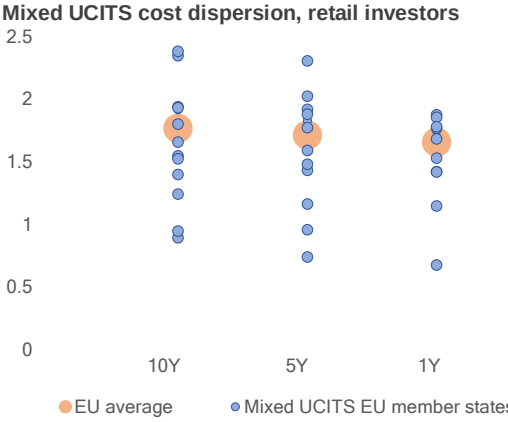
Bond UCITS cost dispersion, retail investors



Note: EU27 UCITS bond fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for DK, PT, SE at 10Y. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.76

Mixed UCITS cost dispersion, retail investors

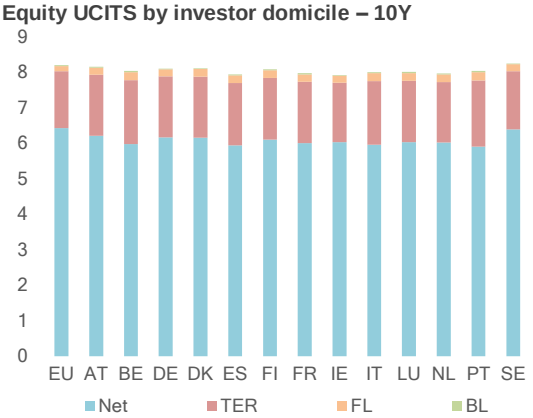


Note: EU27 UCITS mixed fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for PT, SE at 10Y. Data not available for PT at 5Y. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by investor domicile

ASR-PC-S.77

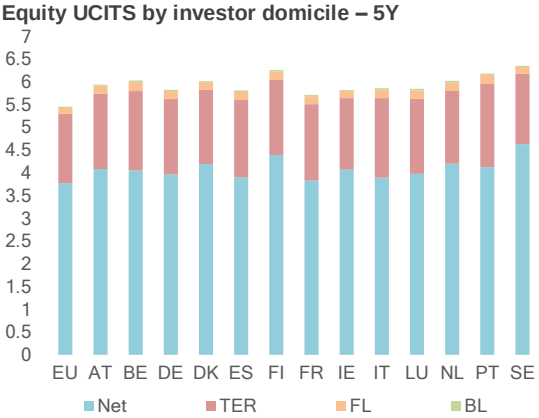
Equity UCITS by investor domicile – 10Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 10Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.78

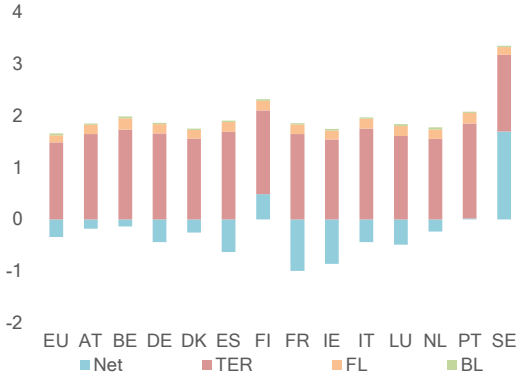
Equity UCITS by investor domicile – 5Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 5Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.79

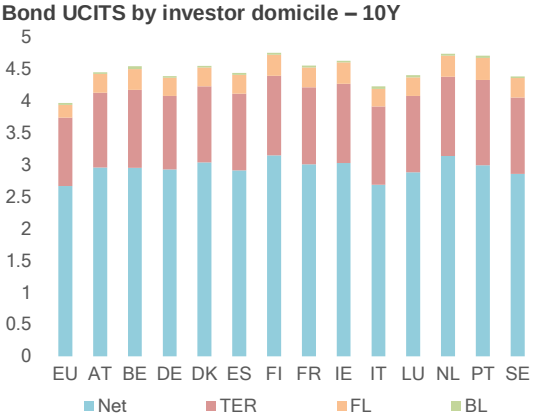
Equity UCITS by investor domicile – 1Y



Note: EU27 UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.80

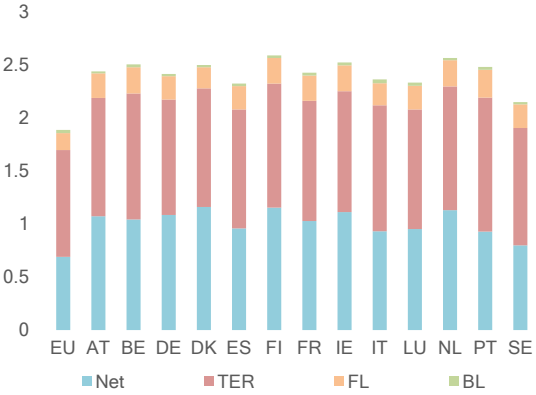
Bond UCITS by investor domicile – 10Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 10Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.81

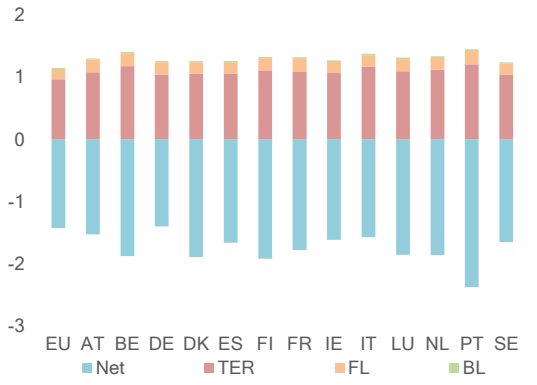
Bond UCITS by investor domicile – 5Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 5Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.82

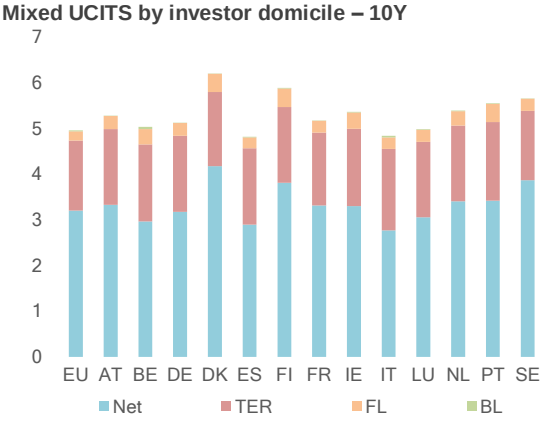
Bond UCITS by investor domicile – 1Y



Note: EU27 UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.83

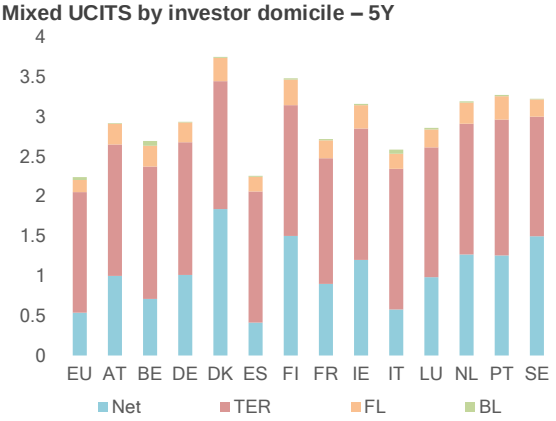
Mixed UCITS by investor domicile – 10Y



Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 10Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.84

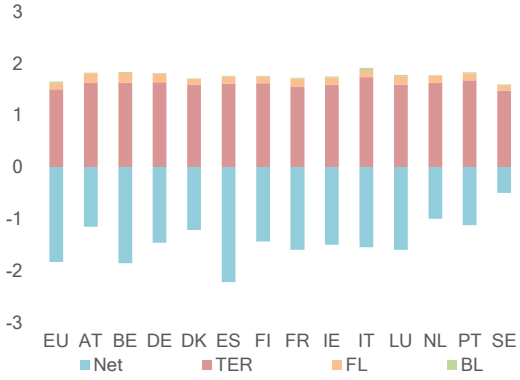
Mixed UCITS by investor domicile – 5Y



Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 5Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.85

Mixed UCITS by investor domicile – 1Y

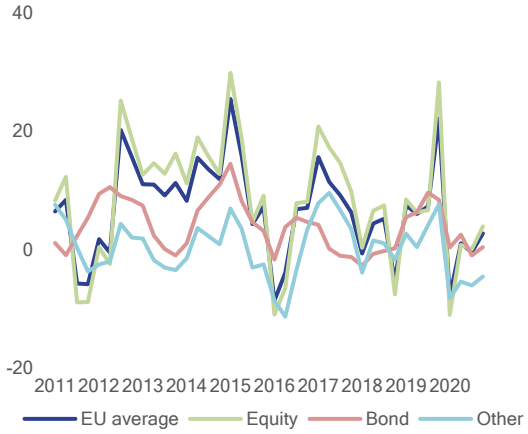


Note: EU27 UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU27 countries not reported.
Sources: Refinitiv Lipper, ESMA.

ETF UCITS performance and costs

ASR-PC-S.86

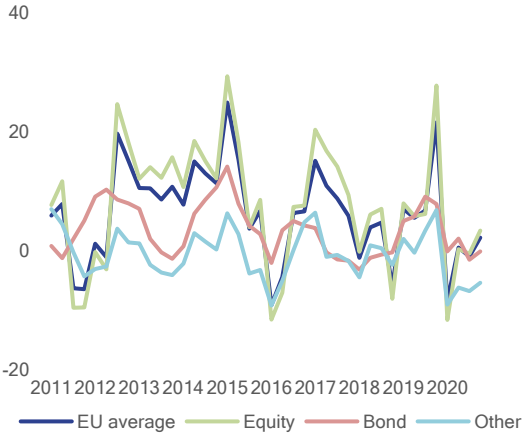
Gross performance over time



Note: EU27 UCITS ETFs universe, gross annual performance by asset, %. Other includes Mixed, Alternative and Money Market strategies.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.87

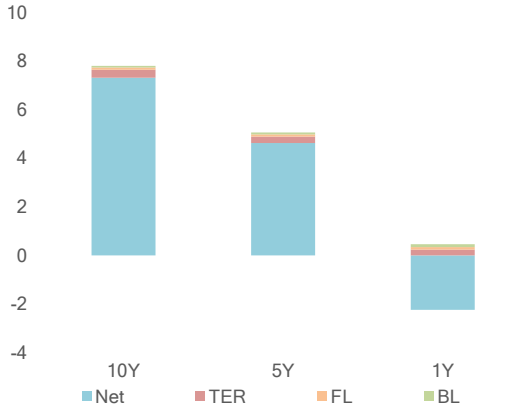
Net performance over time



Note: EU27 UCITS ETFs universe, net annual performance by asset class, %. Other includes Mixed, Alternative and Money Market strategies.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.88

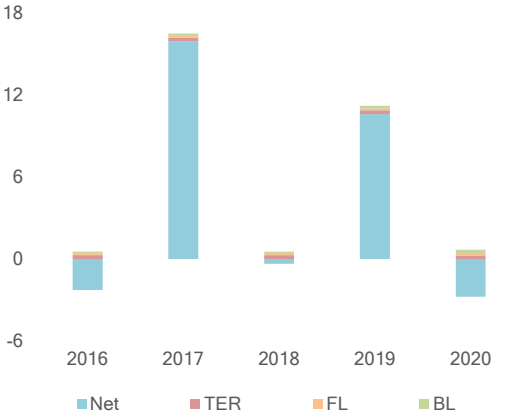
ETF Equity UCITS performance by time horizon



Note: EU27 UCITS ETFs equity fund shares gross annual performance, classified as net performance, ongoing costs, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.89

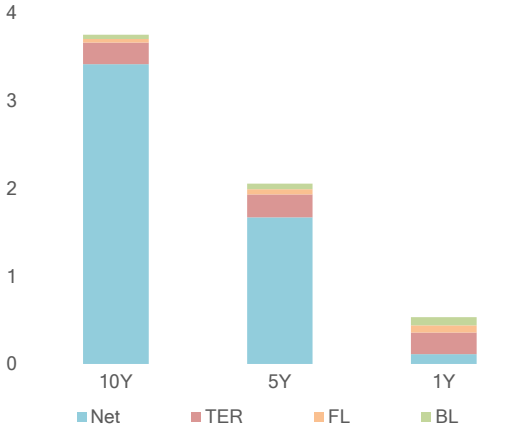
ETF Equity UCITS performance year-on-year



Note: EU27 UCITS ETF equity fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.90

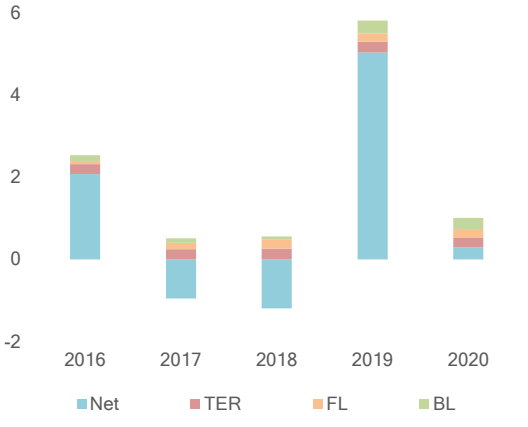
Bond ETF UCITS performance by time horizon



Note: EU27 UCITS ETFs bond fund shares gross annual performance, classified as net performance, ongoing costs, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Refinitiv Lipper, ESMA

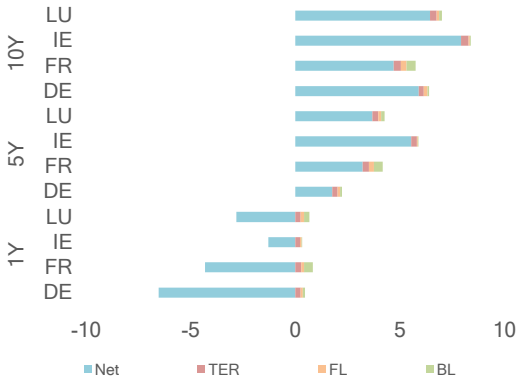
ASR-PC-S.91

Bond ETF UCITS performance year-on-year



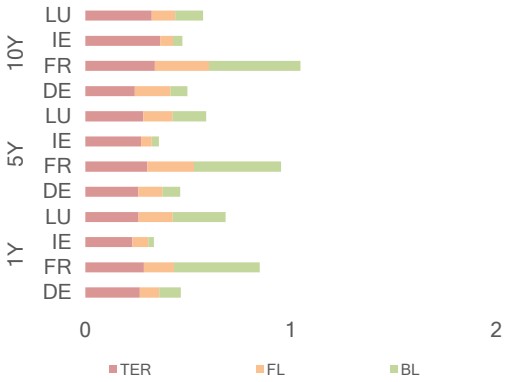
Note: EU27 UCITS ETF bond fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.92
Equity ETF UCITS performance by domicile



Note: EU27 UCITS ETFs equity funds annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by domicile and time horizon, in %. The rest of EU27 countries not reported as domiciles not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.93
Equity ETF UCITS costs by domicile

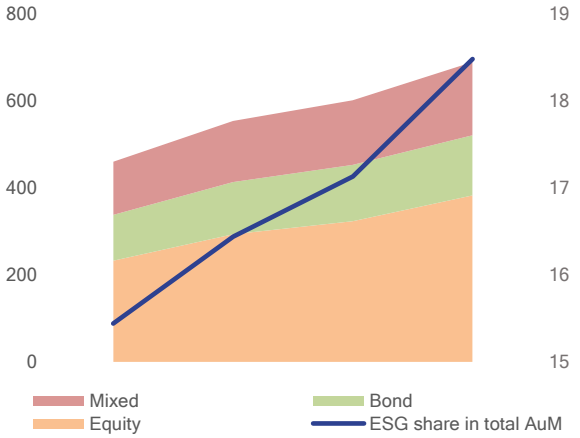


Note: EU27 UCITS ETFs equity funds total costs, classified as, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by domicile and time horizon, in %. The rest of EU27 countries not reported as domiciles not significant.
Sources: Refinitiv Lipper, ESMA.

ESG UCITS performance and costs

ASR-PC-S.94

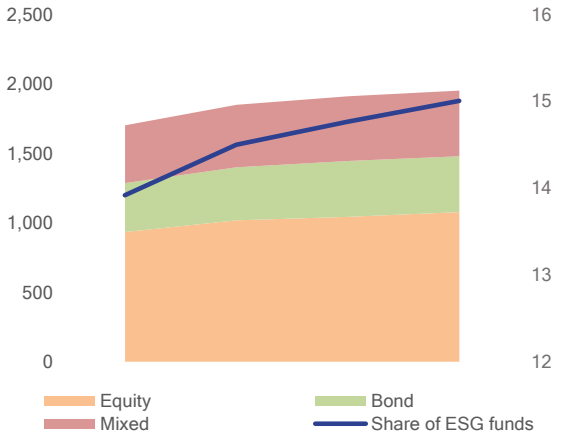
ESG UCITS market size



Note: EU27 UCITS ESG equity, bond and mixed fund AuM, EUR bn. Share of ESG funds in total AuM (rhs), in %.
Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC-S.95

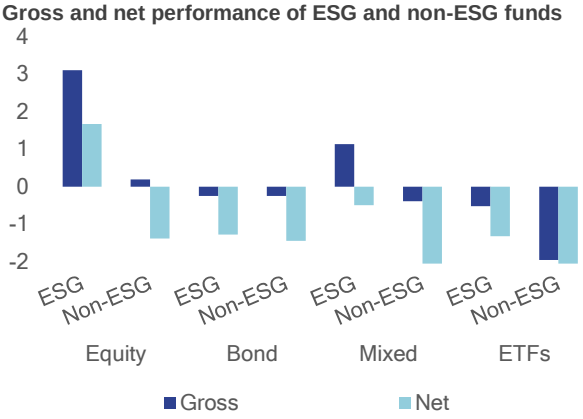
Number of ESG UCITS funds



Note: Number of EU27 UCITS ESG equity, bond and mixed funds, EUR bn. Share of ESG funds in total number of funds (rhs), in %.
Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC-S.96

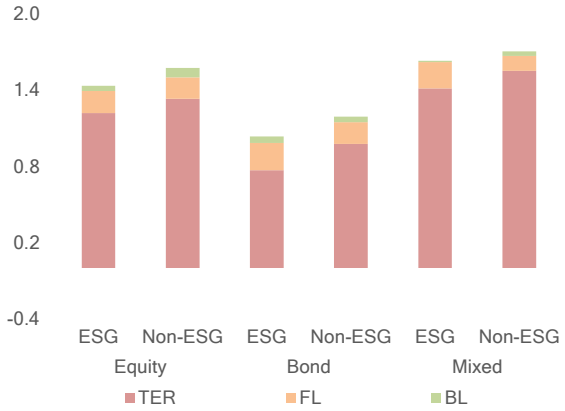
Gross and net performance of ESG and non-ESG funds



Note: EU27 UCITS fund shares gross and net annual performance by asset ar ESG or non-ESG fund type, one year investment horizon, retail investors, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.97

Total costs of ESG and non-ESG funds



Note: EU27 UCITS equity, bond and mixed fund annual total costs, classified as on-going costs (TER), subscription fees (FL) and redemption fees (BL). One-year investment horizon, ESG vs. non-ESG funds, in %
Sources: Morningstar, Refinitiv Lipper, ESMA.

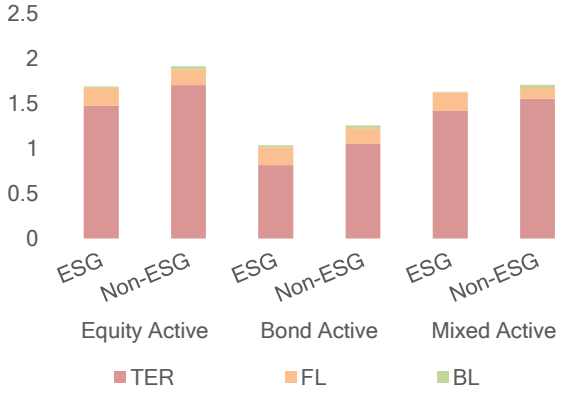
ASR-PC-S.98

Performance of active ESG and non-ESG funds

Note: EU27 UCITS actively managed fund shares gross and net annual performance by asset and ESG or non-ESG fund type, one year investment horizon, retail investors, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.99

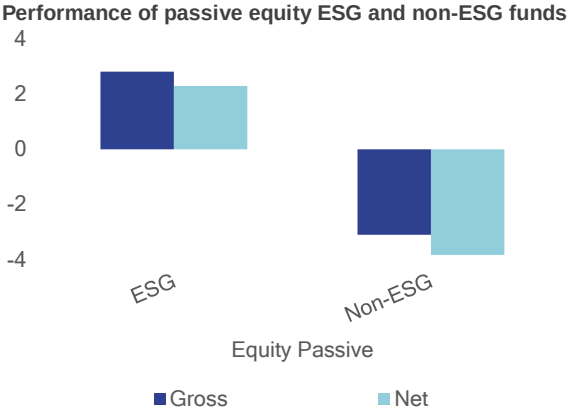
Total costs of active ESG and non-ESG funds



Note: EU27 UCITS actively managed fund shares annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, by asset and ESG or non-ESG active fund type. One year investment horizon, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.100

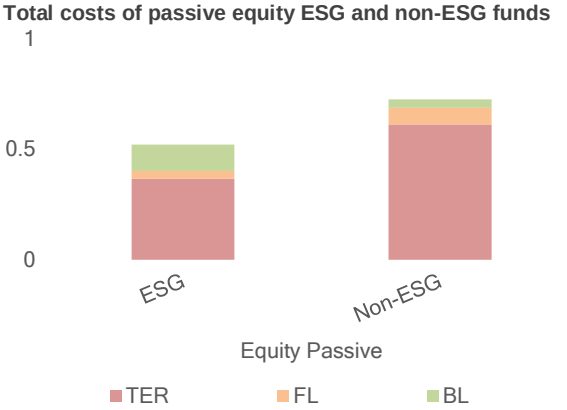
Performance of passive equity ESG and non-ESG funds



Note: EU27 UCITS actively managed equity fund shares gross and net annual performance by asset and ESG or non-ESG fund type, one year investment horizon, retail investors, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.101

Total costs of passive equity ESG and non-ESG funds



Note: EU27 UCITS passively managed equity fund shares annual total costs, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, by asset and ESG or non-ESG active fund type one year investment horizon, retail investors, %.
Sources: Refinitiv Lipper, ESMA.

Gross and net performance by asset class and domicile

ASR-PC-S.102

Equity UCITS - gross and net performance and costs by country for different investment horizons

	10Y					5Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	6.94	4.86	1.92	0.17	0.00	4.74	2.68	1.89	0.17	0.00
BE	8.59	6.90	1.55	0.14	0.00	5.35	3.65	1.53	0.17	0.00
DE	8.70	7.07	1.49	0.14	0.00	5.21	3.57	1.49	0.16	0.00
DK						6.39	4.91	1.41	0.03	0.03
ES	6.16	4.18	1.87	0.00	0.10	2.55	0.68	1.78	0.00	0.09
FI						6.55	5.04	1.41	0.03	0.08
FR	7.22	5.31	1.76	0.12	0.02	4.12	2.22	1.72	0.15	0.03
IE	8.12	6.54	1.40	0.15	0.03	6.14	4.67	1.33	0.12	0.03
IT	6.68	4.54	2.10	0.03	0.01	3.75	1.64	2.07	0.03	0.02
LU	7.70	5.59	1.84	0.24	0.04	5.75	3.76	1.75	0.20	0.04
NL	8.67	7.72	0.90	0.00	0.04	6.22	5.53	0.63	0.00	0.06
PT						5.88	3.74	2.02	0.00	0.12
SE	9.85	8.76	1.08	0.01	0.00	7.32	6.31	1.01	0.01	0.00
EU	8.19	6.41	1.60	0.15	0.03	5.42	3.74	1.52	0.13	0.03

	1Y				
	Gross	Net	TER	FL	BL
AT	-3.09	-5.09	1.83	0.17	0.00
BE	0.15	-1.44	1.36	0.23	0.00
DE	0.18	-1.43	1.50	0.11	0.00
DK	1.58	0.46	1.07	0.03	0.02
ES	-5.36	-7.06	1.61	0.00	0.09
FI	2.60	1.15	1.35	0.02	0.07
FR	-2.44	-4.23	1.63	0.14	0.02
IE	0.46	-0.97	1.26	0.12	0.05
IT	-3.71	-5.82	2.05	0.05	0.02
LU	1.49	-0.45	1.69	0.21	0.04
NL	-0.96	-1.58	0.49	0.00	0.14
PT	-0.90	-3.01	2.03	0.00	0.07
SE	7.58	6.63	0.95	0.00	0.00
EU	1.27	-0.39	1.48	0.14	0.04

Note: EU27 UCITS equity fund shares' annual gross and net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon and country,%. For BE, BL not considered. DK, FI and PT at 10Y. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.103

Bond UCITS - gross and net performances and costs by country for different investment horizons

	10Y					5Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	3.07	2.22	0.70	0.15	0.00	1.85	1.00	0.74	0.12	0.00
BE	2.58	1.61	0.86	0.11	0.00	1.17	0.11	0.96	0.10	0.00
DE	3.24	2.28	0.82	0.14	0.00	1.91	0.96	0.81	0.13	0.00
DK						2.56	1.75	0.76	0.02	0.03
ES	1.81	1.11	0.67	0.01	0.02	0.67	-0.02	0.65	0.02	0.02
FI		2.57	0.72	0.02	0.02	2.17	1.42	0.72	0.01	0.02
FR	2.57	1.66	0.75	0.13	0.03	1.60	0.67	0.72	0.17	0.04
IE	4.57	2.94	1.19	0.41	0.02	2.67	1.27	1.06	0.31	0.02
IT	2.90	1.61	1.18	0.05	0.06	1.74	0.34	1.24	0.04	0.11
LU	4.39	2.86	1.21	0.27	0.04	2.27	0.91	1.13	0.20	0.03
NL		3.38	0.64	0.00	0.01	2.44	1.86	0.57	0.00	0.01
PT						0.66	0.02	0.61	0.00	0.03
SE						-1.21	-1.69	0.48	0.00	0.00
EU	3.94	2.64	1.07	0.20	0.03	1.89	0.69	1.00	0.16	0.03

	1Y				
	Gross	Net	TER	FL	BL
AT	0.17	-0.67	0.74	0.10	0.00
BE	-0.45	-1.42	0.77	0.19	0.00
DE	0.56	-0.46	0.81	0.21	0.00
DK	-0.40	-1.01	0.57	0.01	0.02
ES	-0.11	-0.67	0.55	0.00	0.01
FI	0.23	-0.54	0.72	0.01	0.03
FR	0.01	-0.89	0.68	0.15	0.07
IE	0.08	-1.07	0.96	0.16	0.02
IT	0.46	-0.87	1.22	0.02	0.09
LU	-0.67	-2.00	1.09	0.20	0.03
NL	1.69	1.17	0.51	0.00	0.00
PT	-0.63	-1.29	0.64	0.00	0.02
SE	0.90	0.45	0.45	0.00	0.00
EU	-0.27	-1.41	0.96	0.15	0.03

Note: EU27 UCITS bond fund shares' annual gross and net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon and country,%. For BE, BL not considered. DK, PT and SE not reported at 10Y. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.104

Mixed UCITS - gross and net performance and costs by country for different investment horizons

	10Y					5Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	4.58	2.67	1.65	0.27	0.00	2.91	1.08	1.56	0.27	0.00
BE	4.24	2.18	1.77	0.30	0.00	2.02	0.07	1.80	0.15	0.00
DE	4.58	2.77	1.59	0.21	0.00	2.76	0.99	1.58	0.19	0.00
DK	5.94	4.70	1.12	0.11	0.01	3.47	2.30	1.10	0.06	0.01
ES	3.11	1.71	1.38	0.01	0.01	1.18	-0.25	1.41	0.01	0.01
FI	6.14	4.59	1.52	0.02	0.01	4.17	2.69	1.46	0.02	0.01
FR	4.27	2.62	1.50	0.15	0.01	1.99	0.40	1.45	0.13	0.01
IE	4.28	1.90	1.86	0.51	0.01	2.47	0.45	1.74	0.26	0.03
IT	4.02	2.09	1.72	0.06	0.16	1.84	-0.08	1.63	0.04	0.25
LU	5.11	3.18	1.64	0.27	0.02	2.97	1.09	1.62	0.23	0.02
NL	6.65	5.75	0.88	0.01	0.01	4.32	3.58	0.72	0.01	0.02
PT						1.84	0.42	1.39	0.00	0.03
SE						3.13	2.19	0.95	0.00	0.00
EU	4.89	3.13	1.54	0.20	0.03	2.23	0.52	1.52	0.15	0.04

	1Y				
	Gross	Net	TER	FL	BL
AT	0.10	-1.65	1.48	0.27	0.00
BE	-1.04	-2.84	1.64	0.16	0.00
DE	0.37	-1.31	1.56	0.12	0.00
DK	-0.62	-1.77	1.09	0.05	0.01
ES	-2.16	-3.58	1.40	0.02	0.00
FI	1.20	-0.22	1.38	0.03	0.01
FR	-0.47	-2.00	1.40	0.11	0.02
IE	-0.99	-2.76	1.53	0.21	0.03
IT	0.01	-1.84	1.65	0.01	0.19
LU	0.04	-1.74	1.59	0.16	0.02
NL	1.89	1.22	0.67	0.00	0.00
PT	0.47	-1.06	1.51	0.00	0.01
SE	2.43	1.47	0.96	0.00	0.00
EU	-0.14	-1.80	1.50	0.12	0.04

Note: EU27 UCITS mixed fund shares' annual gross and net returns, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by time horizon and country,%. For BE, BL not considered. PT and SE not reported at 10Y. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

Fund domicile and marketing country

ASR-PC-S.105

Number of funds by country: domicile and sold-in

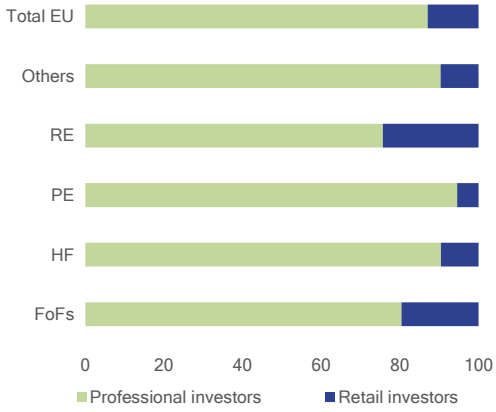
Domicile \ Sold-in	AT	BE	DK	FI	FR	DE	IE	IT	LU	NL	PT	ES	SE	Other EU
AT	604				6	320		9	1			8	0	53
BE	70	493			91	76		27	85	23		35		62
DK	3		405	4	9	20			16	16		16	26	0
FI	7		10	260	9	13		8	6		4	10	94	10
FR	76	99	1	7	2,051	142	10	179	125	51	20	147	18	5
DE	265	2	1	2	24	1,041	13	15	36	10	2	30	2	3
IE	594	328	389	507	642	761	1,216	661	606	557	163	699	579	79
IT								773						
LU	3,123	2,366	1,409	2,112	3,188	4,158	1,340	3,402	6,504	2,354	1,506	3,183	2,342	1,500
NL	8	22			9	12	7	1	18	100	7	9		7
PT											110	3		
ES												1,118		
SE		1	6	66	5				5	2			382	2
Other EU														

Note: EU27 UCITS number of funds by country of domicile (rows) and marketed country (columns), 2020. Please note that a fund appearing as marketed in a country will also appear in
Sources: Refinitiv Lipper, ESMA.

Retail AIFs

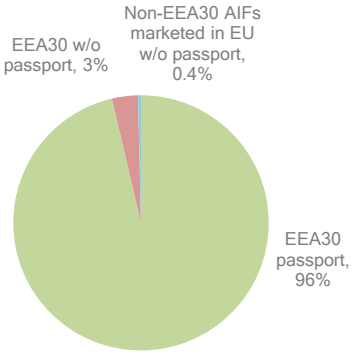
Market Overview

ASR-PC-S.106
AIFs NAV by type of client



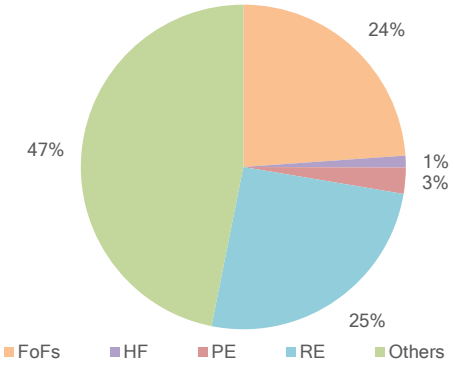
Note: Clients of EEA30 AIFs managed and/or marketed by authorised AIFMs and sub-threshold managers registered only in national jurisdictions, end of 2020, in % of NAV.
Sources:National Competent Authorities, ESMA

ASR-PC-S.107
Retail AIFs, AIFMD passport



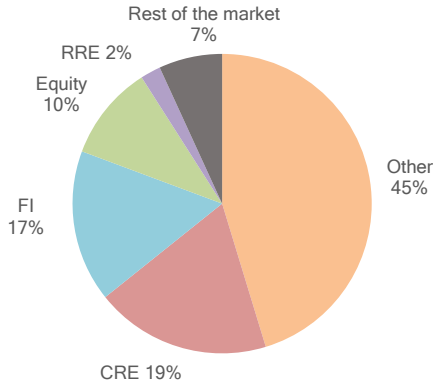
Note: NAV of retail AIFs by manager's access to AIFMD passport, end 2020, %. Authorised EEA30 AIFMs can access AIFMD passport or market non-EEA30 AIFs to retail investors w/o passport, sub-threshold managers are registered only in national jurisdictions w/o passporting rights.
Sources: National Competent Authorities, ESMA

ASR-PC-S.108
Retail AIFs, NAV by type of fund



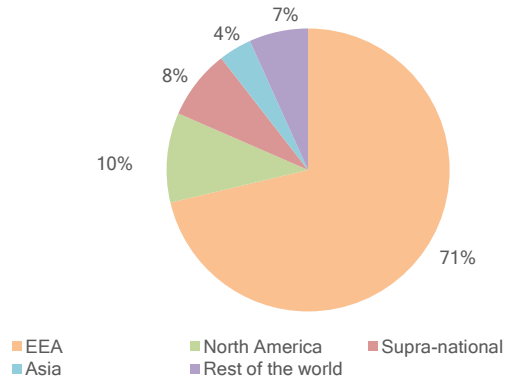
Note:NAV of retail EEA30 AIFs type at the end of 2020 reported under AIFM Directive, in %
Sources:National Competent Authority, ESMA

ASR-PC-S.109
Retail AIFs, NAV by type of strategy



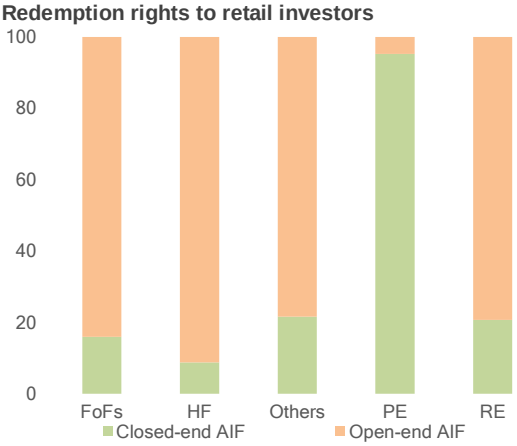
Note: Share of NAV by investment strategy, end of 2020 retail clients, reported under AIFMD, in %. FI = Fixed Income; CRE = Commercial Real Estate; RRE; Residential Real; Estate. Data for EEA30.
Sources National Competent Authorities, ESMA

ASR-PC-S.110
Retail AIFs, NAV by regional investment focus



Note: NAV of EEA30 AIFs by regional investment focus, retail clients, end of 2020, in %. Reported according to the AIFMD. AIFs managed by authorised and registered AIFMs.
Sources: National Competent Authorities, ESMA.

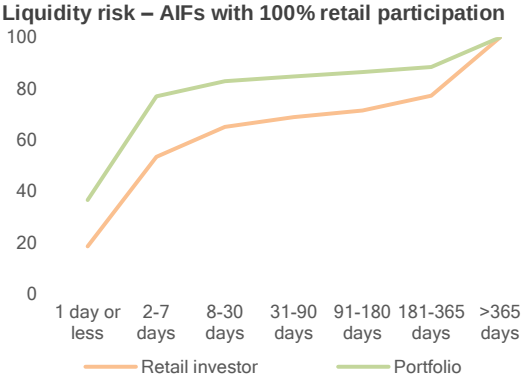
ASR-PC-S.111
Redemption rights to retail investors



Note: NAV of EEA30 AIF by redemption rights offered to retail clients, end 2020, %, reporting according to AIFMD. AIFs managed by authorised and registered AIFMs.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.112

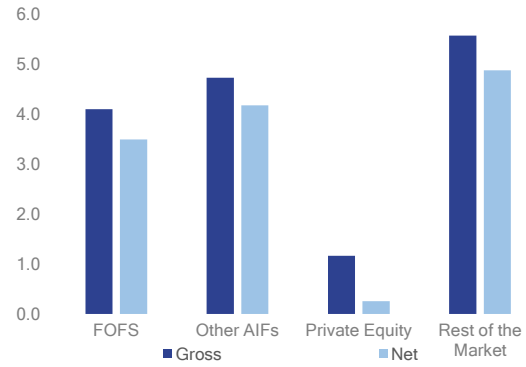
Liquidity risk – AIFs with 100% retail participation



Note: EEA30 AIFs portfolio and investor liquidity profiles, retail investors. The portfolio liquidity profile is determined by the percentage of the fund portfolios that can be liquidated within the period specified on the horizontal axis. The retail investor liquidity profile reflects the shortest period at which the fund could be withdrawn or investors could receive redemption payments.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.113

Retail AIFs, gross and net performance



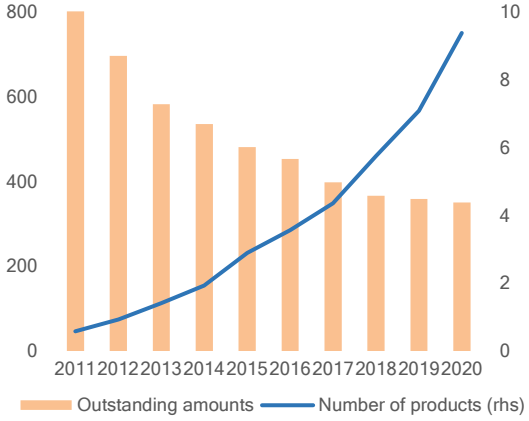
Note: EEA30 AIFs annualised monthly gross and performance by fund type, %, 2020. Reported according to AIFMD. Predominant fund type "Other AIFs" = fixed income funds, equity fund, infrastructure funds, commodity funds, and other funds; PE=private equity funds; RoM= rest of the market and includes hedge funds and those funds whose type is not indicated; no cost reporting available from regulatory or commercial data sources.
Sources: National Competent Authorities, ESMA.

Structured Retail Products

Market Overview

ASR-PC-S.114

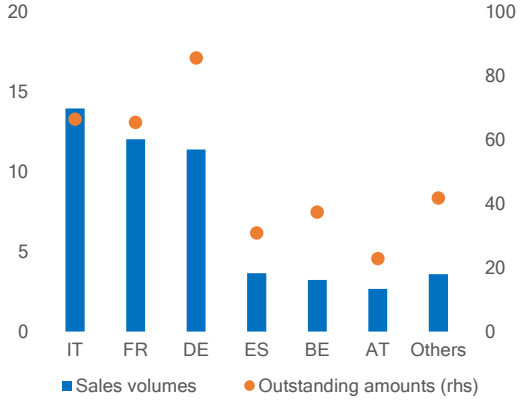
Outstanding amounts of SRPs in the EU



Note: Outstanding amounts of SRP in EU, EUR bn. Number of products in millions.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.115

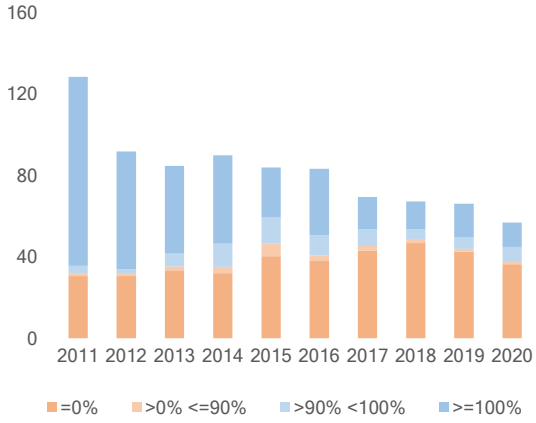
Sales volumes and outstanding amounts by country



Note: Sales volumes, EUR mn, and outstanding amounts, EUR bn, of structured retail products in 2020 for top 6 EU countries by sales volumes, EUR bn. "Others"=EU countries not otherwise listed.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.116

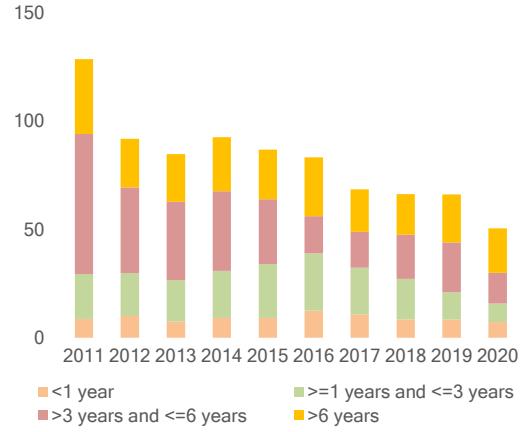
Volume of products sold by capital protection



Note: Annual volumes of structured products sold to retail investors in EU by level of capital protection, EUR bn and expressed as percentages of the total in selected cases.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.117

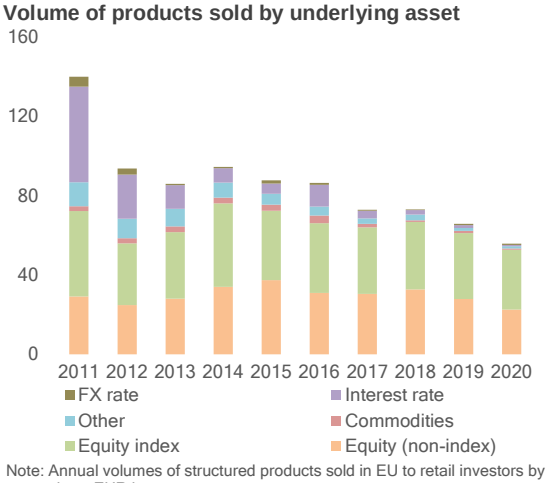
Volume of products sold by term



Note: Annual volumes of structured products sold to retail investors in EU by investment term, EUR bn and expressed as percentages of total.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.118

Volume of products sold by underlying asset

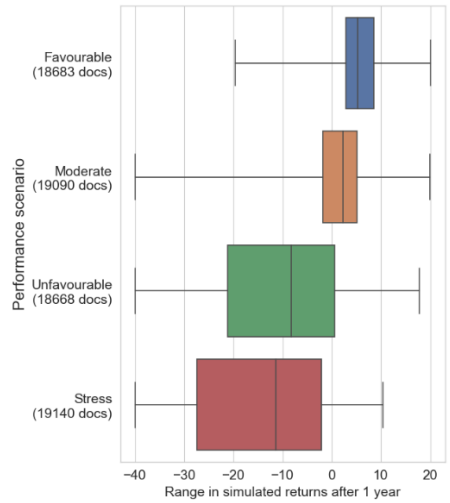


Note: Annual volumes of structured products sold in EU to retail investors by asset class, EUR bn.
Sources: StructuredRetailProducts.com, ESMA.

SRPs performance and costs

ASR-PC-S.119

Completeness of performance scenario information

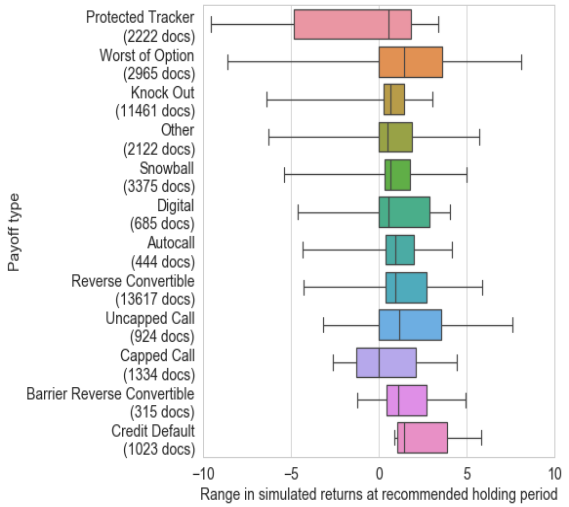


Notes: Range in performance returns for 19533 PRIIPs in each performance scenario category, using only scenarios that may occur after 1 year of holding the PRIIP. The scenario calculation methodology is set out in the PRIIPs KIDs Regulation. Similar results are obtained when comparing scenario returns at product maturity (or recommended holding period), rather than 1 year. The vertical line in each box shows the median simulated return in that performance scenario category. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that category.

Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.120

Moderate scenario returns across payoff types

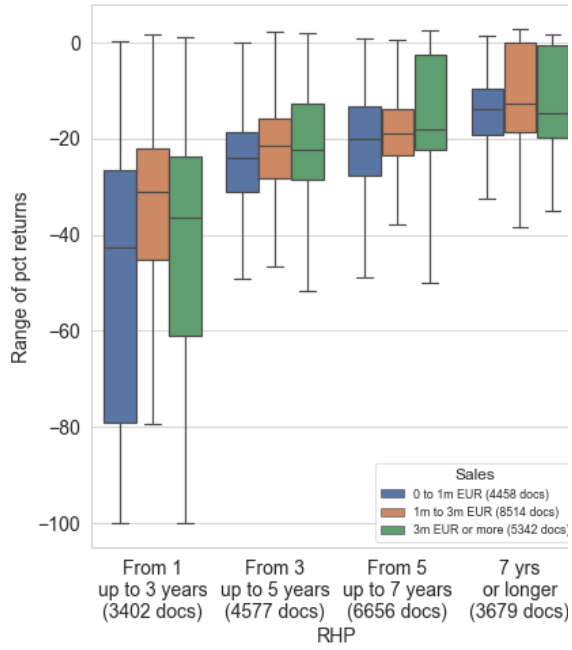


Note: The chart presents the range in moderate scenario returns (after costs) at the product maturity / recommended holding period for PRIIPs grouped by payoff type. The vertical line in each box shows, within each payoff type, the median moderate scenario returns (after costs) at the recommended holding period. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that payoff type. Note that one product can contain multiple payoff types. 'Other' collects all PRIIPs containing payoff types that have 300 or fewer observations in the data sample.

Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.121

Variation in stress scenario returns across PRIIPs

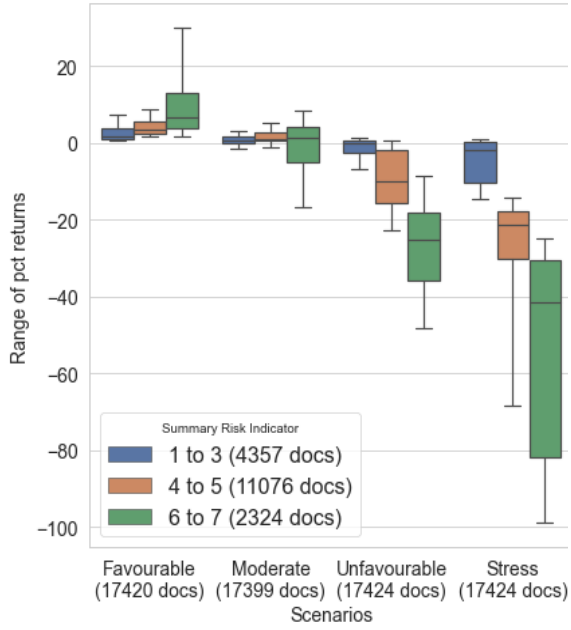


Note: The chart shows the range in the median stressful scenario return (in%) for 18314 PRIIPs, grouped by estimated sales volume and recommended holding period. Box edges are the respective 25th and 75th percentile simulated return across the group, and additional lines ('whiskers') represent the 10th and 90th percentiles for that same group.

Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.122

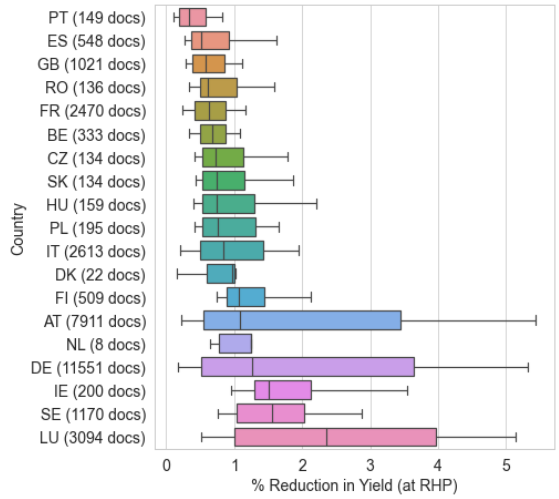
Evaluating the Summary Risk Indicator



Notes: The boxes and vertical lines indicate the range of returns (at the recommended holding period) across PRIIPs grouped by the Summary Risk Indicator (SRI). The SRI aggregates the estimated Credit Risk (default risk) and Market Risk (adverse market price risk) associated with the PRIIP. The necessary simulations and formulae used to produce the SRI are set out in the PRIIPs KIDs Regulation. The SRI ranges from 1 (lowest risk) to 7 (highest risk). The horizontal line in each box shows the median KID simulated return rate for that specific performance scenario and SRI grouping. Box edges are the respective 25th and 75th percentile simulated return across the group, and additional lines ('whiskers') represent the 10th and 90th percentiles for that same group.

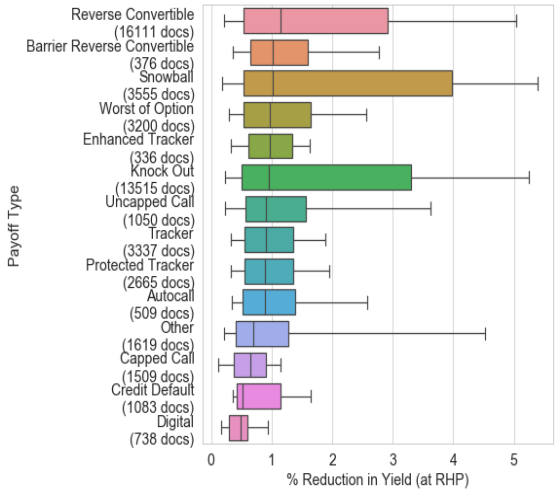
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.123
Range in total costs for PRIIPs by country



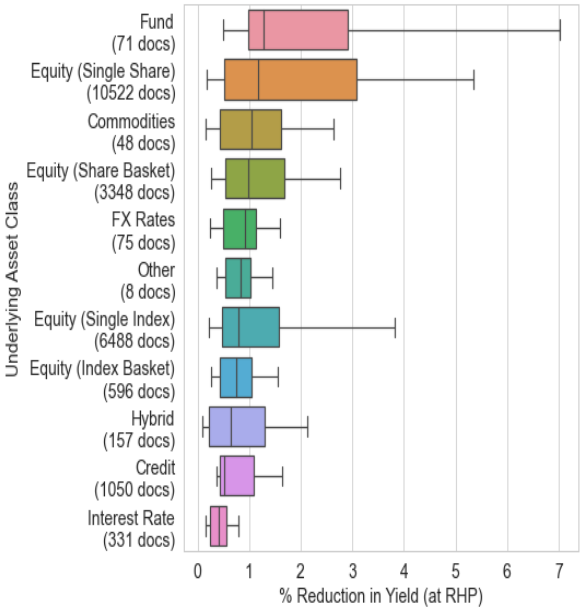
Note: Each bar above displays the range in percent total cost (Reduction in Yield) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by country. NB: countries indicate locations of sale (one product can be sold in multiple countries). The vertical line in each box shows the median percent cost. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that country group.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.124
Range in total costs for PRIIPs by payoff type



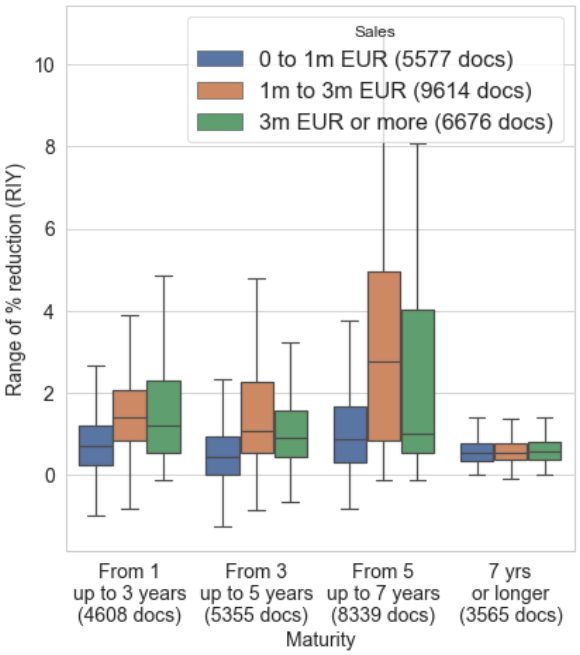
Note: Each bar above displays the range in percent total cost (Reduction in Yield) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by payoff type. The vertical line in each box shows the median percent cost. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that payoff type. 'Other' collects all PRIIPs containing payoff types that have 300 or fewer observations in the data sample.
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.125
Range in total costs for PRIIPs by underlying asset



Note: Each bar above displays the range in median percent total cost across PRIIPs in the data sample, grouped by underlying asset types and maturities. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that underlying asset type. "Other" includes Real Estate, Inflation, and other uncommon underlying asset types. Numbers in parentheses indicate the number of scanned KIDs belonging to that particular underlying asset class. Sources: ESMA, Structuredretailproducts.com, financial entities' websites

ASR-PC-S.126
Range in total costs for PRIIPs by sales and maturities



Note: Each bar above displays the range in median percent cost (Reduction in Yield) across PRIIPs in the data sample, grouped by estimated sales volume and maturities. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') represent the 10th and 90th percentiles for that sales volume and maturity group. '
Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

List of abbreviations

AIF	Alternative Investment Fund
AIFM	Alternative Investment Fund Manager
AIFMD	Alternative Investment Fund Managers Directive
AMF	Autorité des marches financiers
ASR	Annual Statistical Report
AuM	Assets under Management
BaFin	Bundesanstalt für Finanzdienstleistungsaufsicht
BIS	The Bank of International Settlements
BL	Redemption fees (back loads)
BPS	Basis points
CESR	Committee of European Securities Regulators
CMU	Capital Market Union
CONSOB	Commissione Nazionale per le Società e la Borsa
CSSF	Commission de Surveillance du Secteur Financier
EA	Euro Area
EBA	European Banking Authority
ECB	European Central Bank
EFAMA	European Fund and Asset Management Association
EIOPA	European Insurance and Occupational Pensions Authority
ESAs	European Supervisory Authorities
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
ETF	Exchange Traded Fund
EU	European Union
FCA	Financial Conduct Authority
FL	Subscription fees (front loads)
FMA	Financial Market Authority
FoFs	Fund of funds
FSMA	Financial Services and Markets Authority
HCMC	Hellenic Capital Market Commission
HFs	Hedge Funds
IBIPs	Insurance-based investment products
IDD	Insurance Distribution Directive
IORP	Directive on the activities and supervision of institutions for occupational retirement provision
KID/KIID	Key Information Document
MiFID	Markets in Financial Instruments Directive
MiFIR	Markets in Financial Instruments Regulation
MMF	Money Market Fund
NAV	Net Asset Value
NCA	National Competent Authority
PE	Private Equity
PRIIPs	Packaged retail investment and insurance products
PPPs	Personal pension products
PPT	Percentage points
RE	Real Estate
RTS	Regulatory Technical Standards
SMSG	Securities and Markets Stakeholder Group

SRPs	Structured Retail Products
SRRI	Synthetic Risk and Reward Indicator
TRV	Trends Risk and Vulnerabilities
UCITS	Undertaking for Collective Investment in Transferable Securities

Countries abbreviated according to ISO standards except for Greece (GR) and United Kingdom (UK)

Currencies abbreviated according to ISO standards

esma European Securities and Markets Authority