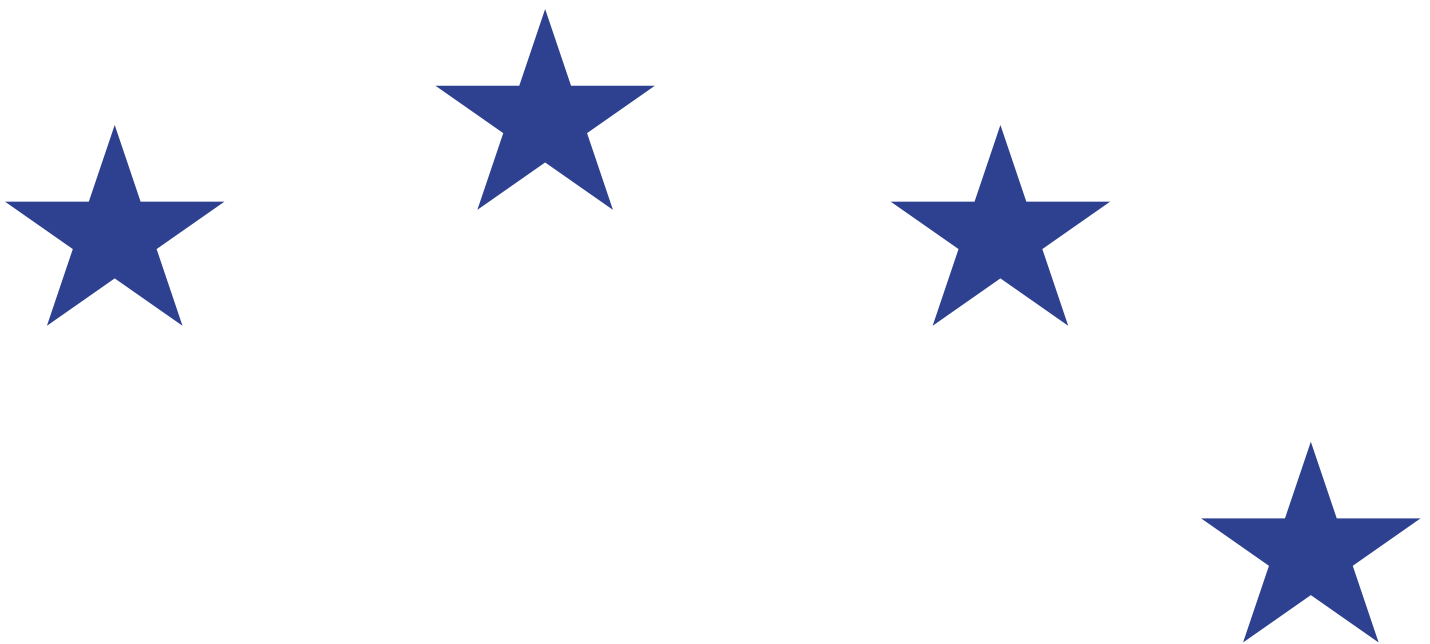


Performance and Costs of EU Retail Investment Products

ESMA Annual Statistical Report

2021



ESMA Annual Statistical Report on performance and costs of retail investment products in the EU
2021

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Executive summary

The ESMA Annual Statistical Report 2021 provides an overview of EU retail investment products from 2010 to 2019. With around EUR 11tn assets, Undertakings for Collective Investment in Transferable Securities (UCITS) remained the largest investment fund sector in the EU, of which more than EUR 4.5tn held by retail investors. Alternative investment funds (AIFs) followed with EUR 6.5tn, of which around EUR 1tn were held by retail investors (Retail AIFs). Structured Retail Products (SRPs) were the smallest market at around EUR 400bn outstanding for retail investors. Compared to 2020, the 2021 report is enhanced with a specific analysis on UCITS following environmental, social and governance (ESG) strategies, preliminary results on retail AIFs net performances and a study of performance and costs of SRPs based on PRIIPs Key Information Documents. Data coverage and quality has been largely improved, but significant data issues persist. The market impact of the COVID-19 pandemic falls outside the reporting period of this report and will be covered in next year iteration.

Investment funds: UCITS

UCITS performed well in 2019, with average gross annual performance of 7.7%, across different retail asset classes for the one-year investment horizon. Costs remained a critical component in final investor outcomes, with only marginal reductions over time. A ten-year retail investment of EUR 10,000, in a hypothetical portfolio of equity, bond or mixed assets funds, provided a value of EUR 21,813 declining to EUR 18,616 net of costs. Active equity and bond UCITS underperformed passive and ETF UCITS in net terms as well as their prospectus benchmarks. Top-25% active equity UCITS outperformed top-25% passive equity UCITS and their own benchmarks at three- and one-year horizons. However, the cohort of funds changes over time. In our sample, only 20% of those equity UCITS that were top performers at the end of 2019 were top performers also one year earlier, making it complicated for investors to consistently identify outperforming UCITS. For ESG equity UCITS funds, the outperformance of ESG assets was due to a large extent to sectoral factors. Moreover, the evidence on cost structure, which shows that actively managed ESG funds tend to have lower costs than non-ESG, does not support the view that, on average, there is systematic greenwashing behaviour by ESG funds. Across EU countries, heterogeneity persisted, yet reducing when the focus goes from the fund- to the investor-based domicile, leading to comparability issues across domiciles.

Investment funds: Retail AIFs

In 2019, with around EUR 1tn, retail AIF investments accounted for 15% of the AIF market. In terms of distribution of retail assets, around half of retail investment was concentrated in AIFs following more traditional strategies targeting primarily asset classes such as equities and bonds, followed by funds of funds and real estate funds with 29% and 17% respectively. In addition to the analysis on gross returns, we report the dynamics of net returns. Gross annualised returns of AIFs sold to retail investors were high, reflecting the overall strong performances in 2019: 12% for funds of funds and 9% for the category Others. Similar dynamics were observed for net annualised returns: 11% and 7% respectively for funds of funds and Others.

Structured retail products

Structured Retail Products (SRPs), with outstanding value of EUR 400bn in 2019, remain a much smaller market than UCITS and AIFs sold to retail investors. SRPs include a large variety of payoff types, with much heterogeneity across national markets. Regulatory data are only starting to be available now and not readily accessible and usable, 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 PRIIPs Key Investor 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 payoff 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.

ESA performance and cost reports 2020: summary

Ahead of unfolding the analysis of the current report, below we provide a summary of the findings of the reports published in 2020 by ESMA and EIOPA. This gives the necessary background to highlight the developments and the enhancements of this year's reports with respect to the previous ones.

ESMA

The 2019 and 2020 reports¹ highlight the high impact of costs on the final returns of retail investors. The costs paid by retail investors are significantly higher than those paid by institutional investors, leading to lower net returns for this category of investors. Key findings of the 2020 report are:

- The volatility in returns across time is high. Average UCITS gross performance was lower than 0.2% in 2018, while it was 8.3% in 2017, for one-year investments.
- UCITS costs remained broadly stable and only marginally declined over time. For one-year investments, costs were 1.5% in 2018 compared to 1.6% in 2017. If gross annual performance is lower, the cost impact on final returns is stronger.
- The impact of costs on the final value of a retail investment was significant. A hypothetical ten-year retail investment of EUR 10,000 in equity, bond and mixed funds provided a net return of EUR 16,160 for the period 2009-2018, with costs at EUR 2,800.
- Higher risk exposures entail higher costs irrespective of the asset class.
- For the period 2009-2018, in the sample under analysis, the gross outperformance of active, compared to passive and ETFs UCITS, was not high enough to compensate for the higher costs charged by active UCITS.
- There is limited comparability across

Member States. Heterogeneity and data availability issues persisted.

- The estimated NAV of retail alternative investment funds (AIFs) was around EUR 5.8tn. Retail AIF were 16% of the AIF market.
- For retail AIFs, gross returns in 2018, given the poor performance across asset classes, were negative for those AIFs on which retail investment concentrates: -2.1% for funds of funds and - 3.3% for the category Other.
- The lack of data for SRPs constrained the analysis on costs and performance.

EIOPA

The EIOPA's 2019² and 2020³ reports focus on net performance and costs of insurance-based investment products (IBIPs) and of personal pension products (PPPs) over the period 2013-2017 and over the period 2014-2018⁴. In summary, based on collected data, the reports highlight that:

- Higher risk classes for both unit-linked (UL) and profit participation (PP) products experienced, on average, higher net returns, despite the higher costs. Also, variability of net returns was higher.
- Considering their nature, while unit-linked products offered higher returns, they also directly expose policyholders to market shocks. Therefore, while on average they outperformed profit participation products over the period 2013-2017, due to the considerable market drop in 2018, past performance of profit participation products was higher than past performance of unit-linked products over the period 2014-2018, showing how profit participation products can smooth risks for consumers.
- Costs for profit participation products were

¹ ESMA, January 2019, "Performance and Costs of Retail Investment Products in the EU". ESMA, April 2020, "Performance and Costs of Retail Investment Products in the EU".

² EIOPA, January 2019, First Report Cost and Past Performance.

³ EIOPA, April 2020, Cost and Past Performance 2020 Report.

⁴ EIOPA, April 2020, Cost and Past Performance 2020 Report.

generally lower than for unit-linked products. In particular:

- Other ongoing costs⁵ are higher for unit-linked products and represent the most prominent cost components.
 - Exit costs at maturity are marginal for both products.
 - Administrative costs are the most prominent costs, followed by distribution costs. Investment management costs are lower.
- Market coverage of the 2020 report increased to 57% (EUR 311bn in GWP) from 21% for the first edition of the report, (EUR 104bn in GWP). Data granularity for unit-

linked products is greater than for profit participation and hybrid products, highlighting not only that data for unit-linked products is more reliable but also that for unit-linked products market transparency and comparability is higher.

- 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 with PPPs-UL having significantly higher volatility than PPPs-PP. The 2020 results were based on the analysis of ca. 110 products representing 940.000 contracts.

⁵ "Other ongoing costs" refers to all ongoing costs excluding transaction costs.

Market environment 2019

Securities markets

The market environment in which EU retail investment products developed in 2019 was overall benign, especially in comparison to the highly volatile conditions in early 2020 – outside the reporting period of this report.

In 2019, market valuations were exceptionally strong, even higher than in 2017 and significantly higher than in 2018 (ASR-PC.1). Between 2018 and 2019, the year-on-year increase in returns was higher than 20% for equity and 6% both for sovereign and corporate bonds.

ASR-PC.1

Securities market performance over time

2019 strong valuations

200



Note: Return indices on EU equities (Datastream regional index), EA corporate and sovereign bonds (iBoxx EUR, all maturities), monthly averages, December 2010 = 100.
Sources: Refinitiv Datastream, ESMA.

The second half of 2019 was however characterised by deteriorating macroeconomic conditions with negative forecasts for EU and global growth. However, the strong EU equity performance suggested potentially high

valuations compared to fundamentals, even if underperforming relative to the US. Differently, for fixed income, valuations were positive along 2019 but they declined in 4Q19.⁶

Against this background, currency and deposits remained the largest financial asset held by retail investors, with more than 37% of total household assets outstanding, from more than 38% at the end of 2018. The share of investment in fund shares increased to 10% from 9% in 4Q18 (ASR-PC-S.2).

ASR-PC.2

Market environment 1H20

COVID-19: shock of unprecedented size

As the COVID-19 pandemic⁷ unfolded, financial markets plummeted and liquidity dropped mirroring volatility surges and a dim economic outlook, especially in 1Q20 when the number of infections in the EU rose.⁸ Major policy responses followed, and the re-opening of economies led markets to rebound in 2Q20. The developments in the near future, especially from the perspective of real economic growth, will be fundamental in ensuring the resilience of this recovery.

Given the broad impact of COVID-19 across markets and sectors and the level of uncertainty it brought about, monitoring the dynamics for consumers and retail investors has been of great concern across the EU. At the aggregate EU level, we witnessed an overall sharp reduction in confidence in 1Q20 and a broad impact on the overall performance of typical retail investor instruments, such as funds. From a retail investor perspective, however, the reactions have been different across countries and, within the same country, across cohorts of retail investors when categorised by age, financial education, or frequency of investment⁹.

⁶ ESMA, 2020, Trend Risk and Vulnerabilities No.1 2020.

⁷ The focus of ESMA Annual Statistical Reports has been end of the calendar year. The main analysis for this edition focuses on the reporting period ending in 2019. The unfolding of the pandemic and the disruptive consequences that it has been having in 2020 is therefore briefly reported in this box. For a full analysis of trends and risk related to 2020 please see ESMA TRV No.2 2020 and TRV No.1 2021.

⁸ ESMA, 2020, Trend Risk and Vulnerabilities No.2 2020.

⁹ AMF, "Retail investor behaviour during the COVID-19 crisis", April 2020. Financial Services and Markets Authority, "Belgians trade up to five times as many shares during the coronavirus crisis", May 2020. CONSOB, "Report of financial investment of Italian households", 2020.

Investment funds: UCITS

Summary

UCITS performed well in 2019, with average gross annual performance of 7.7%, across different retail asset classes for the one-year investment horizon. Costs remained a critical component in final investor outcomes, with only marginal reductions over time. A ten-year retail investment of EUR 10,000, in a hypothetical portfolio of equity, bond or mixed assets funds, provided a value of EUR 21,813 declining to EUR 18,616 net of costs. Active equity and bond UCITS underperformed passive and ETF UCITS in net terms as well as their prospectus benchmarks. Top-25% active equity UCITS outperformed top-25% passive equity UCITS and their own benchmarks at three- and one-year horizons. However, the cohort of funds changes over time. In our sample, only 20% of those equity UCITS that were top performers at the end of 2019 were top performers also one year earlier, making it complicated for investors to consistently identify outperforming UCITS. For ESG equity UCITS funds, the outperformance of ESG assets was due to a large extent to sectoral factors. Moreover, the evidence on cost structure, which shows that actively managed ESG funds tend to have lower costs than non-ESG, does not support the view that, on average, there is systematic greenwashing behaviour by ESG funds. Across EU countries, heterogeneity persisted, yet reducing when the focus goes from the fund- to the investor-based domicile, leading to comparability issues across domiciles.

The EU UCITS market¹⁰ remains the largest and most transparent investment fund market for retail investors in the EU.¹¹ The degree of data coverage and quality of our analysis improved compared to last year. However, significant issues persist, such as those related to the final investor domicile, and the availability and treatment of costs at a national level.¹²

Market overview

At the end of 2019, the value of NAV of the EU UCITS universe, retail and institutional investors, reached EUR 11tn,¹³ increasing from EUR 9tn in 2018. Our sample reflects this increase, reaching EUR 7.4tn from EUR 6.2tn in 2018 (ASR-PC-S.5)¹⁴, with around EUR 4.6tn (more than 60% of total assets) composed by UCITS marketed to retail investors. UCITS focusing on equity, mixed and bond continued to be the most relevant in

2019, with net assets amounting to more than 90% of the total retail investment (respectively 39%, 27% and 26% of the total. (ASR-PC.4).¹⁵ EU UCITS sold the majority of assets, 76%, in the EU only. 23% of assets are also sold outside the EU (ASR-PC.5). The share of assets sold only outside the EU is negligible.

Differences in investment focus are important when explaining the dynamics of gross performance of a product, ahead of analysing costs. In 2019, the vast majority of EU UCITS had a global focus¹⁶, with more than EUR 2.5tn, or 59% of total retail investors' assets, while EU UCITS focusing predominantly in Europe were 29%, or EUR 1.3tn (ASR-PC-S.19, ASR-PC.6). 9% of assets (around EUR 430bn) was concentrated in UCITS with a specific focus on emerging economies (ASR-PC-S.20, ASR-

¹⁰ The EU market includes the United Kingdom as it is a Member of the EU during the reporting period, 2010-2019. The United Kingdom is reported in the aggregate and in the country-by-country analysis. The data are commercial data from Refinitiv Lipper and are therefore publicly available to subscribers. Having all Member States is envisaged in order to have a more instructive comparison across the current and the previous years' reports.

¹¹ Also see the Annual Report on use of sanctions for UCITS published in November 2020. For more details see Regulatory developments.

¹² 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 UCITS, fund data are not accessible at EU level; commercially available data provide a limited level of granularity and

accuracy typically required for the purposes of our reporting. For more details please see the annex on Data and data limitations.

¹³ EFAMA, 2020, Quarterly Statistical Release, June 2020 No.81.

¹⁴ The UCITS considered in the analysis exclude EU UCITS ETFs that are included in an ad-hoc analysis.

¹⁵ The categorisation of UCITS MMFs is subject to limitations related to the categorisation of the commercial provider we rely on that may not be in line with the categorisations under the UCITS Directive, 2009/65/EC and MMF Regulation, 2017/1131.

¹⁶ Global refers to those funds not specifically indicating if the investment focus is Europe or outside Europe.

PC.7).¹⁷

Market size is significantly different across the different EU-domiciles. In 2019, Luxembourg continued to be, by far, the largest domicile for UCITS funds marketed to retail investors (41% of total asset in the EU), followed, with a much lower share, by United Kingdom and Ireland, respectively, 12% and 10% of total asset in the EU (ASR-PC-S.13).¹⁸ Concerning institutional investors, Luxembourg remained the largest domicile with EUR 1.4tn (49% of the total), followed by Ireland and United Kingdom with respectively EUR 828bn, and EUR 304bn, or 30% and 11% of the total EU (ASR-PC-S.14).

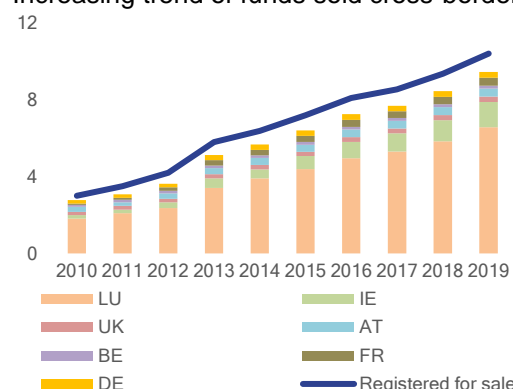
The heterogeneity of households' participation in capital markets across EU countries is also reflected in the composition of assets. There are important differences across Member States. For example, the share of retail investment in funds mainly focusing on equity per country goes from 9% in Italy to 80% in the Netherlands. Conversely for mixed funds, this share goes from just below 8% in the Netherlands to more than 60% in Belgium and Italy (ASR-PC-S.15).

From a fund domicile perspective, two markets can be considered large global platforms, namely Ireland and Luxembourg. Other domiciles seem to market mostly domestically, like Italy and Spain. For Austria, Germany and France the share between domestic funds and those marketed also abroad is more even (ASR-PC-S.17). The available data, however, do not provide a complete picture of the different national markets. For example, "Round-trip" funds are not captured.¹⁹

Overtime, the EU landscape has significantly changed. Following the UCITS Directive,²⁰ a UCITS fund can be freely marketed in any EU Member State through a notification procedure. This is reflected in the large increase of funds that

are registered to be sold abroad and funds that are effectively sold cross-border, or cross-border funds (ASR-PC.3). The cross-border distribution of funds is a significant factor to consider when evaluating the overall costs borne by retail investors in the country where a fund is sold. This, for example, is the case of administrative fees. We are unable to account for this aspect as the data we use for the analysis are based on the domicile of the fund and not on that of the investor.

ASR-PC.3
EU cross-border UCITS
Increasing trend of funds sold cross-border



Note: Number of cross-border EU-domiciled 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 EU, thousands. Registered for sale refer to those UCITS that can be sold cross-border
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Differences in asset allocation and investor strategies are important drivers in explaining variations in gross performances irrespective of costs. ASR-PC.8 shows the different choices in investment's geographical focus across markets. There are countries clearly focusing on Europe while others have a more global perspective. A similar heterogeneous picture can be observed when looking at the investment focus based on market development (ASR-PC.9).

¹⁷ The total assets considered when looking at different investment focus, if geographical or by market development, may slightly differ, due to data availability issues. In both cases, the total is beyond EUR 4.5tn.

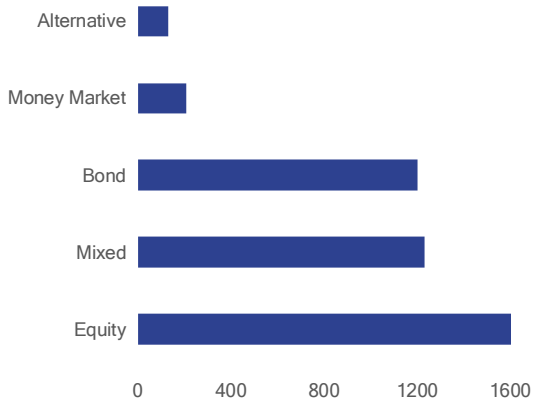
¹⁸ The number of fund share classes reported in Refinitiv Lipper for Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Romania is not large enough to allow for robust statistical analysis. These countries are clustered in the "Other EU" group.

¹⁹ "Round trip" is the situation in which managers of a given Member State manage funds domiciled in another Member State and market them in their own home Member State. This is significant in some jurisdictions (e.g. Italy).

²⁰ 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).

ASR-PC.4

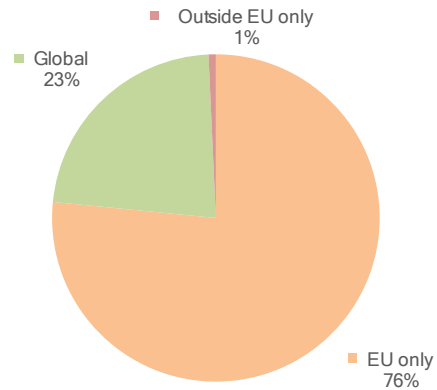
Fund value by asset class, retail investors
Equity is the largest asset class



Note: EU UCITS universe, in terms of fund value by asset class, retail investors, 2019, EUR bn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.5

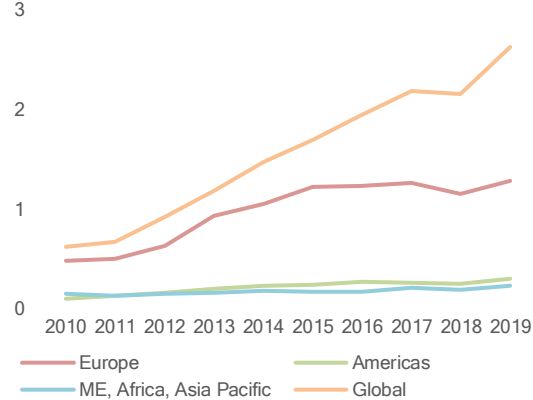
Region of sale of EU UCITS
The majority of assets sold within the EU



Note: EU-domiciled UCITS share of total asset by region of sale, %, 2019. Global represents funds sold in and outside EU.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.6

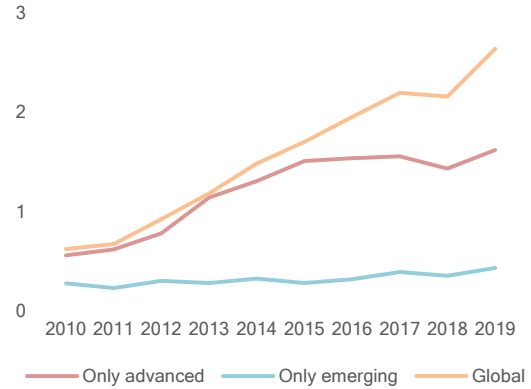
EU UCITS evolution of assets by geographical focus
Growth mostly when focus global or in Europe



Note: EU-domiciled UCITS evolution of total net asset value over time by investment's geographical focus, retail investors, EUR tn. ME refers to Middle East.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.7

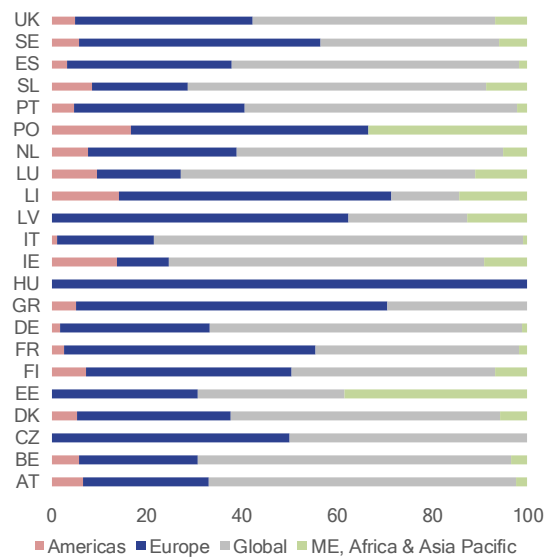
EU UCITS evolution of assets by economic development
Biggest focus in global and developed markets



Note: EU-domiciled UCITS evolution of total net asset value over time by investment's focus based on economic development, retail investors, EUR tn.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.8

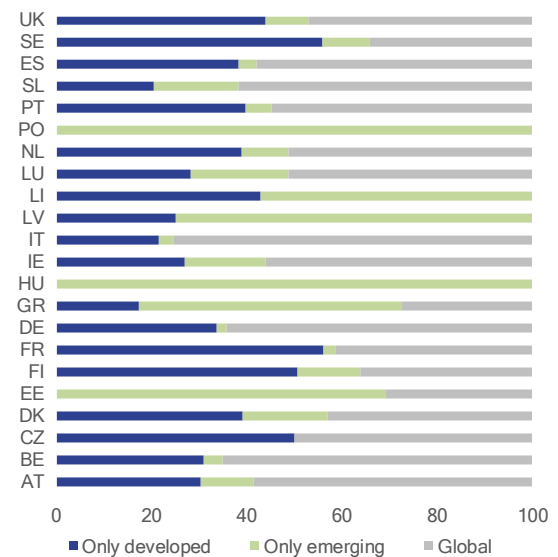
Geographical investment focus country by country
Large focus on Europe, but significant differences



Note: EU UCITS share of total net assets across EU Member States by geographical investment focus, %. ME = Middle East.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.9

Investment focus by market development
Biggest focus in global- or developed-markets



Note: EU UCITS share of total net assets across EU Member States by economic development investment focus, %. Global excludes the US.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Performance and costs

Asset classes

The analysis of the performance and costs of UCITS investment over time clearly shows, on one side, how significant is the volatility of gross performance and, on the other, how moderate is the variation in the cost impact on net performance. The lower is the gross performance the stronger is the impact of costs on the final performance for an investor.

Across asset classes, gross annual performance was 15.3% for the year ending in 4Q19, while it was -4.0% for the year ending in 4Q18.²¹ The high fluctuation is more evident when focusing on the single asset class. For example, in the case of equity, over the period 2010-2019, we observe a historical high gross annual performance beyond 50% for the year ending in 1Q10 and a historical low for the year ending in 4Q11 at -10% (ASR-PC-S.35).

The findings described above stem from focusing on annual performance looking at the year-end. Differently, the overall investment horizon analysis focuses on the average of annual performances calculated at the end of the four quarters of the year. For example, the average gross annual performance for all asset classes, calculated on all the investments with one-year horizon across all quarters of 2019, was 7.4%, while the average net performance was 6.3%. This is significantly different from the 15.3% indicated above that covers those investments having one-year horizon and being redeemed at the end of 4Q19.

For what concerns costs, even if slightly decreasing, these are more stable over the year. On average, across asset classes, total annual costs went from 1.2% as measured for the year ending in 4Q18 to 1.1% for the year ending in 4Q19 (ASR-PC-S.37).²²

The different developments between gross performance and costs have an impact on net performance. For example, focusing only on net

annual performance for one-year investments ending in 4Q19, net performance, across asset classes, was 14.2% on average (from a gross performance of 15.3% minus total costs of 1.1%). Considering one-year horizon investments across all the quarters of 2019, net annual performance was 6.3% from a gross performance of 7.4% minus costs of 1.1% (ASR-PC-S.39).

The following analysis is based on the calculation of gross performance for all the periods within the investment horizon. This choice is preferred to the alternative approach that focuses at the end of the year given the observed volatility of gross performance across time. Moreover, this is in line with the previous editions of the report.²³ Below we describe in detail the investment horizon analysis focusing on those assets that cover the 90% of EU retail UCITS investment, namely UCITS primarily investing in equity, mixed and bond funds, and for all the investments that have the horizon of ten-, seven-, three-, one-year, asset by asset.

Equity UCITS

Compared to last year report, gross performance for retail equity UCITS is high, especially over shorter horizons. (ASR-PC.10).

ASR-PC.10
Equity UCITS gross performance across periods
Strong increase in 2019

	2017	2018	2019
1Y	16.0%	1.5%	10.7%
3Y	10.2%	5.2%	9.3%
7Y	9.8%	9.9%	10.0%
10Y	5.3%	9.0%	11.0%

Note: EU equity UCITS gross annual performance by investment horizon, geometric mean aggregation. 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.

In 2019, at three and one-year horizons, gross annual performance was 9.3% and 10.7% respectively, lower than in the analysis ending in 2017 (10.2% and 16.0% respectively) but higher than in the analysis ending in 2018 (5.2% and 1.5% respectively).²⁴ This is related to the stronger valuations of equities in 2019 and 2017 compared to 2018. Looking at the longest horizon

²¹ The year-on-year change is significantly different according to the quarter we focus on. Looking at the year ending in 3Q19 we can observe annual performance to be on average 5.4%, much lower than the 16.7% as at 4Q19. Conversely for 3Q18 it was 2.8% much higher than -4.7% observed in 4Q18.

²² Total costs include on-going costs (TER), subscription and redemption fees.

²³ 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.

²⁴ ESMA, 2020, "Performance and Costs of Retail Investment Products in the EU".

of ten-year instead, the picture reverses. In the analysis ending in 2017, including the financial crisis period, the gross annual performance over the ten-year investment horizon was 5.3%. In the analyses where the ending year is 2018 and 2019, the gross annual performance over the ten-year investment horizon was, respectively, 9% and 11%, because the financial crisis has not been included.

The change in costs was moderate across investment horizons and reporting periods. For equity, total costs²⁵ went from 2% at the ten-year investment horizon for the reporting period ending with 2017 to 1.6% at the one-year horizon in the analysis ending in 2019 (ASR-PC.11).

ASR-PC.11
Equity UCITS total costs across periods
Limited change over time

	2017	2018	2019
1Y	1.7%	1.7%	1.6%
3Y	1.8%	1.7%	1.7%
7Y	1.9%	1.8%	1.8%
10Y	2.0%	1.9%	1.8%

Note: EU equity UCITS total costs by investment horizon, geometric mean aggregation. 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.

These dynamics of gross performance and costs determine net performance, or what an investor gets. With ongoing costs counting for more than 80% of total estimated costs (ASR-PC-S.45), net annual performance went from 7.6% at the seven-year horizon to beyond 9% at the ten-year and one-year horizons (ASR-PC.19). These results are different from last year in which net performance was the lowest at the one-year horizon.

This is clearly reflected in the analysis covering investments with a horizon of one-year (ASR-PC.20). The gross performance of the UCITS included in the sample reflects the underlying valuations of equity across the years considered. While valuations were subdued in 2016 and 2018, the reverse was true for 2017 and 2019. In 2016 the first part of the year was the weakest, while in 2018 the latest months of the year met strong negative valuations.²⁶ Gross annual performances for equity UCITS with one-year investment horizon were around -1% and 1.5% respectively for 2016 and 2018, while for 2017

and 2019, two exceptionally good years, they were 16% and 10.7% respectively.

Given that costs, even if declining, remained broadly stable, going from around 1.6% in 2016 to above 1.4% in 2019, the impact that they had on net performance strongly depended on the overall gross performance. In 2016 and 2018 net performance was negative, respectively lower than -0.2% and -2.7%. Differently, in 2017 and 2019 was respectively at 15% and 9%.

Moreover, as usually bigger funds are expected to have lower fees, we compared the fees of the largest- and smallest-25% of the funds in our sample by asset class. We found that, as expected, larger funds had lower costs than smaller funds. For equity funds, across time horizons, costs were on average 1.4% for the largest funds and 1.8% for the smallest funds (ASR-PC-S.71)

Bond UCITS

Similarly to equity, gross annual performance for bond funds is highly volatile. This is evident at the one-year investment horizon: gross annual performance was equal to 6.5% in 2019, while it was around -0.9% and around 2.5% for the analyses ending respectively in 2018 and 2017.

ASR-PC.12
Bond UCITS gross performance across periods
Strong increase in 2019

	2017	2018	2019
1Y	2.5%	-0.9%	6.5%
3Y	4.0%	1.2%	2.7%
7Y	5.1%	4.6%	3.9%
10Y	5.1%	5.2%	5.1%

Note: EU bond UCITS gross annual performance by investment horizon, geometric mean aggregation. 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.

The high gross performance at one-year horizon observed in 2019 required further analysis, with all the known limitations in the information available from the data provider.²⁷ Besides 2019 being a year of buoyant returns, differences in the strategies followed by those UCITS bond funds included in our sample seem to be an important driver. Indeed, the largest number of funds primarily investing in bonds were classified, according to the Morningstar classification, as High Yield (HY) bond funds, either USD- or EUR-

²⁵ See footnote 20

²⁶ ESMA, 2017, TRV No.1 2017 and ESMA, 2019, TRV No.2 2018.

²⁷ For more details, see Annex of Data and data limitations in this report.

hedged, and global HY bond funds. Investment funds classified as “Europe bond funds” and “Emerging markets bond funds” followed.²⁸ Moreover, in our sample, larger domiciles followed riskier strategies. Therefore, the related performances will have a larger impact in the aggregation that is weighted by the value of assets.²⁹

Looking at the ten-year horizon, across editions the performance hovered around 5% (ASR-PC.12). Differently, costs are much more stable only slightly declining over time. Between the first analysis, 2008-2017, and the current one covering the ten years between 2010-2019, costs went from 1.4% to 1.2% (ASR-PC.13). As in the case of equity, costs for larger funds were lower than for smaller funds (ASR-PC-S.72).

ASR-PC.13

Bond UCITS total costs across periods

Broadly stable

	2017	2018	2019
1Y	1.3%	1.2%	1.2%
3Y	1.3%	1.3%	1.2%
7Y	1.4%	1.4%	1.3%
10Y	1.4%	1.4%	1.3%

Note: EU bond UCITS total costs by investment horizon, geometric mean aggregation. 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.

The higher or lower gross performance drives the lower or higher cost impact on net performance. In 2019, it was 5.3% at the one-year horizon. This is significantly higher than last year, with net performance equal to -2%. For the three-year horizon, 2017-2019, net performance was 3.8% while being -0.1% for the three-year horizon, 2016-2018 (ASR-PC.21). This is mirrored in the year-on-year analysis (ASR-PC.22). In 2018 gross and net performances were -0.9 and -2% respectively, while being 6.5% (gross) and 5.3% (net) in 2019.

Mixed UCITS

Also for UCITS primarily investing in mixed assets, gross performance was volatile. Over the one-year horizon, gross performance reached 6% in 2019 from -0.4% in 2018 (ASR-PC.14). As in the case of bonds, we had a closer look to the 2019 gross performance over one-year horizon

for mixed UCITS. We identified the following two main drivers for the relatively low gross performance: data availability and sample composition related to the commercial data provider, and fund strategies. In particular, with reference to fund strategies, those UCITS included in our sample followed cautious or moderate allocation strategies entailing lower performances. Only a minority of funds followed more aggressive allocation or not clearly specified allocation.

ASR-PC.14

Mixed UCITS gross performance across periods

Significant changes over time

	2017	2018	2019
1Y	6.1%	-0.4%	6.0%
3Y	4.9%	1.5%	3.8%
7Y	6.1%	5.8%	5.4%
10Y	4.3%	5.6%	6.3%

Note: EU mixed UCITS gross annual performance by investment horizon, geometric mean aggregation. 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.

Total costs instead only slightly declined over time, going from 1.8%, for the period 2008-2017 to 1.6% in the current report (ASR-PC.15). Moreover, larger funds had lower costs than smaller funds (ASR-PC-S.73).

ASR-PC.15

Mixed UCITS total costs across periods

No significant changes

	2017	2018	2019
1Y	1.8%	1.7%	1.6%
3Y	1.8%	1.8%	1.7%
7Y	1.8%	1.8%	1.8%
10Y	1.8%	1.8%	1.8%

Note: EU mixed UCITS total costs by investment horizon, geometric mean aggregation. 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.

The year-on-year analysis confirms these findings, with 2016 and 2018 being subdued years while 2017 and 2019 entailing higher performances (ASR-PC.24). The main underlying reason resides in the composition of mixed funds, focused on equity and bond assets.

The rest of UCITS retail investment, less than 10%, was concentrated in short term, including money market UCITS, and UCITS following alternative strategies.³⁰ The level of performance

²⁸ Morningstar, 2020, “The Year in Bond funds 2019”, <https://www.morningstar.com/articles/961736/the-year-in-bond-funds-2019>

²⁹ For more details, see performance by fund domicile.

³⁰ The categorisation of UCITS MMFs is subject to limitations related to the categorisation of the commercial provider we rely on. This may not be in line with the

and costs was low for money market UCITS, given the nature of underlying assets and higher for UCITS focusing on alternative strategies (ASR-PC-S.65, ASR-PC-S.59).

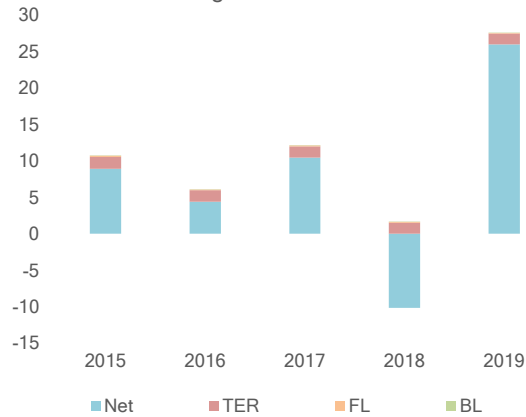
ASR-PC.16

Bond UCITS performance and costs end-of-year
Performance the highest in 4Q18

In line with previous editions and given that different investors can enter and exit the market throughout the year, in order to have a comprehensive view of market developments the focus of the main analysis goes to the evolution of annual performance across the different four quarters of a specific year. An alternative approach could be to take the point of view of those investors investing in funds at the end of one year and maintaining the investment until the end of the following year. In this case the analysis considers the performance of their investments at the end of each year (ASR-PC-17).

ASR-PC.17

Equity UCITS performance and costs end-of-year
Performance the highest in 4Q19

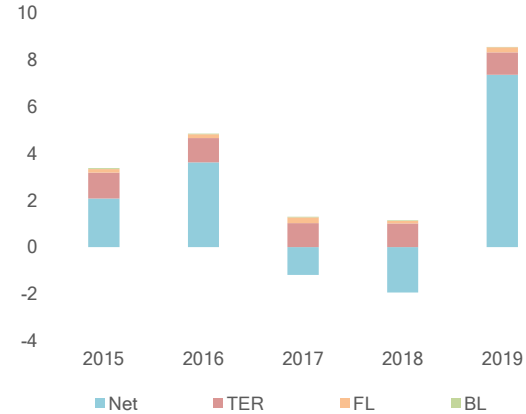


Note: EU UCITS equity fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment end-of year, %.
 Sources: Refinitiv Lipper, ESMA.

To see the differences between the two analyses, as an example, let's focus on 2016 and 2018. In 2016, valuations were lower in 1H16 compared to 2H16, while 2018 had the lowest valuations in 4Q18. Focusing on the end-of-year annual analysis, gross performance was equal to 4.4% in 4Q16 and -8.4% in 4Q18. Differently, for the entire one-year horizon, gross performance was equal to -1% in 2016 and 1.5% in 2018 (ASR-PC.20). Conclusions for bonds are similar (ASR-PC.18).

ASR-PC.18

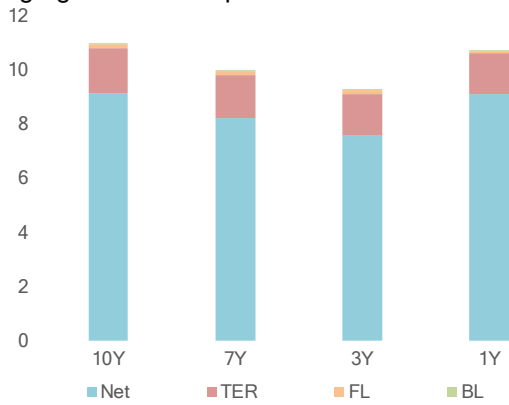
Bond UCITS performance and costs end-of-year
Performance the lowest in 4Q18



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

ASR-PC.19

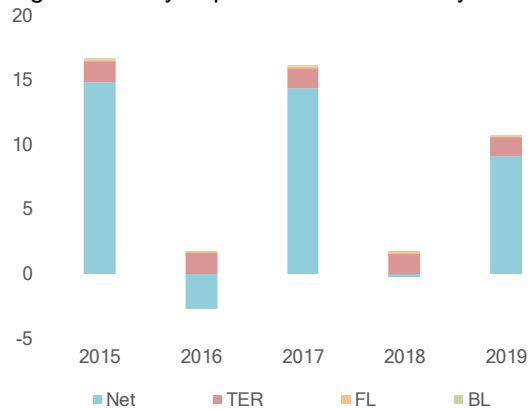
Equity UCITS performance and costs by time horizon
High gross and net performance



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

ASR-PC.20

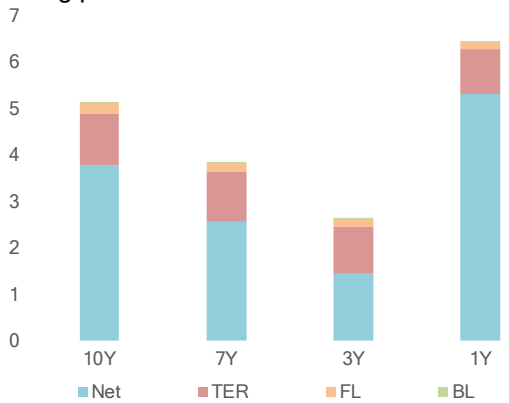
Equity UCITS performance and costs 1Y horizon
High variability in performance across years



Note: EU UCITS 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.21

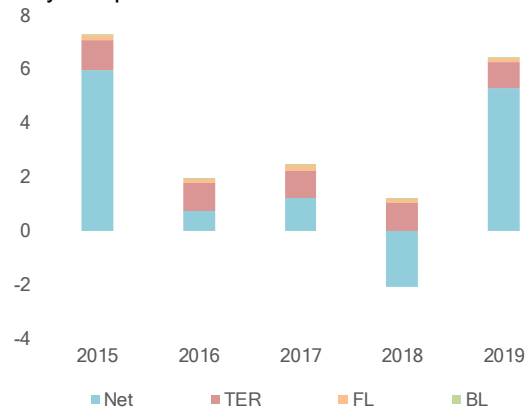
Bond UCITS performance and costs by time horizon
Strong performance at 1Y investment horizon



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

ASR-PC.22

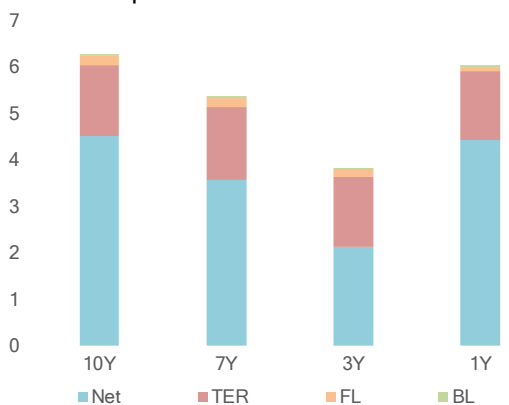
Bond UCITS performance and costs 1Y horizon
Very low performances across time



Note: EU UCITS 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.23

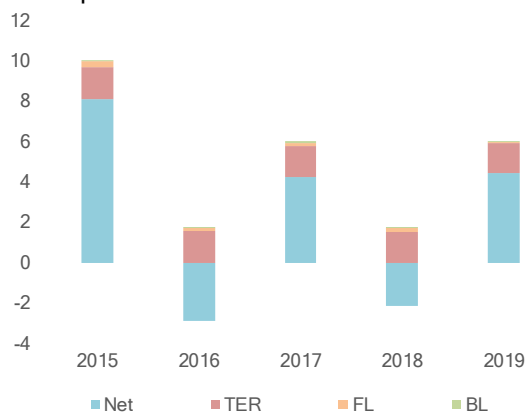
Mixed UCITS performance and costs by time horizon
Increase in performance in 2019



Note: EU UCITS mixed fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.24

Mixed UCITS performance and costs 1Y horizon
Weak performance in 2016 and 2018



Note: EU UCITS mixed 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.

Value of a ten-year investment

When investing there are a series of elements that should be considered. As previously highlighted, the level of gross performance and its relative high degree of change over time compared to costs should be carefully taken into account. This implies that changing the period under analysis, that is now 2010-2019, will have an effect on the value of an investment. Therefore, differences across editions are to be expected. However, the following two main findings are consistent across analyses: costs remain a critical component when evaluating the ultimate benefits coming from an investment; retail investors are subject to higher costs compared to institutional investors.

Considering a hypothetical retail portfolio composed of equity (40%), bond and mixed funds (30%),³¹ gross annual performance over the ten-year horizon, between 2010-2019, was, for a retail investor, 11%, 5% and 6% for each of the above assets respectively. An investment of EUR 10,000 in this hypothetical portfolio would lead to a value of around EUR 21,800 after ten years. When costs are taken into account, performance declines to 9.5% for equity, 3.7% for bonds and 4.4% for mixed UCITS. The value of the ten-year investment declines to EUR 18,600. Around EUR 3,200 in costs are paid by the investor. If we consider the same type of investment undertaken by an institutional investor, the value after ten years would be EUR 22,744 in gross terms and EUR 20,743 in net terms, implying costs of EUR 2,000. A retail investor would therefore pay around EUR 1,000 more than an institutional investor.

The difference in costs between retail and institutional investors is observable across asset classes and investment horizons. On average across asset classes, for the period 2010-2019, costs for retail investors were 50% higher than for institutional investors. This, however, changes across asset classes. For equity and bond funds costs for retail investors were twice those paid by institutional investors (ASR-PC-S.74, ASR-PC-S.75). Differently, for mixed funds costs for retail

investors were around 30% higher than for institutional investors (ASR-PC-S.76).

Risk categories

The risk level, as well as the performance, reflects the heterogeneity in strategies underlying an investment. This is the case not only across asset classes but also within the same asset class. The analysis focusing on the heterogeneity within the same asset class is still limited, due to data availability. We, however, account for differences in the level of risks across assets by analysing performance and costs by risk category, based on the synthetic risk and reward indicator (SRRRI).³² We focus on the three major asset classes for retail investors (equity, bond and mixed). For each asset, UCITS are grouped by risk class according to the SRRRI classification from 1 to 7 with 1 indicating the lowest risk category and 7 the highest.

The SRRRI distribution of UCITS among the three asset classes was different, though remaining similar to what observed last year. In 2019, SRRRI classes 5 (51%) and 6 (41%) remained the risk classes in which equity UCITS retail investment concentrated the most. Concerning bond UCITS, the largest part of retail investment focused on SRRRI class 2 (34%) and 3 (46%). Class 4 followed having a significant lower share (13%). Investment in mixed UCITS mostly concentrated in risk categories 3 (40%) and 4 (47%) (ASR-PC.25).

The analysis of performance and costs, irrespective of the asset class, reflects the buoyancy of overall valuations across assets characterising 2019. Also, consistently across asset classes, higher risk classes correspond to higher performances and higher costs, and retail investors are subject to higher costs compared to institutional investors.

For UCITS focusing on equity, gross annual performance went from 10% in risk class 4, to 11% in risk classes 5 and 6 (in last year report, for 2018 gross annual performance was between 0.06% for class 4 to 3.3% for class 6). Costs in 2019 went from 1.6% in class 4, similarly to last year, to 1.7% in class 6, while being 2% in last

³¹ The composition is related to the observation that more than 90% of the retail UCITS investment focuses on these three asset classes. See ASR-PC-S.11.

³² Annex I, Commission Regulation 583/2010 implementing Directive 2009/65/EC. The SRRRI aims to provide investors with a meaningful indication of the overall risk and reward profile of UCITS and of the different degrees

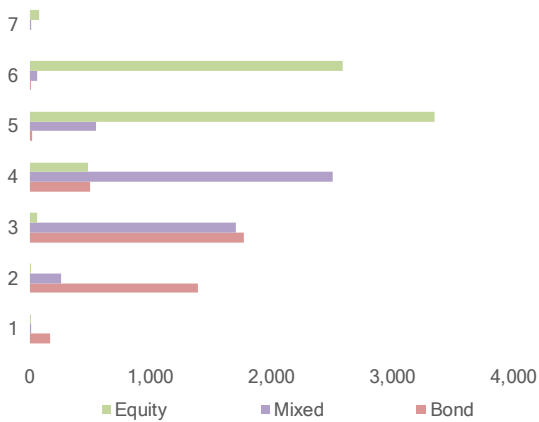
of risk within the same asset class. It considers the specific features of the different types of UCITS. It is comprehensible and can be easily implemented and supervised. For details on the methodology and classes of risk, CESR, 2010, CESR's guidelines on the methodology for the calculation of the synthetic risk and reward indicator in the KIID.

year analysis. The incidence of costs on net performance, also given the much higher gross annual performance, was lower. Net performance on average turned to around 8% and 9% in 2019 across SRRR classes, from -1.6% (class 4), -0.2 (class 5) and 1.3% (class 6) in 2018 (ASR-PC-26). For bond UCITS, in 2019, gross annual performance was the lowest for risk class 2, around 4%, while it was beyond 8% for classes 3 and 4 (ASR-PC-27). Performance across risk classes, however, was much higher than in 2018 when it was broadly negative. Total costs hovered between 1% and 1.5% and net

performance went from 3% in class 2 to around 7% for risk classes 3 and 4.

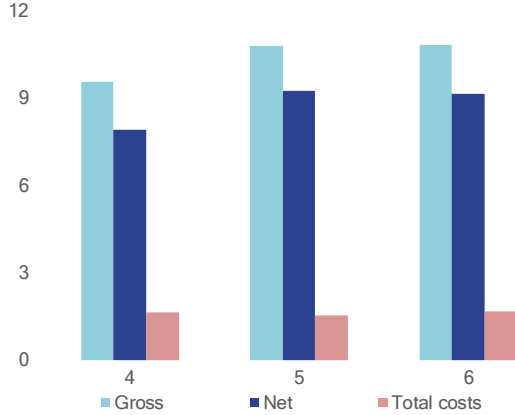
For mixed UCITS, focusing mostly on classes 3 and 4, dynamics of gross and net performances are in line with what observed for equity and bond UCITS. Gross performances were 5% and 6.5% respectively in risk classes 3 and 4 declining to 3.4% and 4.9% after costs. As already observed, performances and costs increase the higher the risk class is, and costs are higher for retail compared to institutional investors (ASR-PC.28).

ASR-PC.25
UCITS SRRR class by asset type
Heterogeneity in risk classes across assets



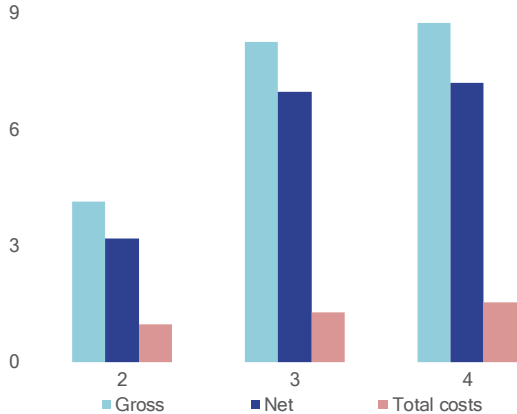
Note: EU UCITS SRRR distribution in terms of number of funds by asset type, retail investors, 2019.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.26
Equity UCITS performance and costs by SRRR class
Performance and costs increase with risk



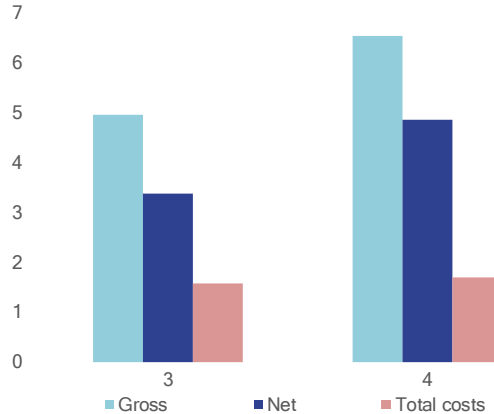
Note: EU UCITS equity fund shares gross and net annual performances and total costs, retail investors, by SRRR class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.27
Bond UCITS performance and costs by SRRR class
Very high performances compared to 2018



Note: EU UCITS bond fund shares gross and net annual performances and total costs, retail investors, by SRRR class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.28
Mixed UCITS performance and costs by SRRR class
Gross and net performances high



Note: EU UCITS mixed fund shares gross and net annual performances and total costs, retail investors, by SRRR class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

Management type

Broadly speaking, passive portfolio management, or “index tracking”, is an investment strategy that tracks the returns of a market benchmark. Stock selection is determined by the index followed. Moreover, tracking a benchmark should imply lower intervention by the fund manager. Therefore, passive management generally suggests lower overall costs.

Active management, instead, requires stock selection and trading in order to generate higher returns compared to a given benchmark. This implies higher knowledge and skills for the manager, matched with higher compensation and, consequently, larger fees and costs for investors.

UCITS ETFs can primarily be considered as passively managed funds.³³ ETFs, however, differ from passive funds because ETF shares are listed on stock markets. Given their features and the large expansion of ETFs over the past years, we analyse ETFs separately.

The focus of the analysis is on equity and bond funds. In the EU, the developments of passive and ETFs UCITS has been concentrated in these two asset classes. At the end of 2019, the EU equity UCITS market size was around EUR 3.2tn, of which EUR 551bn were in ETFs investing in equity (ASR-PC.32).³⁴ Active UCITS accounted for around 71% of the overall market (75% in 2018). Passive and ETFs accounted respectively for the remaining 12% and 17%, from 10% and 15% in 2018. Regarding UCITS primarily investing in bonds, the size of the market was EUR 2.3tn in 2019 of which EUR 217bn made up by ETF investing (ASR-PC.33). Overtime, the share of passive and ETFs increased over the total, reaching 15% for bonds in 2019, from less than 9% in 2015, of which 5% for bond UCITS passive non-ETFs and 10% ETFs.

Net flows and cumulated net flows show the increase for both equity and bond passive and ETFs UCITS. For equity active UCITS, net outflows equalled EUR 70bn in 4Q19, while net inflows of around EUR 36bn were observed for

passively managed UCITS and ETFs (ASR-PC-S.29). This is in line with the dynamics observed in the US where passive investment strongly increased across asset classes, yet at levels much higher than in the EU.³⁵

For bond UCITS the developments were instead different from the US where, in 2019, passive funds had greater inflows than their active counterparts, with record inflows for both taxable- and municipal-bond funds.³⁶ In the EU, market size for bond passive and ETFs UCITS has been very small and inflows for active bond funds, in 2019, were much larger than for passive and ETFs funds (EUR 170bn for active, and EUR 31bn and EUR 46bn respectively for passive and ETFs) (ASR-PC-S.30).

Performance and costs

Focusing on equity UCITS, we can look at the changes between last year report, covering the period 2009-2018, and the current report, covering the period 2010-2019.

ASR-PC.29

Equity UCITS performance by management type

Significant changes

	Active		Passive		ETFs	
	2018	2019	2018	2019	2018	2019
1Y	1.5%	10.6%	1.8%	12.2%	1.5%	12.1%
3Y	5.3%	9.3%	4.9%	9.6%	5.2%	9.6%
7Y	9.9%	10.1%	9.9%	9.9%	9.9%	10.2%
10Y	9.0%	11.1%	8.2%	10.7%	7.8%	10.5%

Note: EU equity UCITS gross annual performance per management type by investment horizon, geometric mean aggregation. 2018 covers the reporting period 2009-2018. 2019 covers the reporting period 2010-2019.

Sources: Refinitiv Lipper, ESMA.

Table ASR-PC.29 reports gross annual performance across management types. In line with previous analysis, due to exceptionally strong equity performance in 2019, we can observe much higher gross performance over one-year horizon compared to the previous edition. Looking at management type, index tracking funds (12.2%) and ETFs (12.1%) outperformed in gross terms active funds (10.6%). This outperformance fades at the three- and seven-year horizons to then disappear at the

³³ The majority of ETF funds are passively managed funds and therefore they are mostly considered among passive funds. However, even if still marginal, especially in the EU, there are so-called active ETFs, structured to pursue a strategy that may be different from simply tracking an index. This is the case of factor strategies or smart-beta strategies. See Easley, Michayluk, O'Hara, and Putnins 2020.

³⁴ Our sample of EUR 3.2tn includes both institutional and retail investors. Institutional and retail investors are both considered in this analysis due to the very small share of passively managed funds.

³⁵ Morningstar, 2020, “Morningstar Reports U.S. Mutual Fund and ETF Fund Flows for Full-Year and December 2019”.

³⁶ See, footnote above.

ten-year horizon when active funds, with 11.1% outperformed passive (10.7%) and ETF (10.5%) UCITS.³⁷

ASR-PC.30

Equity UCITS ongoing costs by management type

Broadly stable

	Active		Passive		ETFs	
	2018	2019	2018	2019	2018	2019
1Y	1.4%	1.4%	0.3%	0.3%	0.3%	0.3%
3Y	1.4%	1.4%	0.3%	0.3%	0.3%	0.3%
7Y	1.5%	1.5%	0.4%	0.4%	0.3%	0.3%
10Y	1.5%	1.5%	0.5%	0.4%	0.4%	0.3%

Note: EU equity UCITS gross annual performance per management type by investment horizon, geometric mean aggregation. 2018 covers the reporting period 2009-2018. 2019 covers the reporting period 2010-2019.

Sources: Refinitiv Lipper, ESMA.

The picture changes when costs are considered. In particular, we focus the analysis on ongoing costs (Table ASR-PC.30).³⁸ Ongoing costs remained broadly stable across reporting periods and investment horizons, and more than three times higher for active equity rather than passive and ETFs funds. This, in turn, implies that, if gross outperformance is not high enough, it does not compensate for the difference in costs across management types, leading to net underperformance for active funds (ASR-PC.34).

While last year report covered only equity UCITS, data availability for this year allows to extend the analysis to UCITS primarily focusing on bonds. Table ASR-PC.31 below reports gross annual performance and ongoing costs for bond UCITS per investment horizon across management

types. Results are limited to three- and one-year horizons, due to the very small sample size for passive UCITS bonds, especially before 2017.³⁹ At the three-year horizon, gross annual performance was 2.7% for active bond funds compared to 2.4% and 2.3% respectively for passive and ETFs. However, costs for active bond UCITS were much higher than for passive and ETFs. Therefore, when we account for ongoing costs, the picture reverses. The net annual performance of active funds, at 1.9%, was lower than the net annual performance of passive and ETF bond UCITS, respectively 2% and 2.2%.⁴⁰

ASR-PC.31

Bond UCITS performance and costs by management type

Variability in performance, yet limited in costs

	Active		Passive		ETFs	
	Gross perf	Ongoing costs	Gross perf	Ongoing costs	Gross perf	Ongoing costs
1Y	5.7%	0.8%	8.0%	0.2%	7.4%	0.3%
3Y	2.7%	0.8%	2.4%	0.2%	2.3%	0.3%

Note: EU bond UCITS gross annual performance and ongoing costs per management type by investment horizon, geometric mean aggregation, reporting period 2010-2019.

Sources: Refinitiv Lipper, ESMA.

Looking at one-year horizon investments (ASR-PC-S.36), both for 2018 and 2019 active funds underperformed passive and ETFs both in gross and net terms. In 2018, performance was negative for the overall sample but when accounting for costs it was much lower for active than passive funds.

³⁷ We should bear in mind that gross performances by management type, may be different in relation to the dynamics of the market for underlying assets (e.g. longer-term bull or bear markets as well as low to highly fluctuating markets). Therefore, changes in the reporting period may be related to differences in gross performance of funds.

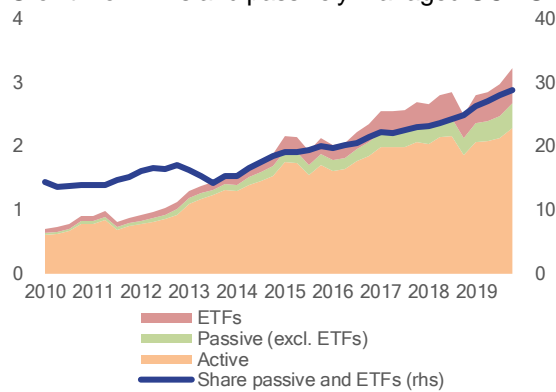
³⁸ The focus on ongoing costs is related to two main reasons: the relative importance of this type of costs relative to one-off loads for UCITS non-ETFs (around 80% of total costs) and the fact that for ETFs subscription

and redemption fees are borne mainly on the primary market while retail investors are mostly concerned with costs related to the secondary market.

³⁹ The analysis is subject to limitations in terms of data availability by management type for UCITS focusing on bonds. This in turn has implications on the interpretation of the reported findings.

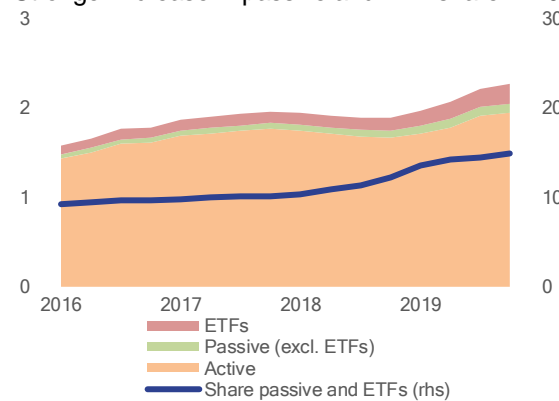
⁴⁰ When subscription and redemption fees are considered, net performance declines to 1.7% for active bond UCITS and just below 2% for passive and ETFs.

ASR-PC.32
Equity UCITS market by management type
Growth for ETFs and passively managed UCITS



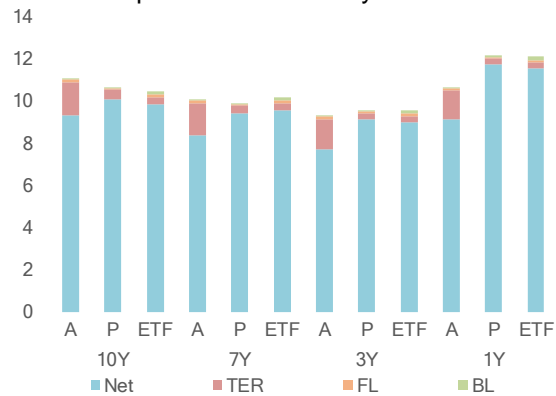
Note: Market size for EU-domiciled UCITS equity, actively and passively managed, and ETFs. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn. Share of passive and ETFs in %, right-hand size. Sources: Refinitiv Lipper,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

ASR-PC.33
Bond UCITS market by management type
Stronger increase in passive and ETF share in 2018



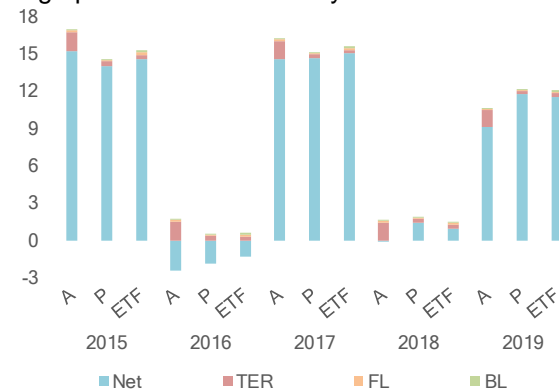
Note: Market size for EU-domiciled UCITS bond, actively and passively managed and ETFs. All observations for which information on fund value, fund performance, net flows, subscription and redemption fees are available, EUR tn. Share of passive and ETFs in %, right-hand size. Sources: Refinitiv Lipper,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

ASR-PC.34
Active, passive and ETFs equity UCITS performance
Increase in performance at one-year horizon



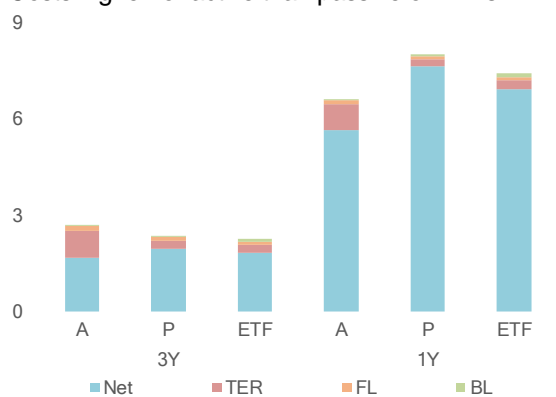
Note: EU equity UCITS gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type, active (A), passive (P) and ETFs, by time horizon, in %. Sources: Refinitiv Lipper, ESMA.

ASR-PC.35
Active, passive and ETFs equity UCITS year-on-year
High performance variability



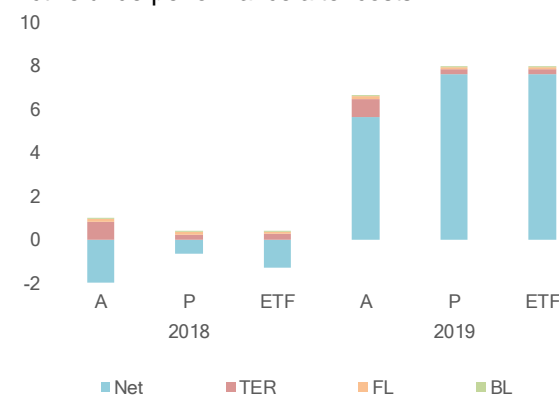
Note: EU UCITS equity fund shares gross annual performance, by management type, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment horizon, %. A = Active and P = Passive excluding ETFs. Sources: Refinitiv Lipper, ESMA.

ASR-PC.36
Active, passive and ETFs bond UCITS performance
Costs higher for active than passive or ETFs



Note: EU 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.37
Active, passive and ETFs bond UCITS year-on-year
Active underperformance after costs



Note: EU UCITS bond fund shares gross annual performance, by management type, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment horizon, %. A = Active and P = Passive excluding ETFs. Sources: Refinitiv Lipper, ESMA.

Top performing active and passive UCITS

As observed last year, results change if we look at the top-25% performing funds. Top-25% performing active equity UCITS always outperformed top-25% passive equity UCITS in gross terms (ASR-PC.38).

ASR-PC.38

Equity UCITS gross performance top-25%
Significantly higher in 2019

	Active 2018	Passive 2018	Active 2019	Passive 2019
1Y	8.6%	6.0%	19.4%	17.8%
3Y	10.5%	8.8%	14.4%	12.4%
7Y	14.9%	14.4%	15.1%	14.3%
10Y	12.9%	11.7%	15.4%	14.7%

Note: EU equity 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.

Sources: Refinitiv Lipper, ESMA.

Costs for active funds remained broadly stable and at a significant higher level than for passive funds leading to underperformance in net terms at 10-year and 7-year horizons, similarly to last year. At three- and one-year horizons, instead, net annual performance for active equity UCITS was higher than passive. For active and passive respectively, net performance was 13% and 12% at three-year horizon and 18% and 17% at one-year horizon. The overall higher level of performance compared to last year analysis is related to stronger equity valuations characterising 2019 compared to 2018 (ASR-PC.39).

For UCITS investing primarily in bonds, top-25% active funds slightly overperformed top-25% passive funds in gross terms. This very slight overperformance, less than one percentage point both at three- and one-year horizons, disappears in net terms. Between the two management types, active bond UCITS underperformed with respect to passive bond UCITS over the three-year horizon, 4.3% compared to 4.5%. Over the one-year horizon, annual net performance was similar for the two management types, equal to 13.1% (ASR-PC.41).

Differently from top-25% performing funds, bottom-25% performing active funds underperformed in gross terms, bottom-25%

passive funds. In 2019, at the one-year horizon, gross annual performance was 6.5% for the bottom-25% passive equity UCITS and 1.7% for the bottom-25% active equity funds (ASR-PC.39; ASR-PC-S.92).

Similarly, in the case of funds primarily focusing on bonds, bottom-25% active UCITS underperformed bottom-25% passive UCITS both in gross and net terms (ASR-PC-S.93).

ASR-PC.39

Equity UCITS gross performance bottom-25%
Significantly higher in 2019

	Active 2018	Passive 2018	Active 2019	Passive 2019
1Y	-4.3%	-2.7%	1.7%	6.5%
3Y	0.6%	1.5%	4.6%	6.7%
7Y	3.6%	6.2%	5.2%	6.4%
10Y	3.8%	5.1%	6.3%	6.9%

Note: EU equity UCITS gross annual performance for the bottom-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.

Sources: Refinitiv Lipper, ESMA.

We should bear in mind that the past outperformance of a fund is not necessarily a predictor of future outperformance. The cohort of top- or bottom-performing UCITS does not remain constant, complicating the opportunities for investors to consistently choose outperforming funds. For example, only 20% of those equity UCITS that were top performers at the end of 2019 were top performers also one year earlier.

Active and benchmarks

A second key layer of analysis concerns the performance of actively and passively managed equity and bond UCITS against their own prospectus benchmark (ASR-PC.42, ASR-PC.43).⁴¹ Differently from the previous report, in 2019, actively managed equity UCITS outperformed on average their own benchmarks at ten-year and seven-year horizons, by less than a percentage point.⁴² After costs, the net annual performance was always lower for active UCITS, compared to their own benchmarks. Net annual performance for benchmarks was the highest (11%) at ten- and one-year horizons while for

⁴¹ 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 the 70% of the total number of funds in our sample, or around 80% in term of asset value.

⁴² 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.

active it was 9.4% at ten years and 9.1% at one year.

For bonds, on average, active outperformed their respective benchmarks in gross terms at the three-year horizon, 2.9% against 2.2%. Once accounting for costs, however, active bond UCITS underperformed benchmarks across horizons. Focusing on the three-year horizon, net performance was 1.8% for active UCITS against 2.2% for benchmarks (ASR-PC.42).

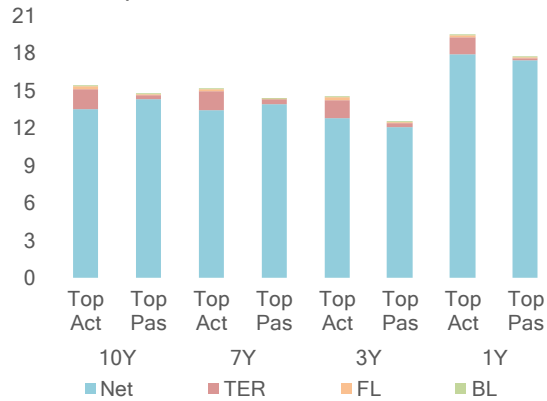
Focusing on top-25% performing active funds and related benchmarks, across horizons active equity UCITS consistently outperformed their own benchmarks in gross terms. The highest level of gross performance was at one-year horizon: 19.6% for active funds and 16.4% for

benchmarks. This is not always the case for net performance. Over three-year and one-year horizons, active equity UCITS significantly outperformed their own benchmarks on average (respectively, 12% versus 11% and 18% versus 16.4%). Differently, at longer horizons, net performance of active UCITS and related benchmarks were broadly the same (ASR-PC.44).

For bond funds, top-25% active bond UCITS outperformed their benchmarks in gross terms, at three and one-year horizons, but not in net terms (ASR-PC.45). The statistical annex reports on further analysis based on fund size (ASR-PC-S.96, ASR-PC-S97).

ASR-PC.40

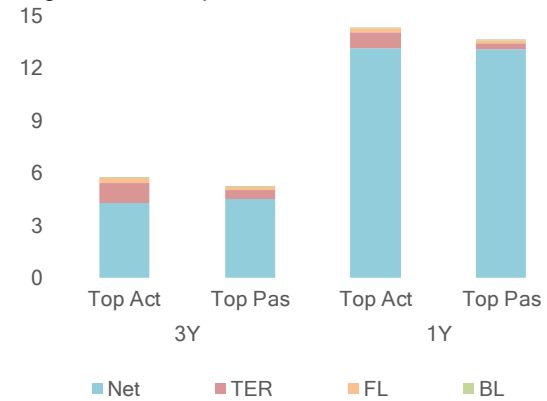
Top performing equity UCITS by management type
Active outperformance at 3Y and 1Y horizons



Note: EU 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.41

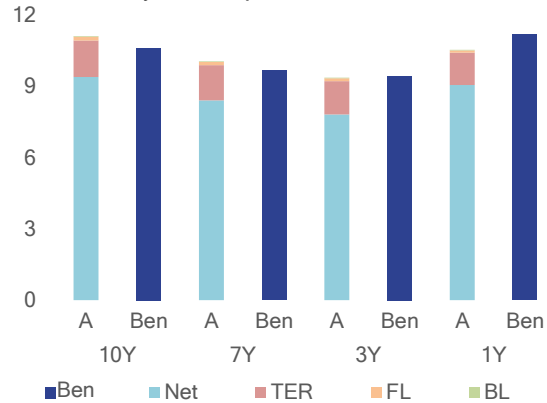
Top performing bond UCITS by management type
Slight lower net performance for active UCITS



Note: EU 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.42

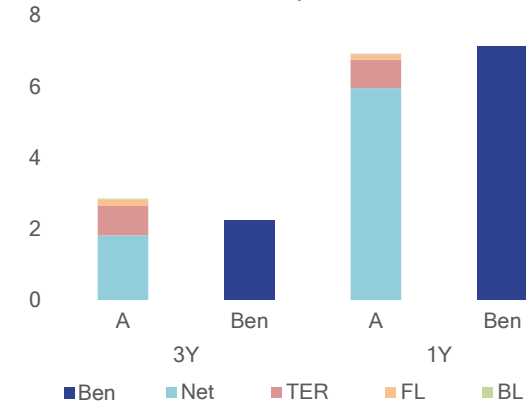
Active equity UCITS and prospectus benchmarks
Active always underperform in net terms



Note: EU 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.43

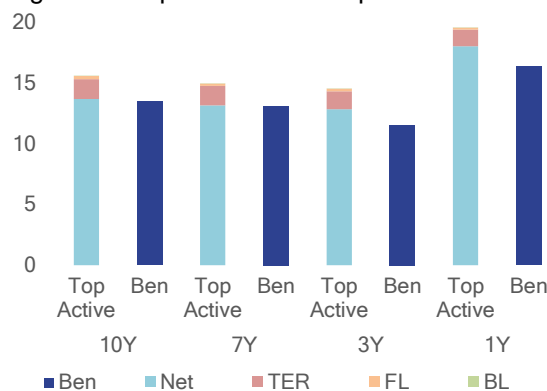
Active bond UCITS and prospectus benchmarks
Active bond UCITS underperform benchmarks



Note: EU UCITS bond active funds (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.44

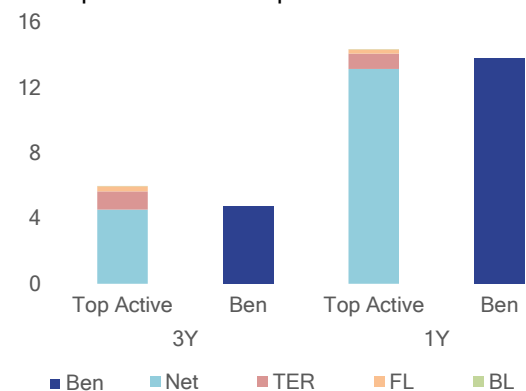
Top performing equity UCITS and prospectus benchmark
Significant outperformance for top active at 3Y and 1Y



Note: EU UCITS equity 25% best performing active funds and respective benchmark (Ben) annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.45

Top performing bond UCITS and prospectus benchmark
Underperformance of top active UCITS after costs



Note: EU UCITS bond 25% best performing active funds and respective benchmark (Ben) annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

Fund domicile

The significant degree of heterogeneity at a country-by-country level persisted, limiting the comparability across Member States. Differences in market and fund size, investor preferences by asset class and within asset classes, as well as significant differences in costs remained. One of the major problems that have impacted the analysis so far has been the scarcity of data availability. This should therefore be considered when interpreting findings of the country-by-country analysis. Moreover, the domestic and cross-border characteristics of national fund markets, the composition of the sample used in the analysis, as well as marketing practices should be kept in mind. Furthermore, a significant source of heterogeneity for costs continues to be related to differences in the regulatory treatment of costs at national level.

Significant differences in the type of the predominant marketing channels as well as the treatment of distribution costs have a major impact on the level of overall costs identified in a specific country. Across Member States, as detailed in the survey on distribution costs,⁴³ the treatment of distribution costs has been highly heterogeneous. There are countries, such as Luxembourg, in which the fee payable to the distributor is a priori the entry fee reproduced in the UCITS KIID. In other cases, 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. This is also the case in Malta, where the trailer commission is included in management fees. In Italy, distribution is generally remunerated through subscription or redemption fees, not both. If costs are charged to the funds, no separate distribution fee can be charged. The management fee is meant to cover all the ordinary different types of remuneration in such a way that investors see a single figure easily comparable across funds. In other jurisdictions, like in the case of France, in general distribution costs are embedded in management fees and retroceded to distributors in accordance with the distribution agreements executed by asset managers on behalf of their funds and distributors. In Spain, distribution costs are paid via inducements (fund managers pay distributors a percentage of the management fee of the fund).

In addition to the above, UCITS reporting is based on the domicile of the fund and not on the domicile of the investor. All this adds complexity to the analysis, limiting the possibility to draw firm conclusions, and highlights how essential improvements in availability and usability of data are. In this respect, analysis carried out by the single jurisdictions, like those in Austria and Greece,⁴⁴ is crucial in gathering information on the characteristics and main developments in national markets.

Performance and costs

Across Member States and asset classes there is significant heterogeneity both in terms of gross performance and costs, limiting the direct comparability among countries. Gross performance, among other things, is influenced by fund strategies and the underlying risk of an investment. For example, differences in the geographical or economic focus of an investment or in the portfolio composition within one asset class or across asset classes lead to differences in performances and risks. For example, performances can differ in relation to an equity fund being income rather than a growth fund. Similarly, bond fund can differ according to the share of investment in high yield (HY) bonds, corporate or sovereign. The performance and risks of mixed funds change according to the share invested in equity rather than bonds and vice versa. This highlights the importance of the information on fund portfolio holdings when evaluating an investment opportunity.

Related to the above are the dynamics observable in charts ASR-PC.48 to ASR-PC.53 that distinguish by investment horizon, seven- and three-years, and by asset class. Overall, there was an amelioration in gross annual performance due to strong valuations in 2019. For equity, at the three-year horizon, best gross performers, with more than 10%, were Ireland, the Netherlands and Portugal. Denmark, Finland, Luxembourg and Sweden follow with a performance around 9.7%, on average across these countries. As for last year, the lowest performers, at around 7% on average, were concentrated in Belgium and Spain (ASR-PC.49).

The strong variability in performance over time and across domiciles is particularly visible for

⁴³ The annex on Data and Data Limitations reports the detailed results of a Survey carried out in August 2020 across EU jurisdictions.

⁴⁴ 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.

bonds as well as mixed funds especially at shorter horizons. For bonds, Ireland and Luxembourg were the best performers at three- and one-year horizons, with a gross performance of beyond 3% at the three-year horizon and beyond 7% at the one-year horizon. (ASR-PC.51, ASR-PC-S.131). This large increase in gross performance in 2019, as previously mentioned, may be related to the composition of the sample at the basis of the analysis and to differences in strategies across domiciles. Large domiciles, that are also characterised by stronger performance, focus on riskier Morningstar categories (e.g., HY USD bond, Global Emerging Markets, Corporate Bond, etc.).

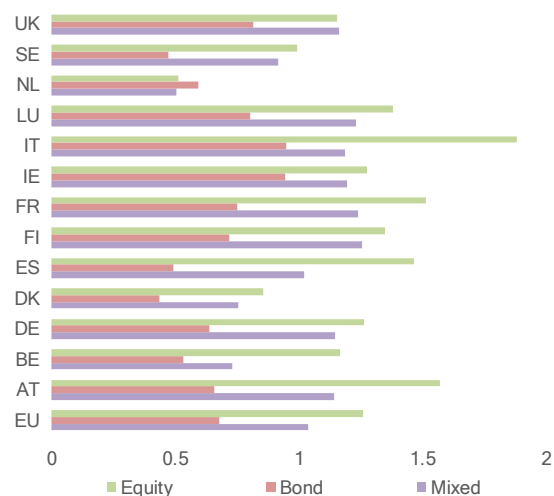
The same applies to mixed UCITS: sample composition and differences in portfolio choices are among the main drivers of heterogeneity in performance. Overall, the focus seems to go to mixed UCITS concentrated on moderate or cautious allocation. However, differences can be seen in terms of focus on more or less aggressive allocation across domiciles (ASR-PC.53, ASR-PC-S.135).

The lack of harmonisation among Member States is evident in the analysis of cost levels. Overall, there has been a marginal decline in costs over time. However, the differences among Member States persisted. Across horizons, the lowest cost levels were registered in Denmark, Sweden and the Netherlands while the highest were observed in Austria, Belgium, Ireland, Italy and Luxembourg.

As evident in the tables ASR-PC-S.166 to ASR-PC-S.170, regulatory differences⁴⁵ in cost treatment and differences in cost classification and levels across Member States are a significant determinant of the heterogeneity identified at a country-by-country level. This is the case for management fees,⁴⁶ as already

observed in last year report.

ASR-PC.46
Management fees by domicile
Significant differences in levels across countries



Note: Management fees by country and asset class, retail investors, 2019, %.
Other EU not included.
Sources: Refinitiv Lipper, ESMA.

In 2019, fees were slightly lower than in 2018. The strong heterogeneity observed last year persisted. The Netherlands reported consistently lower levels of fees across asset classes. Also, Denmark and Sweden had fees lower than the EU average. For equity, the highest fees were in France, Italy and Spain. For bond the highest fees were observed in Ireland (ASR-PC.46).

The implementation of MiFID II in 2018,⁴⁷ aiming at enhancing transparency, has made more information available, including initial data on transaction costs. This allowed for a preliminary analysis on this type of fees. Findings however are preliminary and subject to limitations surrounding the calculation of transaction costs. These fees are based on what the fund declares, involving a large degree of heterogeneity as well as methodological issues.

⁴⁵ See annexes: Regulatory developments and Data and data limitations.

⁴⁶ The management fees in the chart exclude distribution fees that in several countries, including for example Spain, are entirely included in management fees. This will

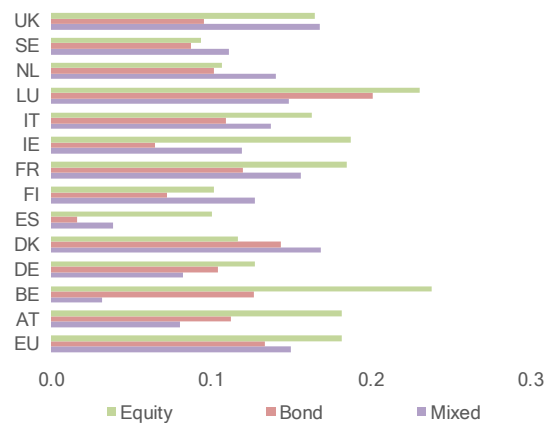
imply a level of fees higher than what observed in this analysis and shows how differences in cost treatment at a national level add to the divergences across markets.

⁴⁷ Commission Delegated Regulation (EU) 2015/565, Annex 2.

ASR-PC.47

Transaction fees by domicile

Significant differences in levels across countries



Note: Transaction fees by country and asset class, retail investors, 2019, %.
Portugal and Other EU not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

In our preliminary analysis, the funds considered in the sample have transaction costs on average, for equity, bond and mixed funds, below 0.2% in the EU but with a large degree of heterogeneity across EU Member States, ranging between 0.05% and 0.2% (ASR-PC.47). The findings are however preliminary and subject to large impediments. These are the results of data limitations, constraining the analysis and the overall transparency.

The main conclusion that can be drawn from the fund domicile analysis is that differences in market structure and in the national regulatory treatment should be kept in mind when interpreting the results of the country-by-country analysis. This implies that a direct comparison across domiciles is not straightforward and should be critically conducted.

ASR-PC.48

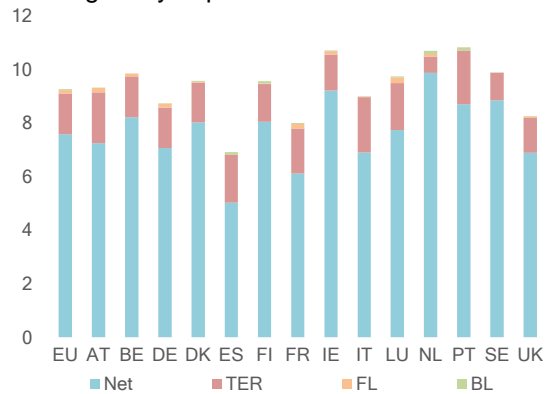
Equity UCITS performance and costs by domicile 7Y
Sustained variability across markets



Note: EU UCITS equity funds annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon %. Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.49

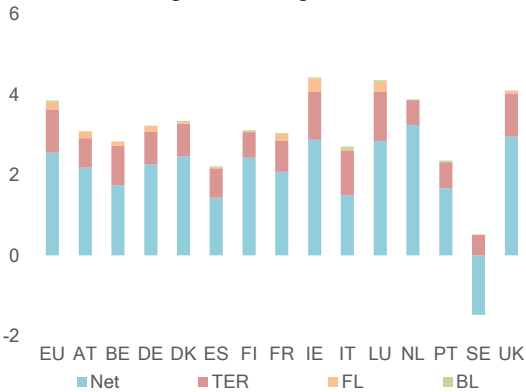
Equity UCITS performance and costs by domicile 3Y
Heterogeneity in performance and costs



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.50

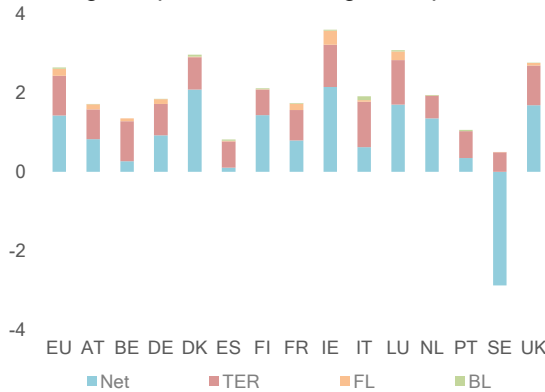
Bond UCITS performance and costs by domicile 7Y
Total costs range from negative to 1.5%



Note: EU UCITS bond fund gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported as industries not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.51

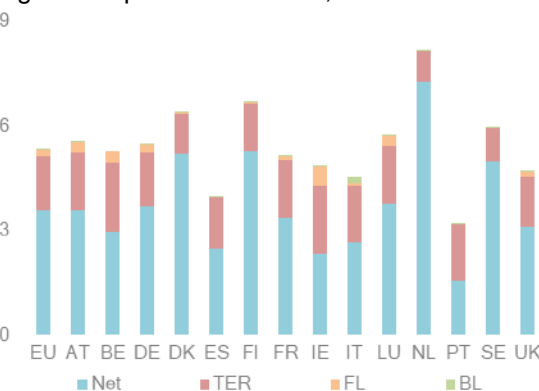
Bond UCITS performance and costs by domicile 3Y
Lower gross performance, higher impact of costs



Note: EU UCITS bond fund gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported as industries not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.52

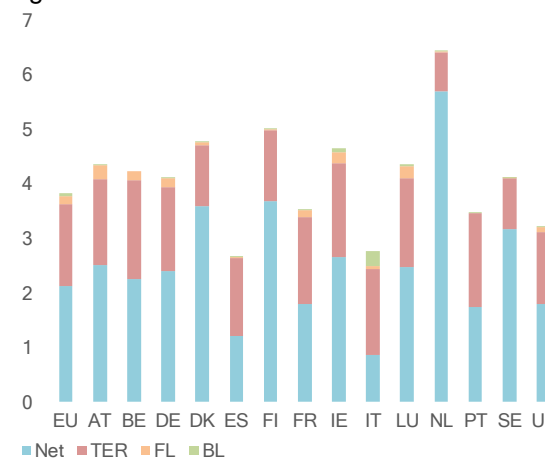
Mixed UCITS performance and costs by domicile 7Y
Highest net performance 7.3%, lowest 1.6%



Note: EU UCITS mixed fund gross annual performance, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported as industries not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.53

Mixed UCITS performance and costs by domicile 3Y
High differences in cost levels across Member States



Note: EU UCITS mixed fund annual gross returns, classified as net returns, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %.
Sources: Refinitiv Lipper, ESMA.

Investor domicile

The analysis presented so far has been focused on the fund domicile. Investor and fund domiciles coincide when a fund is only sold in the home (domicile) Member State. In the EU, a fund domiciled in a Member State is often passported and marketed in other Member States.⁴⁸ Against this background, we analyse the performance and costs of funds from the point of view of the country in which the fund is sold, that may be different from the country of domicile.⁴⁹

Instead of having a domicile perspective, however, the focus is based on the country in which a fund is authorised to sell. The information in terms of assets, flows, performance, 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 fund is marketed. This analysis may involve some double counting of funds and related metrics.⁵⁰

Main findings show that the strong heterogeneity across Member States previously observed significantly reduces across asset classes.

Focusing on those asset classes in which retail investment is mostly concentrated, at three and seven-year horizons, for equity UCITS, there were countries, like Denmark, Finland, Germany, the Netherlands and Sweden, that presented lower gross annual performance and higher total costs in the sold-in analysis compared to the domicile-based analysis (ASR-PC.54, ASR-PC.55).

For what concerns bonds, both at seven- and three-year horizons, gross annual performance and costs broadly increased, apart from Ireland and Luxembourg in which there were marginal changes. Overall, there was higher homogeneity across markets. These dynamics are mainly related to the composition of the sample (ASR-PC.56, ASR-PC.57).⁵¹

In conclusion, the analysis based on the UCITS available in each jurisdiction reduced observable national differences due to regulation, market structure and investor preferences. This showed that, in order to comprehensively and consistently perform an accurate analysis at a country-by-country level and have a clear-cut interpretation of results, improvements in availability and usability of data are essential.

⁴⁸ Funds domiciled in Italy, Portugal and Spain in our sample can only be sold in the country of domicile. This may lead to bias in the analysis. One example is the "round-trip" case, see footnote 17.

⁴⁹ The source of data is Refinitiv Lipper and data are the same as those used in the fund domicile analysis.

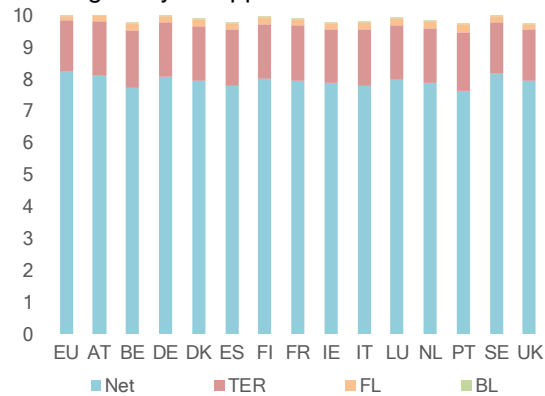
⁵⁰ Very similar cost levels across countries in the analysis based on investor domicile is driven by the weighting used when aggregating funds, based on the NAV of the fund

domicile and not that of the investor domicile. In the Netherlands, for example, the cost figure would have been lower accounting for its national inducement ban.

⁵¹ The sample for each national jurisdiction, except Ireland and Luxembourg, largely increased when taking the investor-domicile approach compared to the fund-domicile one, both in terms of number of funds but especially in terms of total net assets. This, in turn, has an effect on the overall performance.

ASR-PC.54

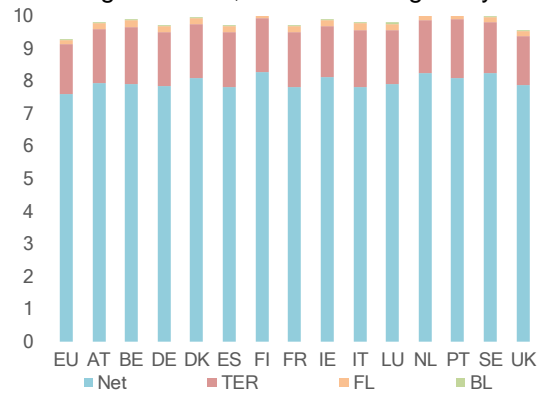
Equity UCITS by investor domicile 7Y
Heterogeneity disappears



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.55

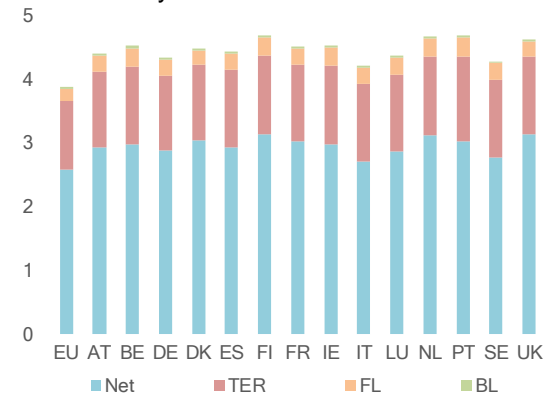
Equity UCITS by investor domicile 3Y
As at longer horizon, limited heterogeneity



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.56

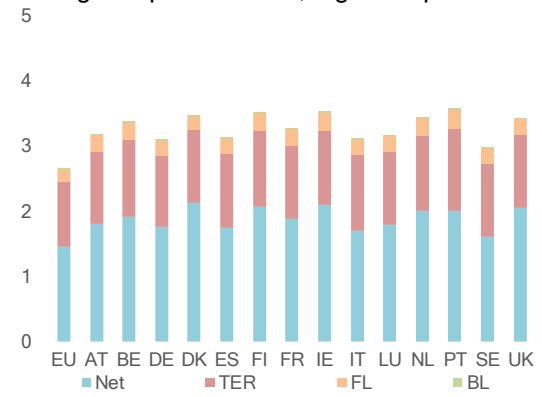
Bond UCITS by investor domicile 7Y
Costs broadly stable across markets



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.57

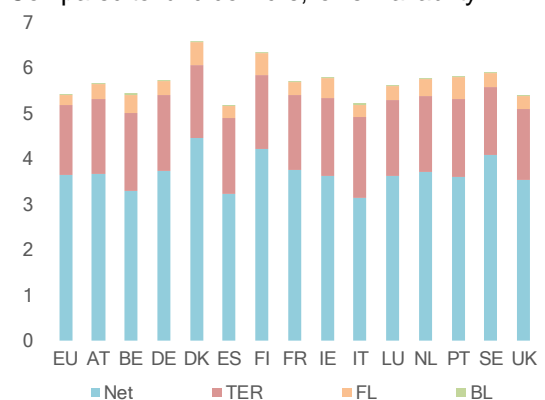
Bond UCITS by investor domicile 3Y
Lower gross performance, higher impact of costs



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.58

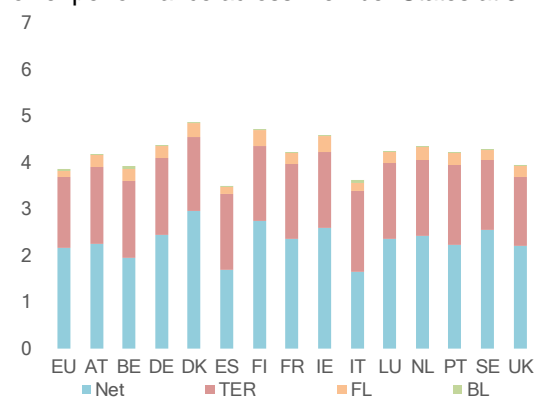
Mixed UCITS by investor domicile 7Y
Compared to fund domicile, lower variability



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.59

Mixed UCITS by investor domicile 3Y
Lower performance across Member States at 3Y



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ETF UCITS

ETFs have specific characteristics compared to other funds. ETFs trade like a common security and experience price changes throughout the day as they are bought and sold. Therefore, we analyse UCITS ETFs as a single category.⁵²

With a total of EUR 791bn in 2019, ETFs represented 11% of the UCITS market (ASR-PC-S.23), from 8% at the end of 2018. The ETF segment continued to grow with net flows of around EUR 82bn in 4Q19, from EUR 33bn in 4Q18 (ASR-PC-S.25).⁵³

The growth of ETFs, among others, includes the fact that they are a low-cost and more liquid investment. However, ETFs investment does not come along without costs. When launching new ETFs, the initiator will generally consider the asset class, the complexity of the product and the competitors' landscape when setting the pricing for a new ETF. For example, a plain vanilla fund or share class is priced lower than a fund engaging in hedging or an ESG or a fund investing in emerging markets. Costs for licensing an index need to be considered which depend, among other things, also on the distribution countries for the ETF. There are standard costs associated with transacting in ETFs such as account maintenance, custody and brokerage charges. These may vary depending on the client profile. Trading in UCITS ETFs also involves bid-ask spreads that can make the initial investment more expensive, especially considering that retail investment is carried out on the secondary market. Bid-ask spread depends on the liquidity of the underlying asset class to which a given ETF is exposed and it is a key component of the total costs paid by an investor to own an ETF. This concept measures the cost of buying the ETF, holding it for a certain period and selling it at the end of the period and includes, among others, the expense ratio as well as brokerage commission fees.⁵⁴

On the other hand, UCITS ETFs entail lower

ongoing charges or TER. Given the competitiveness of the ETF market, UCITS ETF models tend to define a fixed TER.⁵⁵

At the end of 2019, almost 70% of EU UCITS ETFs, EUR 551bn, were invested in equity and 27% in bonds, EUR 217bn (ASR-PC-S.24). Net inflows characterised equity ETFs (EUR 36bn in net flows at the end of 2019) and bonds with solid inflows throughout the year and EUR 46bn at the end of 2019 (ASR-PC-S.25).

Looking at the simple evolution of performance, in 4Q19 gross annual performance was on average 22%, around 28% for equity ETFs and 8% for bond ETFs. In 4Q18, gross annual performance was -7.6% for equity ETFs and slightly positive, 0.2%, for ETFs investing primarily in bonds (ASR-PC-S.144). However, by simply looking at annual performance in 3Q19, the picture changes with equity ETFs reporting on average lower gross annual performance than bonds, 6.8% and 9.5% respectively.

In order to have a more complete picture and understand the overall value of an investment, we report an investment horizon analysis. The focus is on UCITS ETFs investing primarily in equity and bond assets, given that they cover more than 95% of the EU UCITS ETF market.

Equity UCITS ETFs

ASR-PC.60

Equity UCITS ETFs gross performance across periods
Strong increase in 2019

	2017	2018	2019
1Y	15.9%	1.5%	12.1%
3Y	9.6%	5.2%	9.6%
7Y	9.2%	9.8%	10.2%
10Y	4.0%	7.8%	10.5%

Note: EU equity UCITS ETFs gross annual performance by investment horizon, geometric mean aggregation. 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.

The results reported in Table ASR-PC.60 reflect the main findings identified already for equity UCITS non-ETFs in the previous section:

⁵² For details on performance and risk please refer to ESMA, "Performance and risks of exchange-traded funds", Report on TRV No. 2, 2014.

⁵³ The sample includes both retail and institutional investors. In order to ensure consistency with the UCITS analysis, extraction and data processing are performed similarly.

⁵⁴ 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 lower

liquidity. Due to lack of data availability, this analysis does not include information on bid-ask spreads. However, an insight is provided on execution fees. See box on execution costs below.

⁵⁵ In Luxembourg, for example, the target TER shall 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.

volatility in performance; and limited declines in costs. For example, over the one-year horizon gross annual performance was 12.1% in 2019, while being 1.5% in 2018 and 15.9% in 2017.

The year-on-year analysis mirrors the findings observed in the case of equity UCITS non-ETFs with 2017 and 2019 showing strong performances different from 2016 and 2018 (ASR-PC.66).

ASR-PC.61

Equity UCITS ETFs ongoing costs across periods

Broadly stable

	2017	2018	2019
1Y	0.3%	0.3%	0.3%
3Y	0.3%	0.3%	0.3%
7Y	0.4%	0.3%	0.3%
10Y	0.4%	0.4%	0.3%

Note: EU equity UCITS ETFs ongoing costs (TER) by investment horizon, geometric mean aggregation. 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.

Costs, instead, remained broadly stable across investment horizons. Ongoing costs hovered around 0.3% across horizons, being either 0.01ppt or 0.02ppt below or above it (ASR-PC.61).⁵⁶ Total costs, that consider also subscription and redemption fees, were around 0.8% and 0.7% across investment horizons (ASR-PC-S.146).

ASR-PC.62

Execution fees: equity UCITS ETFs

Relevant impact on the secondary market

Bid-ask spreads and execution fees are costs that an average ETFs investor, and especially retail investor, should certainly take into account when making her or his investment decision. Unfortunately, data availability does not allow for an analysis of bid-ask spreads. For execution fees, we are able to provide a snapshot based on certain hypotheses as explained below.

Execution fees charged by a provider allow for the execution of a trade. This box estimates execution fees on a reduced sample of UCITS ETFs in 2019. This estimation of execution fees stems from the 2018 European Commission distribution cost study, in which execution fees are defined as fees charged by an intermediary (e.g. a trading venue or systematic internaliser) for each trade executed by the investor, as a percentage of each amount of money invested through them.⁵⁷

The average EU execution fees for equity UCITS ETFs traded across the EU was around 0.56% of the amount invested in 2019. The relevance of these fees and the need of considering these commissions in the

calculation of the total cost of investing in ETFs is evident when compared with the TER (0.3% on average). Across markets and intermediary, however, it can vary significantly, with some investors trading less frequently than others.⁵⁸ This highlights the importance of having detailed data on these fees at a more granular level and be able to carefully evaluate the impact that the distribution channel and the level of distribution fee can have when investing.

Bond UCITS ETFs

For bond UCITS ETFs, the variability of performance remained, and it was particularly evident at the shortest horizon of one year, 7.4% in 2019 from -0.9% and 0.4% in 2018 and 2017 respectively (ASR-PC.63).

ASR-PC.63

Bond UCITS ETFs gross performance across periods

Significant changes

	2017	2018	2019
1Y	0.4%	-0.9%	7.4%
3Y	3.6%	0.8%	2.3%
7Y	4.5%	4.0%	3.7%
10Y	4.9%	4.5%	4.5%

Note: EU bond UCITS ETFs gross annual performance by investment horizon, geometric mean aggregation. 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.

Costs, as observed below, remained broadly stable across investment horizons. Ongoing costs (ASR-PC.64) were around 0.2% and 0.3% with very slight movements, of the order of 0.02ppt or 0.04ppt above and below, the values reported above.

ASR-PC.64

Bond UCITS ETFs ongoing costs across periods

Broadly stable

	2017	2018	2019
1Y	0.3%	0.3%	0.3%
3Y	0.3%	0.3%	0.3%
7Y	0.2%	0.3%	0.3%
10Y	0.2%	0.2%	0.2%

Note: EU bond UCITS ETFs ongoing costs (TER) by investment horizon, geometric mean aggregation. 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.

⁵⁶ Table ASR-PC.60 reports ongoing costs as these, together with bid-ask spreads and executions costs, are the most relevant costs to which retail investors can be subject to when trading on the secondary markets.

⁵⁷ European Commission, 2018, Distribution systems of retail investment products across the European Union.

⁵⁸ Page 55, European Commission, 2018, "Study on the distribution systems of retail investment products".

ETF performance and costs in Member States

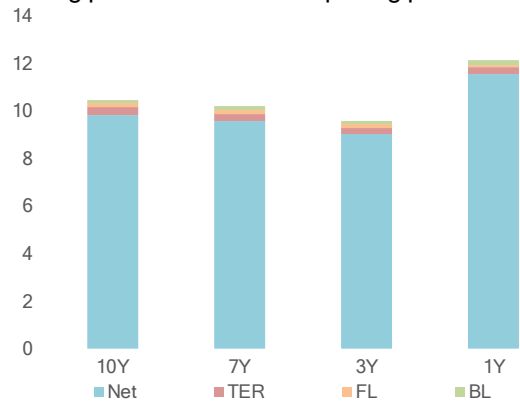
Not all jurisdictions in the EU have an ETF or a relevant ETF market. For example, in countries like Austria, Finland, Italy, Lithuania, Malta, Slovenia there are no ETFs licensed in the national market or the market is extremely small as in Greece with only one ETF.

Based on our sample of data, assets of EU UCITS ETFs were concentrated in four countries: around 67% in Ireland, 24% in Luxembourg, 6% in Germany and 3% in France (ASR-PC.68), most of which equity. Therefore, on a country-by-country basis, we focus on equity ETFs only.

Overall, according to our sample, gross annual performance in 2019 was much higher than what observed last year. However, it varied across domiciles (ASR-PC.70). For the current analysis, gross performance went from 7.7% in Germany to 12.9% in Ireland over the one-year horizon. In last year report, instead, gross annual performance at one-year horizon ranged between -3.2% in Germany and 3.1% Ireland. These differences may be related to several underlying factors: differences in the market size and type of market, if global or domestic fund platform, as well as ETFs strategies and focus. These structural divergences severely impede direct comparisons.

ASR-PC.65

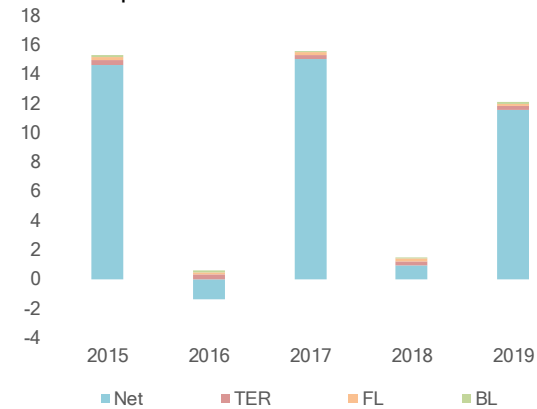
Equity UCITS ETFs performance by time horizon
Strong performance in the reporting period



Note: EU 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.66

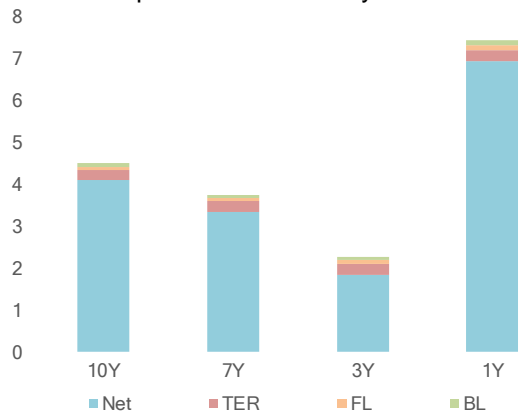
Equity ETFs UCITS performance and costs 1Y horizon
Subdued performance in 2016 and 2018



Note: EU 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.67

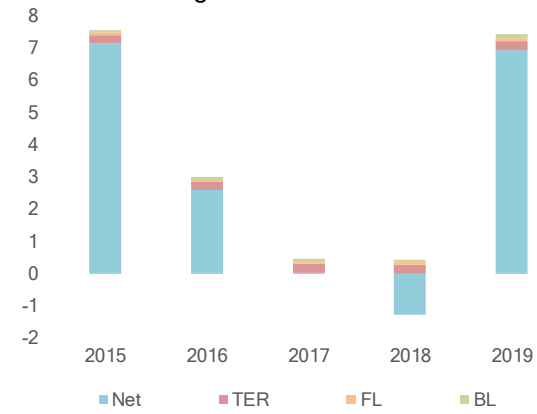
Bond UCITS ETFs performance by time horizon
Increase in performance at one-year horizon



Note: EU 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.68

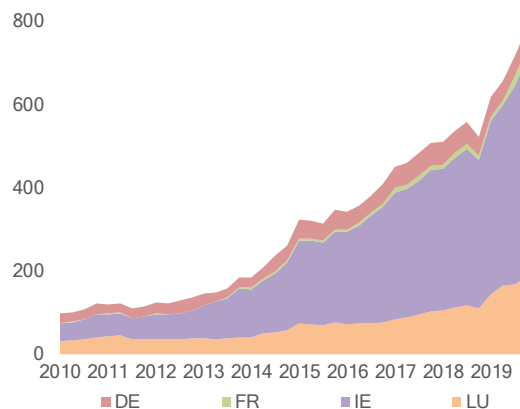
Bond ETFs UCITS performance and costs 1Y horizon
Performance high in 2015 and 2019



Note: EU 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.69

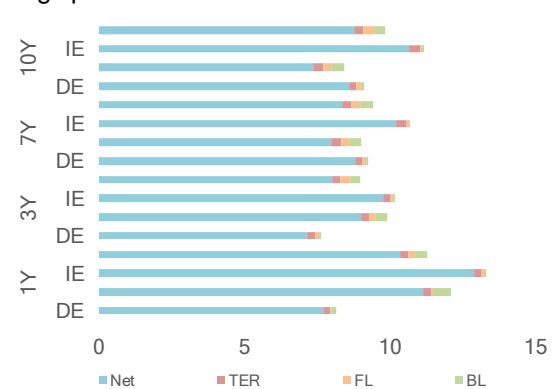
UCITS ETFs distribution by country
Assets concentrated in four main domiciles



Note: EU 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.70

Equity UCITS ETFs performance by domicile
High performance across horizon



Note: EU 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 EU countries not reported as domiciles not significant.
Sources: Refinitiv Lipper, ESMA.

ESG UCITS

Over the last few years, there has been a major increase in demand for sustainable products by European investors. Net flows into EU investment funds following environmental, social and governance (ESG) strategies have outpaced those going into non-ESG funds.⁵⁹ As a result, there has been significant growth in the number and net assets of ESG funds.

The universe of ESG funds includes both ESG-labelled and non-labelled funds following ESG strategies. Within labelled funds, a high degree of heterogeneity exists across EU countries due to the absence of EU-wide ESG fund label. ESG fund labels exist in some countries and not in others,⁶⁰ but tend to rely on different criteria.

Given the appetite of EU investors for ESG retail products, including funds, one relevant question to investigate is whether some fund managers try to profit from the absence of an EU-wide label and limited transparency requirements. More specifically, greenwashing, socialwashing and other forms of 'impact-washing' practices could be detrimental to investors. In the context of ESG funds, these could materialise for example through fund misselling (i.e. non-ESG funds marketed as ESG) or overcharging (i.e. charging extra fees for sustainable investing without implementing a corresponding strategy). This section focuses on the second aspect by comparing the past performance and costs of ESG and non-ESG funds. Going forward, such concerns may become less prevalent with the introduction of transparency requirements for products that promote environmental or social characteristics, and products with sustainable investment as an objective, under the EU Regulation on sustainability-related disclosures for financial market participants (SFDR).⁶¹

The current terminology covers a broad range of fund strategies, with different definitions and categorisations co-existing. For example, according to the Global Sustainable Investment Alliance, sustainable investing encompasses seven main types of activities and strategies.⁶² In advance of the product categorisation in the SFDR applicable from 10 March 2021, and in the absence of an agreed EU labelling regime for ESG products, this analysis relies on Morningstar definitions of 'Sustainable funds'.⁶³

There are several reasons that may justify charging additional fees by ESG funds compared to non-ESG funds. Access to ESG data tends to be costly, while the need for global coverage and to source data spanning a vast number of issues can justify recourse to multiple data providers. Moreover, some asset managers prefer to build in-house expertise, which means recruiting ESG analysts in addition to traditional ones. Further, a rather significant share of ESG funds engage with the investee companies aiming at improving company practices. This takes significant effort and time. Finally, the obtention of one or multiple ESG labels represents a non-trivial cost, which can be passed on to investors. For all these reasons, the charging of additional fees may be justified, meaning that higher ESG fund fees are not necessarily synonym of greenwashing.

Performance and costs

At the end of 2019, the total net assets of EU-27 domiciled UCITS ESG funds amounted to EUR 564bn (across nearly 1,600 funds), i.e. around 10% of the total UCITS fund sample, both retail and institutional investors (ASR-PC-S.156).⁶⁴ The analysis of the costs and past performance of ESG funds focuses on equity funds, being the dominant type, with EUR 383bn, or 68% of ESG UCITS fund assets. This includes 58 ESG equity UCITS ETFs with EUR 20bn in

⁵⁹ ESMA, 2020, Trend Risk and Vulnerabilities No.2 2020.

⁶⁰ See for example Novarthis, "Overview of European sustainable finance labels 2020": <https://www.novethic.com/sustainable-finance-trends/detail/overview-of-european-sustainable-finance-labels-2020.html>

⁶¹ 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, Art.8 and Art.9. The ESAs should submit draft regulatory technical standards by January 2021 and the Level 1 rules will enter into force in March 2021.

⁶² The seven types are negative or exclusionary screening; positive or best-in-class screening; norms-based screening; ESG integration; sustainability themed

investing; impact or community investing; and corporate engagement and shareholder action. Global Sustainable Investment Alliance, 2018 Global Sustainable Investment Review.

⁶³ Morningstar classifies as 'sustainable investment' the following strategies: ESG integration, ESG company engagement, impact investing, or thematic investing. However, it excludes funds that only implement 'Exclusions', which covers norms-based screening and the exclusion of specific activities/sectors. See "Morningstar Sustainable Attributes", May 2019.

⁶⁴ Differently from the overall UCITS analysis, the focus of this analysis of ESG UCITS funds is on the EU-27 block given the need for comparability with future analysis and in light of future SFDR requirements.

assets. This first analysis focuses on one-year investment horizon. This is mainly to ensure a sufficiently large sample of funds, but also because ESG investing has known profound transformations which could lead to the introduction of biases if considering longer investment horizons.

In 2019, the gross performance of ESG equity UCITS (excluding ETFs) over one year was 12%, 120bps higher than for non-ESG equity UCITS (ASR-PC.72). This reflects to some extent the strong performance of technology companies, which tend to be overrepresented in ESG indices and portfolios. ESG equity UCITS ETFs posted a gross performance of 14.3% (i.e. 230bps higher than non-ETFs), compared with 12.1% for their non-ESG peers.

For costs, the picture is different, with noteworthy differences between ETFs and non-ETFs. For the latter category, ESG equity UCITS total costs were 1.25% compared with 1.37% for non-ESG funds. TER was lower for ESG funds (by 15bps), while front loads were 5bps higher on average in ESG funds (ASR-PC.73). For the ETF segment, a different picture prevailed with total costs being 72bps for ESG ETFs and 54bps for non-ESG ETFs, and the TER of ESG equity UCITS ETFs was 16bps higher than non-ESG ETFs. It should be noted that ETFs (especially when invested by retail investors) are mostly traded on the secondary market, where one-off fees do not apply, and TER and trading costs are relevant.

On a net basis, ESG equity UCITS returned 10.7% to investors, compared with 9.4% for non-ESG funds and ETFs (ASR-PC.74). Focusing on ESG ETFs net annual performance was 13.6%, while being 11.5%, for non-ESG ETFs.

There are two main takeaways from these findings: first, since 2019 was overall a year of high returns for risky assets such as equity,⁶⁵ marginal differences in costs mattered little to net outcomes, and the very strong performance of ESG assets owed to a large extent to sectoral factors. Second, the evidence on cost structure did not support the view that, on average, there was systematic greenwashing behaviour by ESG

funds through pricing, although this remained a possibility in isolated cases.

One reason that might explain differences between ESG and non-ESG funds is the sample composition. In particular, the relative share of passive funds was larger in the ESG fund sample, and passive funds tend to have lower costs than active funds⁶⁶. Passive ESG equity UCITS following an ESG strategy accounted for 19% of the total, compared with 11% for the non-ESG equity UCITS sample.⁶⁷

In the active fund segment, ESG equity UCITS outperformed in gross terms non-ESG ones by 120bps and were on average 10bps less costly. In the passive fund segment, ESG funds outperformed by 80bps, but were 16bps more expensive. As a result, the net performance of active and passive ESG equity UCITS after costs was 10.4% and 12.2%, compared with 9.1% and 11.6%, respectively, for their non-ESG peers (ASR-PC.75). Therefore, these results confirm the main takeaways.

*ESG ratings*⁶⁸

As highlighted above, a key question when investigating the past performance and cost of ESG funds is the sample definition. A related issue is the difficulty of assessing the 'intensity' of a fund's focus on ESG issues and of measuring ESG-related outcomes. To do so, financial performance metrics such as returns will need to be complemented with additional non-financial information, which will become available in the future with the introduction of ESG-related disclosures under SFDR. These should eventually allow for an assessment of funds' performance in financial terms and on environmental, social and governance outcomes.

Until then, investors are left with limited options to assess the impact of their investments. The main source of ESG-related information is the fund's own documentation, which retail investors get access to through the funds' distributor. However, the high degree of heterogeneity in the information provided and the difficulty of checking claims made⁶⁹ – especially in funds' marketing

⁶⁵ See Market Environment section in this report.

⁶⁶ See p.21 on performance and costs by management type.

⁶⁷ ETFs were excluded from this part of the analysis due low ESG sample size.

⁶⁸ See article in ESMA, Report on Trends, Risks and Vulnerabilities, No.1 2021.

⁶⁹ To read more on impact claims made by investment funds, see for example 2 Degrees Investing Initiative (2019), "Impact washing gets a free ride".

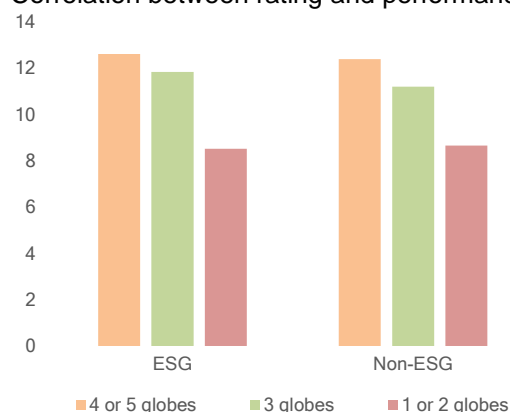
documentation – do not allow for an objective assessment and comparison of funds' non-financial performance.

Another possible source of information is funds' ESG ratings, which are based on the ESG rating of individual portfolio securities held by the funds⁷⁰. These ratings, computed by specialised data providers, constitute in theory an objective a third-party assessment. As such, fund ESG ratings allow for greater comparability and help to increase the transparency of funds' sustainability credentials. However, they face limitations: they do not measure funds' impact on ESG-related outcomes; they rely on purely quantitative criteria ignoring qualitative aspects; they create possible disincentive to invest in smaller, non-rated companies; and they rely on ESG ratings, which are widely viewed as inconsistent.⁷¹

There appears to be a degree of overlap between UCITS claiming to pursue sustainable strategies and those with high ESG ratings. According to Morningstar data, around two thirds of ESG funds were rated "High" or "Above average" (ASR-PC-S.158), compared with 37% for non-ESG funds. This also highlights that a number of non-ESG funds receive a favourable ESG rating for other reasons (investment sector, benchmark composition, geographical focus, etc.). The skew towards higher ratings shows that EU funds are generally well rated compared to funds domiciled elsewhere.⁷²

In 2019, the gross performance of ESG equity UCITS funds (excluding ETFs)⁷³ with high ESG ratings over one year was 12.6%, compared with 11.8% and 8.5% respectively for funds with average and low ESG ratings.⁷⁴ For non-ESG funds, the comparative figures were 12.4%, 11.2% and 8.7%, respectively (ASR-PC.71). The similarity of ESG and non-ESG fund performance by rating, and the high correlation between ESG rating and performance, suggest that portfolio composition rather than ESG factors was the main driver of ESG fund outperformance in 2019.

ASR-PC.71
Gross performance of equity funds by ESG rating
Correlation between rating and performance



Note: EU UCITS equity fund share gross annual performance by Morningstar ESG rating, %. ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Turning to costs, the breakdown by ESG rating confirms that ESG equity UCITS (excluding ETFs) had on average lower costs than their non-ESG peers. The total costs of ESG funds with high, medium and low ESG ratings were on average 20bps, 5bps and 14bps lower, respectively, than non-ESG funds (ASR-PC.77). Moreover, there is no clear correlation between fund ESG ratings and total costs, reinforcing the view that ESG funds do not systematically charge investors additional fees. As a result, on a net basis, highly rated ESG equity UCITS funds returned on average 40bps more to investors after fees than non-ESG funds, and 70bps for funds with an average rating (ASR-PC.76).

To conclude, in 2019 EU retail investors in equity UCITS were on average better off investing in funds with a high ESG rating (especially ESG funds) than in funds with a low ESG rating. This reflects the strong performance of highly rated funds, and the lower costs of ESG funds on average in the case of actively managed funds. The evidence on cost structure does not support the view that there is systematic greenwashing behaviour by ESG funds through pricing, although this remains a possibility in isolated cases. Lastly, ESG ratings can provide valuable information in terms of portfolio composition but not to assess the impact of their investments.

⁷⁰ See the Annex on Statistical Methods for more details.

⁷¹ See for example Berg, F., J. F. Kolbel, and R. Rigobon (2020), "Aggregate confusion: The divergence of ESG ratings"; Boffo, R., and R. Patalano (2020), "ESG Investing: Practices, Progress and Challenges", OECD; Gibson Brandon R., P. Krueger, and P. S. Schmidt (2020), "ESG rating disagreement and stock returns", UNPRI academic blogs.

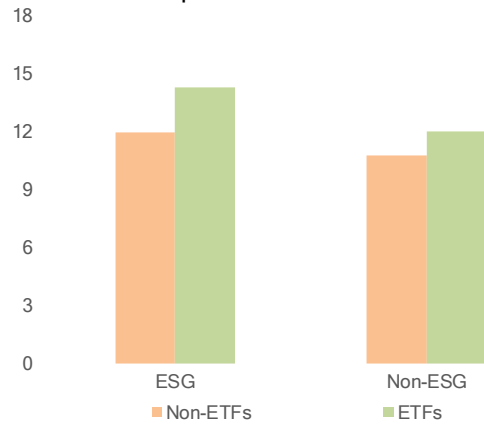
⁷² See page 73 in the Annex for Statistical Methods.

⁷³ ETFs are excluded from this part of the analysis due to small sample size.

⁷⁴ However, the sample of ESG funds with a low ESG rating includes only 78 funds with total net assets of EUR 21bn.

ASR-PC.72

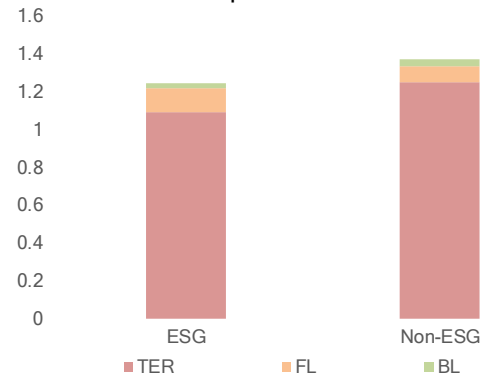
Gross performance of equity funds
ESG funds outperformed



Note: EU UCITS equity fund and ETF gross annual performance in 2019, ESG vs. non-ESG funds, in %. Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC.73

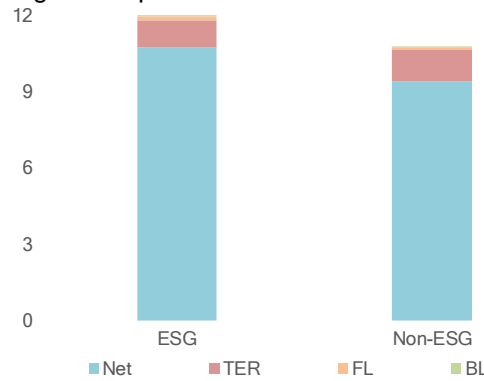
Total costs of equity funds (excluding ETFs)
ESG funds less expensive



Note: EU equity UCITS fund shares total costs, retail and institutional investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included. Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.74

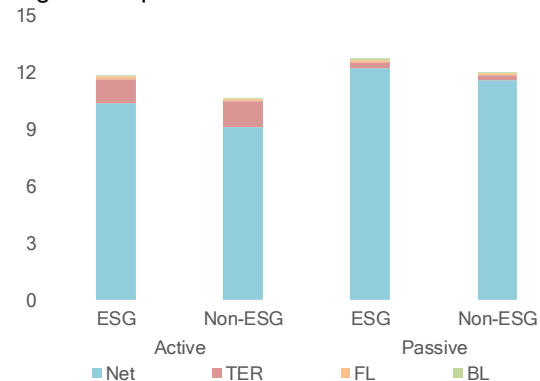
Net performance of equity funds
Higher net performance for ESG funds



Note: EU equity UCITS fund shares gross annual performance, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included. Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.75

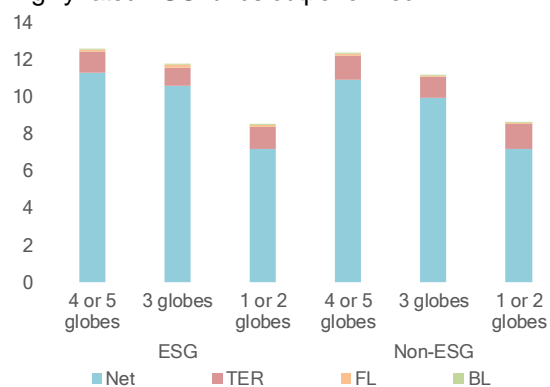
Net performance of active and passive equity funds
Higher net performance for ESG funds



Note: EU equity UCITS fund shares gross annual performance by management type and sustainable investment, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included. Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.76

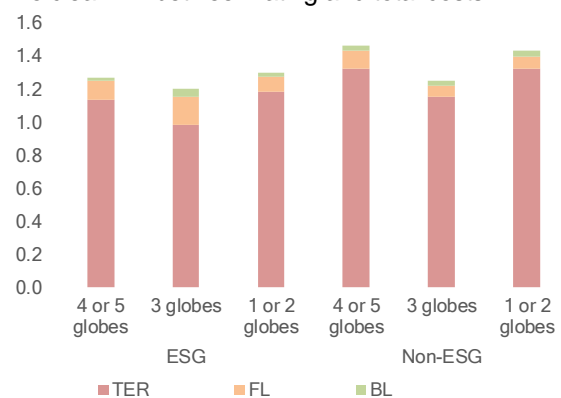
Net performance of equity funds by ESG rating
Highly rated ESG funds outperformed



Note: EU equity UCITS fund shares gross annual performance, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and Morningstar sustainability rating, %. Equity UCITS ETFs not included. Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC.77

Total costs of equity funds by ESG rating
No clear link between rating and total costs



Note: EU equity UCITS fund shares total costs, retail and institutional investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and Morningstar sustainability rating, %. UCITS ETFs not included. Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Summary findings

Through this analysis we highlight the evolution of performance and costs of UCITS across asset classes and by class of risk at the EU level. We also add a detailed analysis of performance and costs by management type, distinguishing between active, passive and UCITS ETFs, and an analysis based on fund domicile and investors' domicile. Furthermore, we develop an analysis for UCITS funds focusing on ESG strategies.

For 2019, the key findings of our analysis include:

- More than 90% of retail investment concentrated in equity, bond and mixed UCITS.
- As also confirmed in the year-on-year analysis, there was strong gross performance in 2019 driven by the underlying asset classes.
- Costs remained a critical component when evaluating the ultimate benefits coming from 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 around EUR 21,800 and EUR 18,600 after costs. Around EUR 3,200 in costs were paid by the investor.
- Total costs were higher for retail than for institutional investors, on average.
- Across editions, cost levels come down only moderately from the traditionally higher levels previously observed in EU.
- Performance and costs were higher as risks were higher.
- UCITS ETFs performance was in line with that of other UCITS investing in these assets.
- Significant differences existed between active funds, passive funds and UCITS ETFs:
 - Costs were significantly higher for active UCITS compared to passive and UCITS ETFs, ultimately impacting performance.
 - Net underperformance of active equity and bond UCITS, on average, compared to passive and UCITS ETFs.
 - Outperformance of the top-25% active equity UCITS compared to the top-25% passive and related benchmarks, at shorter horizons. The cohort of UCITS changes over time, only 20% of the top performing equity UCITS at the end of 2019 was also top performing in 2018. This makes it complicated for investors to consistently identify outperforming UCITS.
 - Slight net underperformance for the top-25% actively managed bond UCITS compared to passive on average across three- and one-year horizons.
- Persisting heterogeneity across Member States also linked to structural market differences, investors' preferences and lack of harmonisation in national regulation.
- For ESG equity UCITS:
 - The outperformance was mainly related to sectoral factors.
 - The evidence on cost structure showed that actively managed ESG funds tended to have lower costs than non-ESG, not supporting the view that there is systematic greenwashing behaviour by ESG funds.
- The heterogeneity across Member States reduced when the analysis is centred on the investment focus.

Investment funds: Retail AIFs

Summary

In 2019, with around EUR 1tn, retail AIF investments accounted for 15% of the AIF market. In terms of distribution of retail assets, around half of retail investment was concentrated in AIFs following more traditional strategies targeting primarily asset classes such as equities and bonds, followed by funds of funds and real estate funds with 29% and 17% respectively. In addition to the analysis on gross returns, we report the dynamics of net returns. Gross annualised returns of AIFs sold to retail investors were high, reflecting the overall strong performances in 2019: 12% for funds of funds and 9% for the category Others. Similar dynamics were observed for net annualised returns: 11% and 7% respectively for funds of funds and Others.

Compared to UCITS, alternative investment funds (AIFs) involve lower market transparency, lower liquidity and reduced correlation with traditional financial investments, which imply different performance and risk measurements. Investment in alternative assets leads to potentially above-average returns and risks, given the return-risk profile of the alternative investment products. This has encouraged investors to focus on alternative assets.⁷⁵

Regulators and supervisors are keen to ensure access to returns and diversification associated with these products, at the same time guaranteeing an adequate level of transparency and information. Against this background, this report extends the analysis to AIFs sold to retail investors (retail AIFs). The following analysis is based on data from the Directive on Alternative Investment Fund Managers (AIFMD)⁷⁶ regime, that regulates fund investment managers managing AIFs within the EU.⁷⁷

AIFs under AIFMD include a very wide range of investment products and funds. Funds authorised under the UCITS Directive are not included.⁷⁸ The definition of AIF types covers not only hedge funds (HF), but also private equity (PE) funds, venture capital (VC), real estate (RE), funds of funds (FoFs), Others and, as a residual

category, "None" of the above.⁷⁹

Market overview⁸⁰

Based on AIFMD data, the size of EU AIF industry was of EUR 6.5tn in terms of NAV at the end of 2019, increasing from the EUR 5.8tn in 2018. The higher values of assets may be explained by the general positive trend in valuations characterising 2019. The market remained mostly composed of professional investors.⁸¹ The share of retail investors continued to slightly decrease going to 15% at the end of 2019, from 16% and 18% in 2018 and 2017, respectively (ASR-PC.79). The enhanced transparency and lower riskiness of UCITS seemed to make AIFs less appealing to retail investors. Moreover, retail investment in AIFs is subject to underestimation as retail investors may buy products invested in AIFs through banks or insurance firms.

Focusing on the retail segment, most of the assets of AIFs sold to retail investors, more than 90%, benefited from the passporting regime, i.e. they can be sold across the EU (ASR-PC-S.178). Assets invested in AIFs by retail clients were concentrated in the type of AIFs classified as Others (50%), FoFs (29%) and RE (17%).⁸²

⁷⁵ ECB, 2017, "Developing macroprudential policy for alternative investment funds", Occasional Paper Series.

⁷⁶ Directive 2011/61/EU.

⁷⁷ For an overview of the overall EU AIF market please see ESMA ASR on AIFs, 2021.

⁷⁸ Directives 2011/61/EU (AIFMD) and 2009/65/EC (UCITS).

⁷⁹ 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.

⁸⁰ The EU market includes the United Kingdom as it is a Member of the EU in 2019.

⁸¹ According to AIFMD definitions, professional investors are identified following the criteria specified in Directive 2011/61/EU, article 4 (1ag) and Annex II of Directive 2014/65/EC.

⁸² 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, real estate

“Others” consists of fixed income funds, equity fund, infrastructure funds, commodity funds, and other funds.⁸³ Compared to 2018, retail investments in FoFs and in RE were respectively 2% and 1% higher. Differently, investment in Others was 4% lower. The participation of retail clients in HF and PE remained very low in 2019.

Managers of AIFs must also indicate the breakdown of the fund investment strategies. This classification by type and strategy mirrors the fact that AIFs can invest in a variety of assets, including property and commodities, and rely on a high degree of flexibility around how they invest.⁸⁴ Focusing on retail clients, most of the NAV was concentrated on the strategy “Other” (52%), including FoFs, decreasing from the 56% in 2017.⁸⁵ For the rest, in 2019, retail clients invested mostly in equity funds (14%) and commercial real estate (14%) rather than fixed income funds (12%) (ASR-PC.81). In the RE segment there is a prevalence towards commercial real estate (CRE) that may give rise to prudential risks.⁸⁶

Looking at the investment focus (ASR-PC.82), the European Economic Area (EEA) was the dominant investment region for funds with a 100% retail client participation for 2018.⁸⁷

In terms of risks, liquidity, and especially liquidity transformation, is the most prominent risk in the fund industry. On one side, there is the possibility for clients to redeem shares when needed according to the redemption rights granted by the AIF. On the other side, there is the ability of the fund to meet redemption requests without necessarily causing significant market impact and safeguarding the fund investment objectives and strategies. Redemption rights and liquidity

mismatches are then crucial for clients and especially retail clients, who have a lower level of information and flexibility than professional investors.⁸⁸

In 2019, as in the previous year, most of the share of NAV was composed of open-ended funds, 78% of NAV (ASR-PC.83) with the exception of the PE sector. The open-ended feature adds to the risk of potential liquidity mismatches. Therefore, the AIFMD requires specific disclosures to NCAs and investors, including a description of the investment strategy, notice and lock-up periods as well as circumstances in which the normal redemption mechanisms might be suspended⁸⁹.

Potential liquidity mismatches may arise from the difference between portfolio and investor liquidity profiles, shown in ASR-PC.84. The portfolio liquidity profile refers to the time needed by the fund to liquidate its assets whereas the retail investor profile refers to the shortest period at which the investor herself can redeem the fund.

Overall, AIFs with a 100% participation of retail clients showed no significant sign of liquidity mismatch. Similar results hold for funds with lower retail participation (ASR-PC-S.184). This was true on an aggregated basis, but liquidity issues with individual AIFs remained possible.

Retail AIF's performance

The analysis includes both gross and net performance of a sample of funds corresponding to around 70% of the total NAV for AIF entirely

funds, funds-of-funds, private equity funds, and ‘other AIFs’. The residual category of ‘other AIFs’, labelled as ‘Others’ in the chart ASR-PC.79, 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.

⁸³ Annex IV, Commission delegated regulation (EU) No 231/2013 supplementing Directive 2011/16/EU.

⁸⁴ ESMA, 2018, AIFMD: A framework for risk monitoring, TV No.1 2018.

⁸⁵ Under Art.24(1) of Directive 2011/61/EU, for each EU AIF managed or marketed in the Union, managers are required to report on the breakdown of investment strategies, the concentration of investors, the main categories of assets held by the AIF, including principal

exposures and concentration, and the regional investment focus.

⁸⁶ ESMA, 2018, AIFMD – a framework for risk monitoring, TRV No.1 2018 already highlighted issues related to micro- and macro-prudential risks.

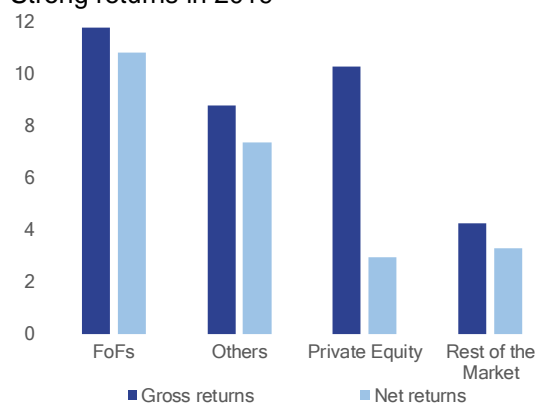
⁸⁷ 100% retail client participation refers to those funds for which the reporting refers to 100% retail clients. By focusing on these funds, we would then account exclusively for retail clients.

⁸⁸ Article 16 Directive 2011/61/EU states that “AIFMs shall for each fund managed, not closed-end, employ an appropriate liquidity management system, [...]”. Article 46 of the Delegated Regulation 231/2013 requires that [...] managers demonstrate to the relevant NCAs of their home Member State that an appropriate liquidity management system and effective procedures are in place in relation to the investment strategy, liquidity profile and the redemption policy of the AIF they manage”.

⁸⁹ Article 23 and article 24 Directive 2011/61/EU. Reporting template for regulatory disclosures 2013/1359.

sold to retail investors, or EUR 700bn.⁹⁰

ASR-PC.78
Retail AIFs gross and net performance
Strong returns in 2019



Note: EU AIFs annualised monthly gross and net performance by fund type, %, 2019. Reported according to AIFMD. Rest of the market includes Hedge Funds, Real Estate and None.
Sources: National Competent Authorities, ESMA.

Chart ASR-PC.78 shows annualised monthly performance for 2019 by fund type. Across all the different types of funds, returns are significantly higher than last year mirroring the buoyant year that 2019 has proven to be across assets. More than 90% of retail investors' assets are concentrated in FoFs and Others. Focusing on these types then, while in 2018 performance was negative, respectively -2.1% and -3.3%, in 2019 it was 12% for FoFs and 9% for Others. In the current report we are also able to report on annualised net performance that was also relatively high: 11% and 7% respectively for FoFs and the type Others.⁹¹

Summary findings

Main results suggest that:

- In 2019, retail investors accounted for 15% of the total NAV for the AIF market.
- Out of retail assets invested in AIFs, 27% were concentrated in FoFs and 16% in RE. 50% was concentrated in the type Others that includes non-UCITS investment funds pursuing more traditional strategies targeting primarily traditional asset classes such as equities and bonds.
- In terms of liquidity risk, overall, AIFs with a 100% participation of retail clients showed no noteworthy sign of liquidity mismatch.
- In 2019 annualised monthly gross performance of those fund types in which retail investment was concentrated, namely FoFs and Other funds, significantly increased compared to 2018 reaching around 12% and 9% respectively.
- Net returns confirm what was observed for gross returns being 11% for FoFs and 7% for Others.
- A more in-depth costs analysis is impeded due to data unavailability on cost composition.

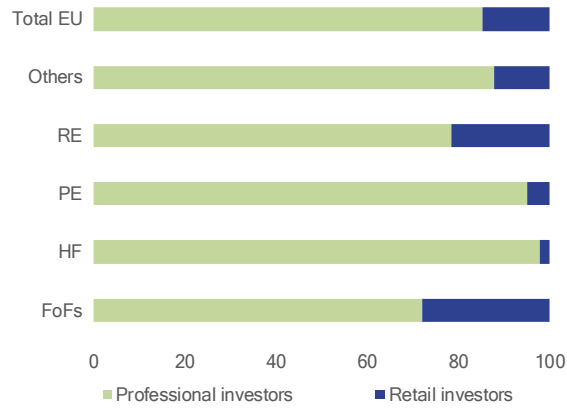
⁹⁰ For more details refer to the Annex on Statistical methods.

⁹¹ The net performance is subject to reporting issues that joint work between ESMA and NCAs aim at resolving. See Annex on Data and Data limitations

ASR-PC.79

AIF NAV by type of client

Persisting focus on FoFs and RE for retails

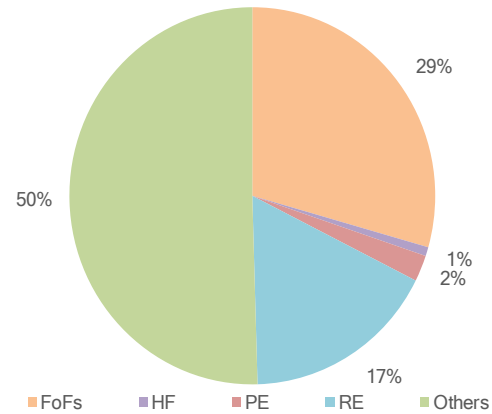


Note: NAV of AIFs by type of client reported at the end of 2019 under the AIFM Directive, in %.
Sources: National Competent Authorities, ESMA

ASR-PC.80

Retail investors NAV by AIF type

Five dominant investment types

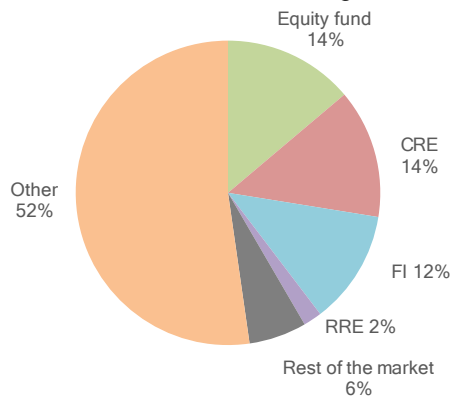


Note: NAV of retail AIF type at the end of 2019 reported under AIFM Directive, in %
Sources: National Competent Authority, ESMA

ASR-PC.81

Retail investor NAV by AIF strategy

Five dominant investment strategies

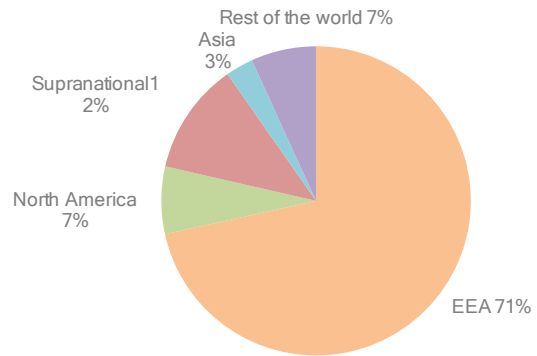


Note: Share of NAV by investment strategy, end of 2019 retail clients, reported under AIFMD, in %.
Sources: National Competent Authorities, ESMA

ASR-PC.82

Retail investor NAV by regional investment focus

Key focus on Europe

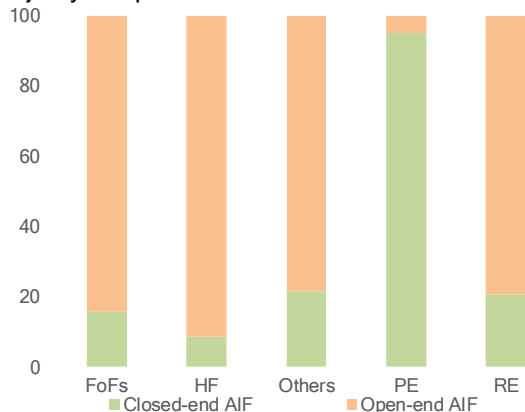


Note: NAV of AIFs by regional investment focus, retail clients, end of 2019, in %
Sources: National Competent Authorities, ESMA

ASR-PC.83

Redemption rights to retail investors

Majority of open-ended funds

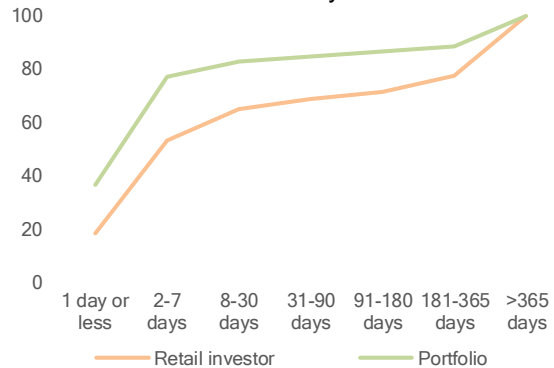


Note: NAV of AIF by redemption rights offered to retail clients, end 2019, %
Sources: National Competent Authorities, ESMA

ASR-PC.84

Portfolio and investor liquidity

No mismatch in funds entirely sold to retail clients



Note: 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

Structured retail products

Summary

Structured Retail Products (SRPs), with outstanding value of EUR 400bn in 2019, remain a much smaller market than UCITS and AIFs sold to retail investors. SRPs include a large variety of payoff types, with much heterogeneity across national markets. Regulatory data are only starting to be available now and not readily accessible and usable, 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 PRIIPs Key Investor 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 payoff 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.

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, while 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 2019 was around EUR 400bn. This is far less than holdings in UCITS which, according to data available for this report, are more than EUR 4.5tn for retail investors and less than half of the holdings in AIFs sold to retail investors (EUR 1tn).⁹²

Different types of structured products are offered to retail investors in the EU, many with complex payoff structures. This, together with the existence of significant costs and charges for retail investors, prompt 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 the 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.⁹³ Second, the EU market involves both bank-issued and exchange-issued products. There is geographical variation in this

⁹² The financial net worth of EU households stood at around EUR 20tn in 4Q19. Outstanding amounts of structured retail products in the EU were around EUR 400bn in December 2019, according to the dataset used in this article.

⁹³ According to the commercial data used in this section, approximately one fifth of outstanding product volumes at the end of 2019 in Europe were tranche products.

respect, e.g. exchange-based issuance tends to be more common in Germany while bank-based issuance is seen more in Italy.

Market overview

The retail market for structured products made up around 2% of the financial net worth of EU households in 2019. From 2011 to 2017 there was a continual downward trend in the total value of outstanding SRPs (ASR-PC.85), though in 2018 and 2019 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 2019, volumes outstanding stood at around EUR 400bn, having reached its historical high of EUR 800bn in 2010. In contrast, numbers of outstanding contracts continued to rise, reaching 7 million at the end of 2019. 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 increasing number of products, namely on-exchange 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 characterised this market in recent years, both country-specific and EU-wide, aimed at enhancing consumer and investor protection.⁹⁴

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.⁹⁵ Sales volumes and outstanding amounts in 2019 were highest in Italy and France, while Germany was the third-largest, down from first in 2018 (ASR-PC.86).

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 25% in 2019, up 5pps from the previous year but far lower than 2010 when the proportion was 77%. The share of products with no capital protection increased from 19% in 2009 to 64% in 2018 (ASR-PC.87). 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, though supply factors may of course also be an important determinant.⁹⁶

Turning to the term of products sold, over 70% of products by volume were sold with more than three years to maturity (ASR-PC.88).

Regarding types of underlying assets, the vast majority of sales volumes – around 90% in 2018 - related to products having equities or equity indices as underlying, as opposed to other types of underlying such as interest rates, exchange rates or commodities (ASR-PC.89). This share has grown over the last few years, while sales volumes of products having interest rates as underlying fell to 3% in 2018, 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.

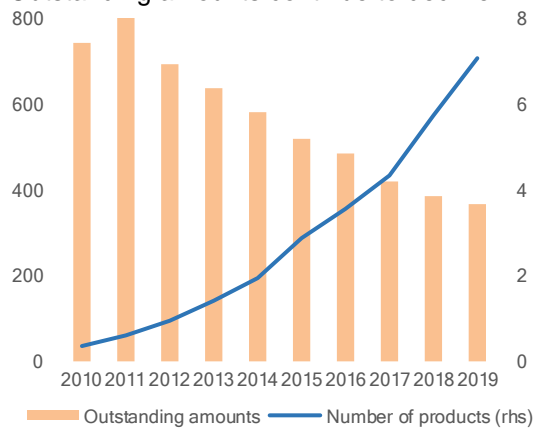
⁹⁴ For further details, see the Annex on Regulatory developments of this report. See also ESMA Opinion, 2014, "Structured Retail Products – Good practices for product governance arrangements", ESMA/2014/332 article.

⁹⁵ For a summary of popular product types in a selection of Member States, see ESMA TRV no.2, 2018, pp. 52-65.

⁹⁶ In a low interest rate environment, it may be harder to offer products with capital protection that also have attractive rates of return.

ASR-PC.85

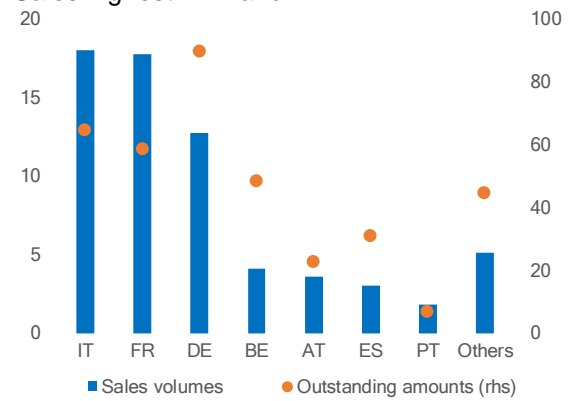
Stock of outstanding SRP in the EU
Outstanding amounts continue to decline



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

ASR-PC.86

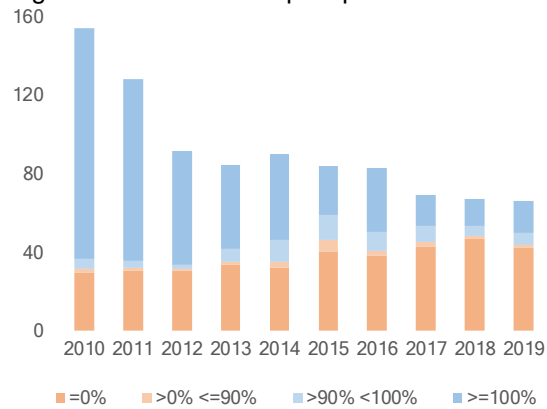
Sales volumes and outstanding amounts by country
Sales highest in IT and FR



Note: Sales volumes, EUR mn, and outstanding amounts, EUR bn, of structured retail products in 2019 for top 7 EU countries by sales volumes, EUR bn. "Others"=EU countries not otherwise listed.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC.87

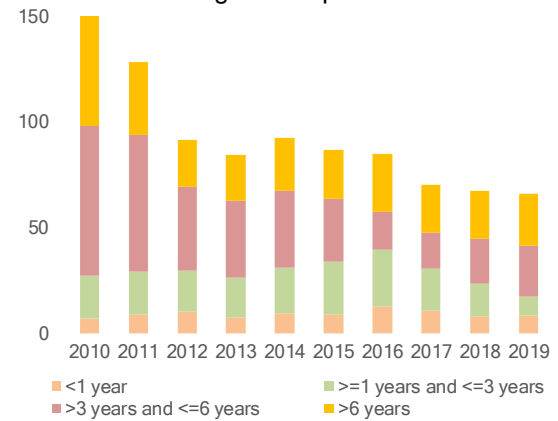
Volume of products sold by level of capital protection
Significant decline in capital protection



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.88

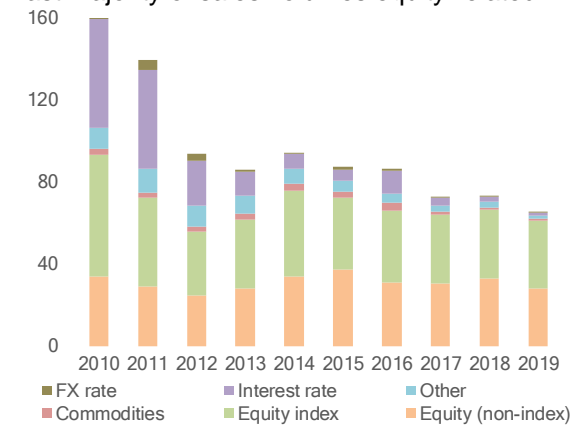
Volume of products sold by term
Move back to longer-term products



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.89

Volume of products sold by type of underlying asset
Vast majority of sales volumes equity-related



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

Performance and costs

As part of its efforts to expand the assessment of SRPs, ESMA has developed new routines⁹⁷ to extract additional information from Key Information Documents (KIDs), which are produced for these products under the PRIIPs KIDs Delegated Regulation.⁹⁸ By law, PRIIPs KIDs must be provided to retail investors when they consider purchasing a structured retail product. The structure, content, presentation, and length of the KID are tightly controlled, 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 under 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 16,288 KIDs issued between 01 January 2018 (when the requirement to produce KIDs began to apply) and 31 December 2019 (the data cut-off point for this report).⁹⁹ 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; and
- 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 16,288, as some information may either 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 calculation is governed by a detailed methodology set out in the Regulation. The scenarios range from 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).¹⁰⁰

ASR-PC.90 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 unfavourable scenario, as expected, are typically below the moderate scenario returns. However, the simulated moderate and favourable scenario returns are both highly similar with each other and 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 Joint Committee’s efforts in late 2018 / early 2019 to consult on revising the PRIIPs KIDs Delegated Regulation scenario calculation methodologies.¹⁰¹

⁹⁷ ESMA, 2021, “54 000 PRIIPs KIDs – how to read them (all)”, TRV No.1 2021.

⁹⁸ Commission Delegated Regulation (EU) 2017/653.

⁹⁹ 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.

¹⁰⁰ 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.

¹⁰¹ https://www.esma.europa.eu/sites/default/files/library/jc-2019-63_consultation_paper_amendments_priips_kid.pdf

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

Turning to specific products, ASR-PC.91 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 Bear and Protected Tracker 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 volunteer presenting such figures to potential retail investors, which demonstrates the wisdom of requiring, in the PRIIPs KID Delegated Regulation, that performance returns be expressed net of costs. The results in form 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 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 not previously have been observed¹⁰².

To this end, ASR-PC.92 illustrates the median stressful scenario return 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 can be seen from ASR-PC.92, within each recommended holding period

group, SRPs that have been more widely sold have similar downside risk (measured by stressful scenario returns) compared with less popular products. Thus, it does not appear that retail investors are purchasing more of (i.e. are disproportionately exposed to) the riskier products.

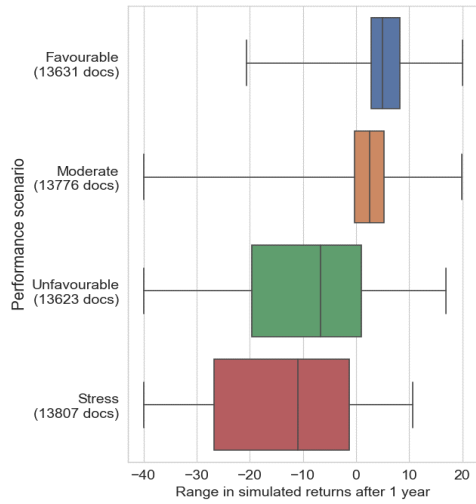
Figure ASR-PC.93 examines the extent to which the SRI varies with each performance scenario for structured products. This is an interesting point when bearing in mind the legislative purpose of the SRI, as set out in a recital (3) in the PRIIPs Delegated Regulation, that *“information on the risks should 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 favourable scenario. This appears sensible, because favourable 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 unfavourable 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.

two scenarios within each product and then plot that difference).

¹⁰² One caveat is that only aggregate sales figures are available, implying that it is also possible that few

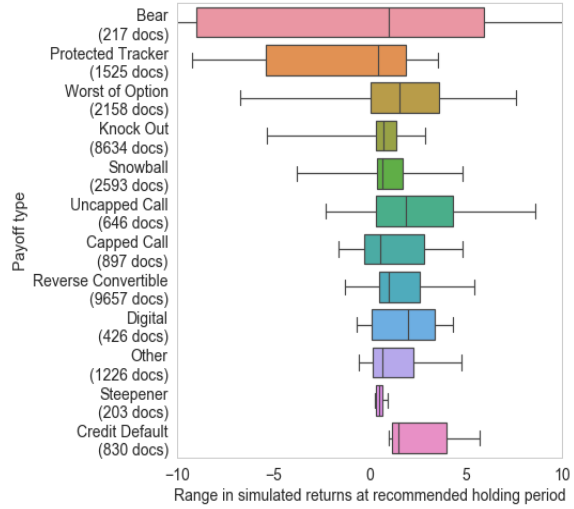
investors are purchasing larger amounts of riskier products.

ASR-PC.90
 Completeness of performance scenario information
 Similar favourable and moderate scenarios



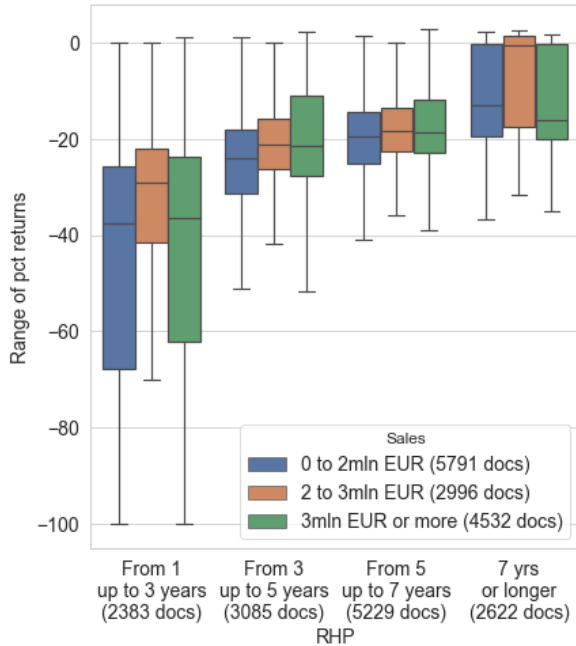
Notes: Range in performance returns for 14,909 PRIIPs in each performance scenario category, using only scenarios that may occur after 1 year of holding the PRIIP. The scenario calculation methodology is set out in the PRIIPs KID Regulation. Similar results are obtained when comparing scenario returns 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') illustrate the 10th and 90th percentiles for that category. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.91
 Moderate scenario returns across payoff types
 Many cases of low or negative scenario values



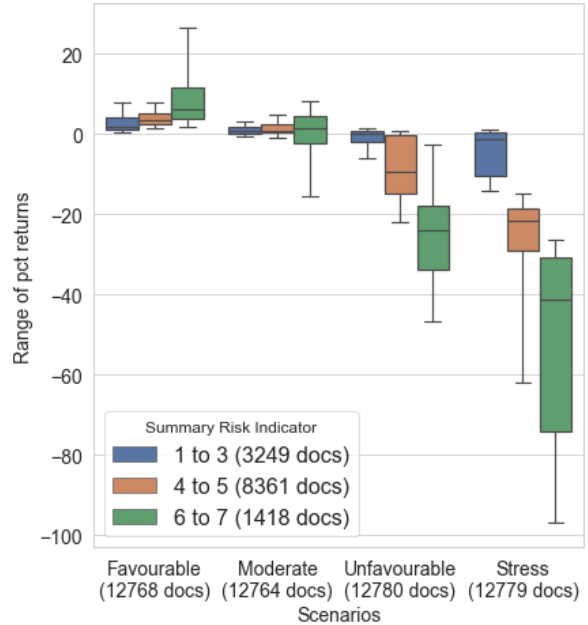
Note: The chart presents the range in moderate scenario returns (after costs) at the product maturity / recommended holding period for PRIIPs grouped by payoff type. The vertical line in each box shows, within each payoff type, the median moderate scenario returns (after costs) at the recommended holding period. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that payoff type. Nota Bene: one product can contain multiple payoff types. 'Other' collects all PRIIPs containing payoff types that have 200 or fewer observations in the data sample. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.92
 Variation in stress scenario returns across PRIIPs
 More popular products carry same/more risk



Note: The chart shows the range in the median stressful scenario return (in %) for 13,946 PRIIPs, grouped by estimated sales volume (EUR mln) and recommended holding period. Box edges are the respective 25th and 75th percentile simulated return across the group, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that same group. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC.93
 Evaluating the Summary Risk Indicator
 SRI seems to differentiate PRIIPs effectively



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 KID 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') illustrate the 10th and 90th percentiles for that same group. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

Costs

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 in the percent reduction in yield (RIY) earned by the investor. As an initial view, ASR-PC.94 illustrates the range in RIY across EU countries, in terms of markets in which the product is sold. This is of course a simplified perspective. Differences in product types will help explain this variation. Nevertheless, tracking the future evolution in cost dispersion across countries is a useful indicator in the context of the Capital Markets Union.

Continuing this theme, ASR-PC.96 provides an assessment of the variation in total costs by payoff type, in a similar spirit to ASR-PC.90. Payoff types are also 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 structured retail product). At the same time, there does not appear to be any clear pattern between total costs and the SRI, nor the recommended holding period for each product. In other words, it is not the case that riskier or longer-maturity structured retail products have higher costs than their less-risky or lower-maturity counterparts.

ASR-PC.97 examines the breakdown of total costs across underlying asset type, 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. It appears that SRPs backed by single equities tend to have higher costs than SRPs backed by other underlying assets.¹⁰³ When considering this information along with the previous figures, it indeed appears that it is the 'structured' nature of SRPs that drives costs. In other words, it is the most complicated part of the

product—the most challenging part for investors to assess—that drives costs.

Following on from ASR-PC.93, which examined whether a pattern could be observed between structured retail product riskiness and popularity with investors, ASR-PC.97 investigates whether higher-selling structured retail products are associated with lower total costs. As mentioned previously, product payoff types are likely to be an important driver of costs.

Differently, the purpose of ASR-PC.98 is to examine whether some form of economies of scale materialise in EU structured retail product markets. Higher-selling products, even when controlling for those with similar maturities, appear in fact to be associated with higher costs for investors, particularly for products whose recommended holding period is between 3-5 years, as well as those whose recommended holding period is between 5-7 years.

ASR-PC.94

Breakdown of PRIIPs cost components

Entry costs make up the majority of total costs

Category	Entry costs	Exit costs	Transaction costs	Other ongoing costs	Performance Fees	Carried interest
Accounts for more than 100% of the RIY	0.5%	0%	0%	0%	0%	0%
Accounts for 100% of the RIY	14%	0.1%	0%	0%	0%	0%
Accounts from 75% up to 100% of the RIY	17%	0%	0%	0.1%	0%	0%
From 50% up to 75% of the RIY	12%	0%	0%	0.1%	0%	0%
From 25% up to 50% of the RIY	11%	0%	0%	1.1%	0%	0%
Above 0% and up to 25% of the RIY	42%	0.2%	0.4%	3.4%	0%	0%
Equal to 0%	2%	64%	33%	60%	13%	13%
Not countable: Not provided in KID	2%	36%	67%	36%	87%	87%
Number of docs where info provided	12,897	8,359	4,365	8,413	1,740	1,740

Notes: The table shows the breakdown, across the sample size, of cost components in the total costs reported for each individual PRIIP.

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

Finally, ASR-PC.94 displays how much each cost type accounts for the total costs (RIY) of structured retail products in the dataset, using the pre-determined categories set out in the PRIIPs KIDs Delegated Regulation. Several elements are worth noting from this table. First, entry costs are often the largest component of the RIY in each structured retail product in the data sample. Second, there is substantial missing information for other cost components, which can also explain the relatively large share of entry costs, and which is partly explained by the fact that

¹⁰³ This is confirmed also if splitting into maturity buckets.

some of these cost categories (such as performance fees and carried interest) do not apply to such products. Third, there appears to be a substantial 'remainder' in many structured retail products in our sample: subtracting the sum of the cost components as displayed in the PRIIP KID from the total costs figure displayed elsewhere in the KID yields a positive number. This is also an avenue for further examination and research.

Summary findings

SRPs are a relatively small market compared to 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 payoff 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 2019. 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.

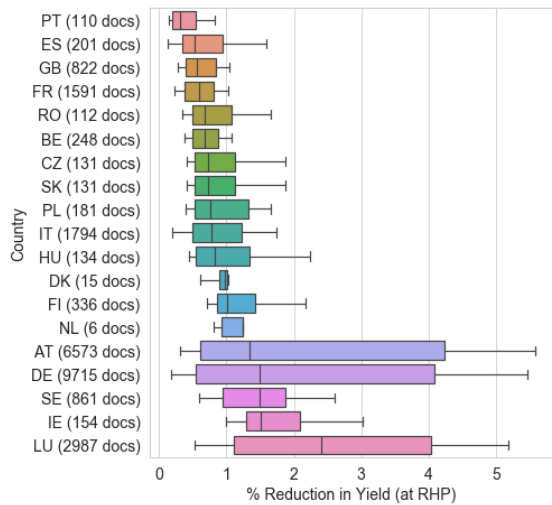
In terms of simulated returns and costs the key findings are:

- Once costs are 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 Single Risk Indicator (SRI) required to be produced for an SRP appears to correlate significantly to 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 appear to vary substantially depending on the country in which they are marketed, as well as by the underlying payoff type.
- There appears to be little correlation between total costs and the underlying asset type, nor do total costs 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).

ASR-PC.95

Range in total costs for PRIIPs by country

Substantial variation in total costs by country



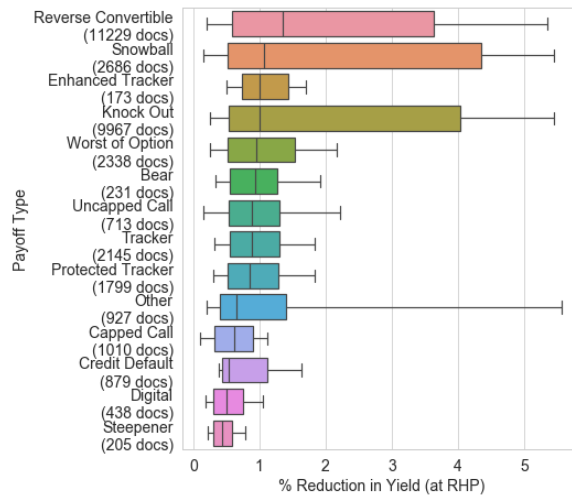
Note: Each bar above displays the range in percent total cost (Reduction in Yield) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by country. NB: countries indicate locations of sale (one product can be sold in multiple countries). The vertical line in each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

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

ASR-PC.96

Range in total costs for PRIIPs by payoff type

Substantial variation in total costs by payoff type



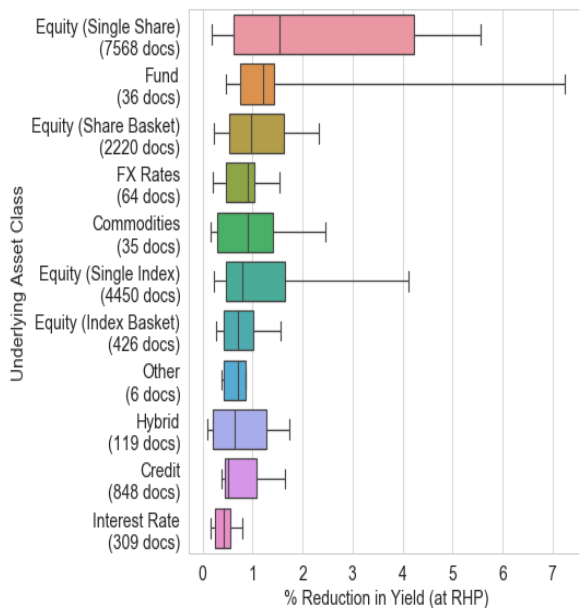
Note: Each bar above displays the range in percent total cost (Reduction in Yield) at product maturity / recommended holding period, across PRIIPs in the data sample, grouped by payoff type. The vertical line in each box shows the median percent cost. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that payoff type. 'Other' collects all PRIIPs containing payoff types that have 150 or fewer observations in the data sample.

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

ASR-PC.97

Range in total costs for PRIIPs by underlying asset

No link between underlying asset type and costs

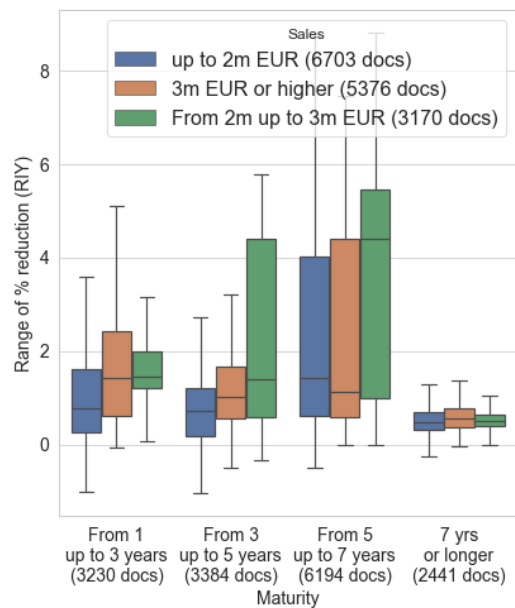


Note: Each bar above displays the range in median percent total cost across PRIIPs in the data sample, grouped by underlying asset types and maturities. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that underlying asset type. "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.98

Range in total costs for PRIIPs by sales and maturities

No apparent economies of scale



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') illustrate the 10th and 90th percentiles for that sales volume and maturity group.

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

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Annexes

Regulatory developments

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

UCITS¹⁰⁴

Related to the distribution of investment funds intra-EU across Member is the Directive¹⁰⁵ and Regulation¹⁰⁶ 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, while the new Regulation has been effective since 1 August 2019. The list with the main amendments to the UCITS can be found in the 2020 ESMA ASR¹⁰⁷.

Pursuant to Art. 5 of the Directive, the Commission will assess the merit of implementing the concept of “pre-marketing” for UCITS by 2 August 2023. The list with the main changes following the new Regulation¹⁰⁸ is in the 2020 ESMA ASR¹⁰⁹:

Moreover, ESMA launched a consultation on guidelines on marketing communications under the Regulation on facilitating cross-border distribution of collective investment undertakings.¹¹⁰

To note is also the extension of the deadline for UCITS to provide PRIIPs-KIDs to 31 December 2021 from 31 December 2019.¹¹¹

Focus has also been devoted to performance fees, within the aim of ensuring supervisory convergence and avoid the risk of regulatory arbitrage and concerns to investor protection

Against this background, in April 2020, ESMA published guidelines on performance fees for UCITS and certain types of AIFs.¹¹² The guidelines identify common criteria aimed to promote supervisory convergence on the following:

- Design of performance fee models by fund managers, including the assessment of the consistency between the model and the fund's investment objective, policy and strategy, particularly when the fund is managed in reference to a benchmark.
- Disclosure requirements across the EU.

In November 2020 ESMA published its third annual report on the sanctions issued under the UCITS Directive (pursuant to art.99e of the UCITS Directive) from 1 January 2019 to 31 December 2019.¹¹³ The data gathered under the sanction reports published so far shows that the sanctioning powers are not equally used among NCAs and, except for certain NCAs, the number and amount of sanctions issued at national level seems relatively low.

In 2021, ESMA will launch a Common Supervisory Action (CSA) on the supervision of costs, with a view of further enhancing

¹⁰⁴ 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).

¹⁰⁵ 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.

¹⁰⁶ 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.

¹⁰⁷ ESMA, 2020, “Performance and Costs of Retail Investment Products in the EU”.

¹⁰⁸ 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.

¹⁰⁹ ESMA, 2020, “Performance and Costs of Retail Investment Products in the EU”.

¹¹⁰ ESMA, November 2020, ESMA Consultation on guidance of funds' marketing communication.

¹¹¹ Refer to art.32 of the latest consolidated version at 01 August 2019 of Regulation (EU) 1286/2014 of the European Parliament and of the Council of 26 November 2014 on PRIIPs KID.

¹¹² ESMA, 3 April 2020, Guidelines on performance fees in UCITS and certain types of AIFs.

¹¹³ ESMA, November 2020, Report - Penalties and measures imposed under the UCITS Directive in 2019.

supervisory convergence in this area.

The topic of costs and fees was also identified as one of the specific topics where NCAs will undertake supervisory action in 2021 as a Union Strategic Supervisory Priority.¹¹⁴

AIFMD¹¹⁵

The Directive and Regulation on cross-border marketing of collective investment undertakings mentioned above introduce amendments to the regulatory framework applicable to cross-border marketing of AIFs, including European Social Entrepreneurship Funds (EuSEFs) and the European venture Capital Fund (EuVECA).¹¹⁶ The list with the main amendments to the AIFMD can be found in the 2020 ESMA ASR¹¹⁷.

AIFMD has so far contributed to the creation of the EU AIF market, provided investor protection and facilitated monitoring of risks to financial stability. A number of areas has been however identified that could be further improved. Against this background, a review of the AIFMD is under way and in October 2020, the European Commission has launched a consultation looking for the views of stakeholders on how to achieve a more effective and efficient functioning of the EU AIF market.¹¹⁸

Moreover, in November 2020, ESMA published its first annual report on the use of sanctions under the AIFMD.¹¹⁹ Key findings show that a reduced number of NCAs are responsible for a majority of sanctions, and in general the numbers on a national level appear relatively low.

PRIIPs¹²⁰

Since 1 January 2018, intermediaries distributing investment products to retail investors are required by the PRIIPs Regulation to provide them with a key information document (KID). All the funds currently using a UCITS key investor information document (KIID) benefit from an exemption until 31 December 2021 and do not need to produce a PRIIPs KID.

Focusing on SRPs, under PRIIPs, cost estimates are required to be published in KIDs. Some NCAs have pre-notification requirements, which may facilitate construction of datasets on issuer-estimated costs in those countries. One issue to bear in mind in such cases is that these data depend on the methodology and pricing models used. To some extent this concern is addressed by the fact the PRIIPs regulatory technical standards (RTS) aims at mitigating the concern related to heterogeneity of methodologies and pricing models by harmonising the way costs should be measured.

In relation to this, on 3 February 2021, the ESAs submitted the draft RTS on amendments to the PRIIPs KID to the European Commission.¹²¹ National competent authorities at EIOPA's Board supported the proposal based on the further details provided by the European Commission on their approach to the broader review of PRIIPs Regulation, namely that the review will thoroughly examine the application of the PRIIPs framework.

MiFID II¹²²

On 3 January 2018, MiFID II/MiFIR entered into application aiming at strengthening investor protection and making financial markets more efficient, resilient and transparent. In MiFID II, the main provisions relevant to costs are the rules

¹¹⁴ See <https://www.esma.europa.eu/press-news/esma-news/esma-identifies-costs-and-performance-and-data-quality-new-union-strategic>

¹¹⁵ 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.

¹¹⁶ Articles 15 and 16 of the Regulation duplicate the amendments to the AIFMD into the EuSEF and EuVECA Regulations.

¹¹⁷ ESMA, 2020, "Performance and Costs of Retail Investment Products in the EU".

¹¹⁸ European Commission, October 2020, Consultation document: Public consultation on the review of the alternative investment fund managers directive (AIFMD).

¹¹⁹ ESMA, November 2020, Report - Penalties and measures imposed under the AIFMD Directive in 2018-2019.

¹²⁰ Regulation (EU) 1286/2014 of the European Parliament and of the Council of 26 November 2014 on PRIIPs KID.

¹²¹ <https://www.esma.europa.eu/press-news/esma-news/eiopa%E2%80%99s-board-supervisors-agrees-changes-priips-key-information-document>

¹²² 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.

related to the disclosure of costs and charges to investors, suitability and product governance.¹²³

More recent steps involve ESMA work focusing on costs and charges. In March 2020, ESMA published a technical advice on the impact of inducements and costs and charges disclosure requirements.¹²⁴ ESMA highlights the key importance of the topic of inducements for investor protection and ESMA advises the European Commission to conduct a fundamental analysis of the impact of the MiFID II inducements regime on the distribution of investment products in the EU, in which the experience of countries that have banned the use of inducements should be carefully considered. It also proposes some changes to the regime mainly aimed at improving the clients' understanding of inducements.

On the disclosure of costs and charges, ESMA recommends the Commission to allow for more flexibility of the regime with respect to eligible counterparties and professional clients. For retail clients, ESMA concludes that the existing regime

has proven to be effective and proposes some amendments, for example relating to the presentation of ex-post disclosures.

In July 2020, ESMA has published two final Reports reviewing key provisions of the MiFID II/MiFIR transparency regime. The reports highlighted the existing limitations to transparency and therefore the aim of ESMA's recommendations to simplify the transparency regime and increase transparency available to market participants.

On 24 July 2020, the Commission published its Capital Markets Recovery Package¹²⁵, in which it proposes targeted amendments to EU capital market rules aimed at making it easier for European economies to recover from the COVID-19 crisis. On the disclosure of costs and charges, it proposes to exempt eligible counterparties from the requirements, as well as professional clients when providing other services than investment advice and portfolio management.

¹²³ For details see ESMA, 2020, "Performance and Costs of Retail Investment Products in the EU".

¹²⁴ ESMA, March 2020, Final Report - ESMA's Technical Advice to the Commission on the impact of the

inducements and costs and charges disclosure requirements under MiFID II

¹²⁵ For details see the Commission's webpage 'Coronavirus response: How the Capital Markets Union can support Europe's recovery | European Commission (europa.eu).'

Inflation impact

Following the mandate we received from the European Commission,¹²⁶ this annex reports net real performance for UCITS, taking the costs of inflation into account. The separation from the main analysis takes into account two main caveats:

- Inflation is exogenous for fund managers.
- Inflation is related to the fund domicile and not to the investor domicile. This has notable implications when we move from the EU aggregate to the national level. When we consider cross-border funds, the inflation taken into account only refers to the domicile of the fund and not to the domicile of the investor.

Asset class at the EU aggregate level

Inflation data is sourced from Eurostat.¹²⁷ The current edition focuses on the main asset classes on which retail investment is concentrated, namely equity, bond and mixed funds and it also considers the impact of inflation to the year-on-year analysis.

As an external cost, inflation acts similarly across asset classes and assumes the largest share over total costs. On average, across asset classes and investment horizons, inflation accounts for more than 50% of total costs with ongoing costs reducing to 40% of total. Inflation impact, however, significantly changes as gross annual performance changes. On average, for the reporting period 2010-2019, across asset classes the highest level of inflation was registered at one-year horizon with 1.8% while the lowest at seven-year horizon around 1.2%. Differences can be seen across asset classes.

For equity, with 1.3%, the cost of inflation was the lowest at the seven-year horizon and the highest, 1.9%, at the one-year horizon. This implied a reduction of net annual performance to 6.9% and

7.2% respectively at seven- and one-year horizons. Even if inflation costs were higher at the one- than the seven-year horizon, the final net performance for investors was higher in the first case given the slightly higher gross performance (10.7% over one year and 10% over seven years). Moreover, an additional reason is related to the reduction of ongoing costs and one-off fees over the most recent horizon compared to longer horizons. (ASR-PC.99). For the year-on-year analysis, the impact of inflation was the strongest in 2019 (+1.9%) and the lowest in 2016, where it was just 0.3% (ASR-PC.100).¹²⁸

For UCITS primarily investing in bonds, the impact of inflation followed the developments observed for equity UCITS. Over the reporting period 2010-2019, the cost of inflation was the lowest at the seven-year horizon (1.2%) and the highest (1.8%) at the one-year horizon. Moreover, across all horizons, inflation was consistently higher than ongoing costs, especially at one-year. The inclusion of inflation leads to net annual performance for bond UCITS ranging from 0.1% at three-year to 3.5% at one-year (ASR-PC.101). Also, in the case of bond UCITS, year-on-year, the impact of inflation was the strongest (1.8%) in 2019 while being only 0.3% in 2016 (ASR-PC.102).

Taking inflation into account, mixed UCITS mirrored what was previously observed for equity and bond UCITS. Inflation cost was the lowest at the seven-year horizon (1.3%) and the highest at the one-year horizon (1.9%). In turn net real annual performance was the highest at ten-year horizon, 2.9%, and lowest at three-year, 0.7% (ASR-PC.103). On a year-on-year basis, similarly to what observed for equity and bond UCITS, the cost of inflation was the strongest in 2019, 1.9%, and the weakest in 2016, 0.2% (ASR-PC.104).

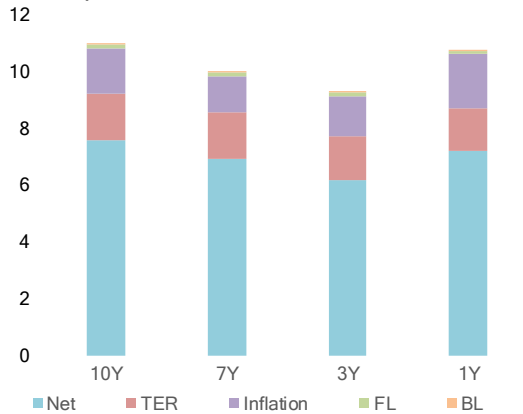
¹²⁶ European Commission, October 2017, "Request to the European Supervisory Authorities to report on the cost and past performance of the main categories of retail investment insurance and pension products."

¹²⁷ The analysis refers to the annual rate of change of the Harmonised Index of Consumer Prices (HICP) reported at a monthly frequency.

¹²⁸ A point worth mentioning, during the reporting period (2010 to 2019) there are the years 2015 and 2016 where inflation was negative.

ASR-PC.99

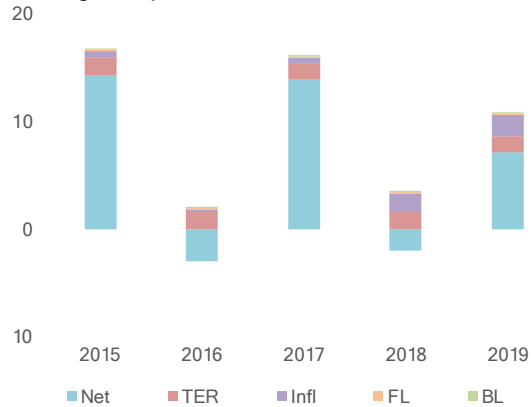
Equity UCITS real performance and costs by horizon
Net real performance the lowest at 3Y



Note: EU UCITS equity fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees, aggregated by time horizon, %.
 Sources: Refinitiv Lipper, ESMA.

ASR-PC.100

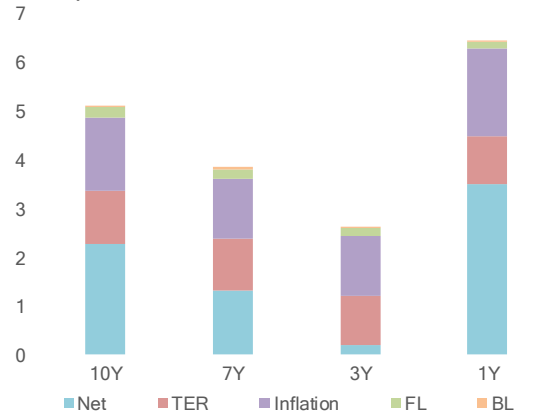
Equity UCITS real performance and costs year-on-year
Stronger impact of inflation in 2018 and 2019



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

ASR-PC.101

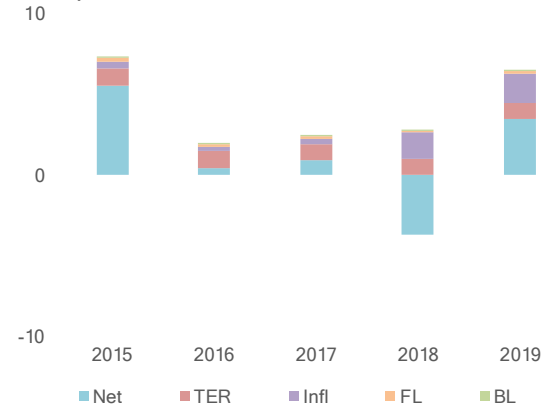
Bond UCITS real performance and costs by horizon
Weak performance at 3Y horizon



Note: EU UCITS bond fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees, aggregated by time horizon, %.
 Sources: Refinitiv Lipper, ESMA.

ASR-PC.102

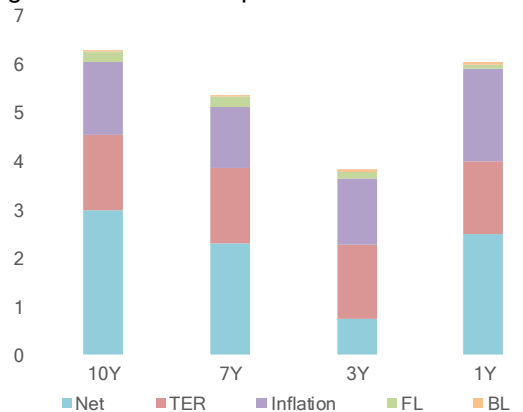
Bond UCITS real performance and costs year-on-year
Poor performance in 2018



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

ASR-PC.103

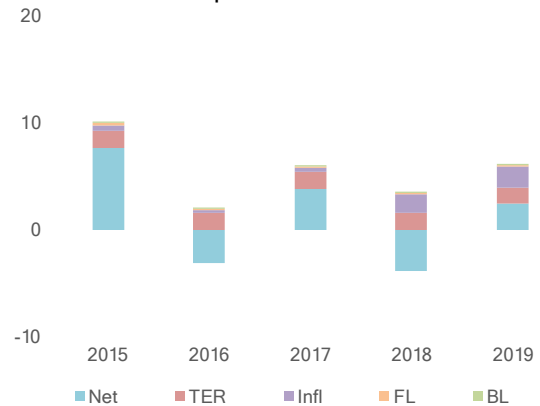
Mixed UCITS real performance and costs by horizon
Significant inflation impact across horizons



Note: EU UCITS mixed fund shares annual gross returns, retail investors, classified as net returns, ongoing costs (TER), inflation, subscription (FL) and redemption fees, aggregated by time horizon, %.
 Sources: Refinitiv Lipper, ESMA.

ASR-PC.104

Mixed UCITS real performance and costs year-on-year
Lowest inflation impact in 2016



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

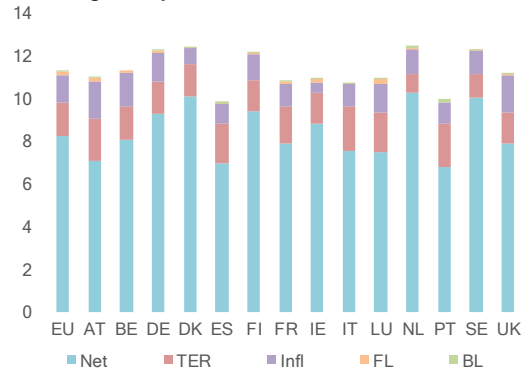
Fund domicile

As already shown in previous editions, over the reporting period 2010-2019, inflation has been a significant drain for gross annual performance, with similar heterogeneous dynamics per asset

class across Member States. For equity, for example, UCITS inflation ranged from 0.3% in Ireland and 1.7% in Austria both at three- and seven-year horizons (ASR-PC.105, ASR-PC.106)

ASR-PC.105

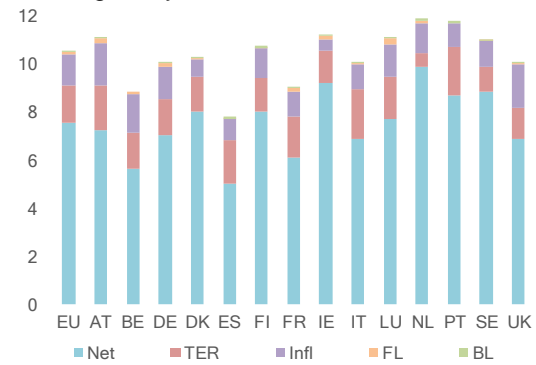
Equity UCITS real performance by domicile 7Y
Heterogeneity across countries



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.106

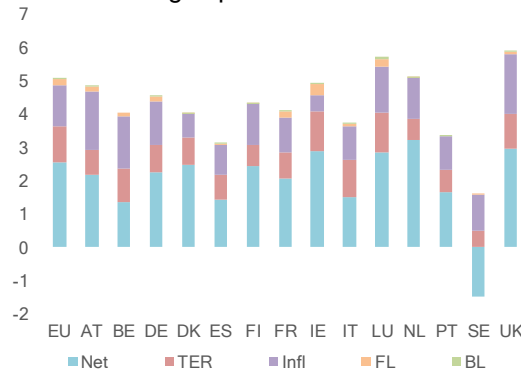
Equity UCITS real performance by domicile 3Y
Heterogeneity across countries



Note: EU UCITS equity funds annual gross performance, classified as net performance, going costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.107

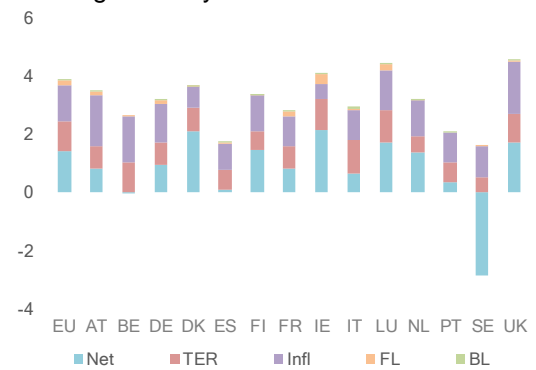
Bond UCITS real performance by domicile 7Y
Inflation strong impact



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.108

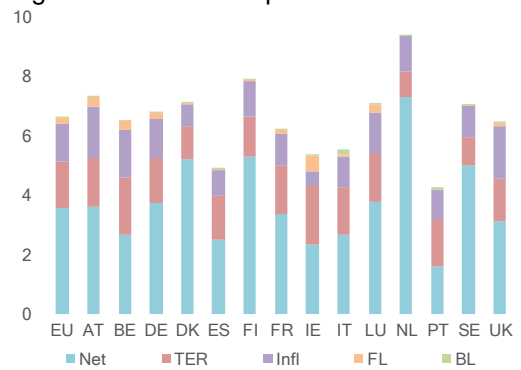
Bond UCITS real performance by domicile 3Y
Heterogenous dynamics across countries



Note: EU UCITS bond funds annual gross performance, classified as net performance, going costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.109

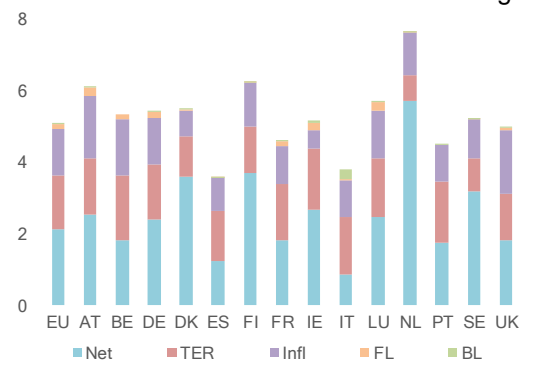
Mixed UCITS real performance by domicile 7Y
Significant inflation impact



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC.110

Mixed UCITS real performance by domicile 3Y
Share of inflation costs over total costs high



Note: EU UCITS mixed funds annual gross performance, classified as net performance, going costs (TER), inflation (Infl), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ETF UCITS

The developments observed for ETFs go along those of non-ETFs. According to the changes in inflation, if higher or lower, impact of inflation on total costs is either significantly strong, such as in 2014 and 2015, or negligible, such as in 2016 (ASR-PC.111). It should be noted that the behaviour between UCITS ETFs and UCITS non-ETFs may differ, possibly in relation to how inflation unfolds within those domiciles reported and which can diverge in the two samples. EU ETFs focus on mostly on equity and, to a lesser extent, on bonds. The analysis, therefore, focuses on these two asset classes. Inflation costs significantly reduced net annual performance for both assets.

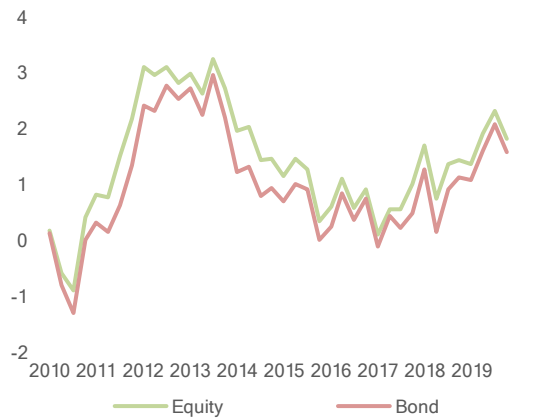
For equity UCITS at one-year, when gross annual performance was the highest (11.6%), also net performance remained high (10.2%). The lower reduction in net performance in real terms with respect to other horizons is related both to a lower impact of inflation and lower ongoing costs. The impact of inflation and ongoing costs was higher at the ten-year horizon. Net real annual performance reached 9%, from a gross annual

performance at around 11% (ASR-PC.113).

For UCITS ETFs primarily investing in bonds, we can see similar dynamics for what observed for equity. Inflation was the highest at the longest horizon, 1.1% at ten-year, and the lowest at seven-year (0.5%). It slightly increased at the three- and one-year horizons, respectively 0.7% and 0.6%. Net real annual performance reflects the developments of gross performance. The highest net annual real performance (5.9%) was observed for the best performing horizon, one-year. Conversely, the lowest net annual performance was recorded over the three-year horizon, equal to 1.4% (ASR-PC.114).

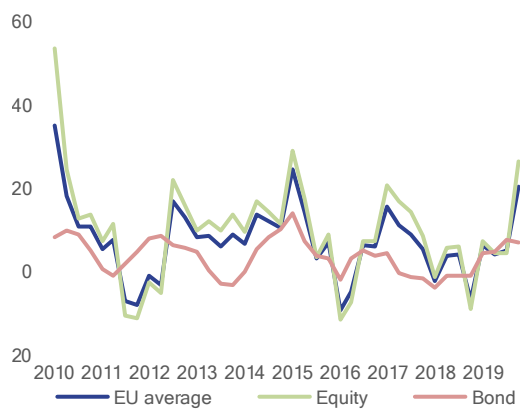
Since equity UCITS ETFs were 70% of the total EU market share at the end of 2019, the country-by-country analysis – four domiciles are considered – focuses only on equity. Charts ASR-PC.115 reports results. The information provided, however, should be critically evaluated for all the reasons previously mentioned, including the fact that inflation should be evaluated in the countries where funds are marketed rather than domiciled.

ASR-PC.111
UCITS ETFs trend of total costs including inflation
Costs significantly higher when inflation included



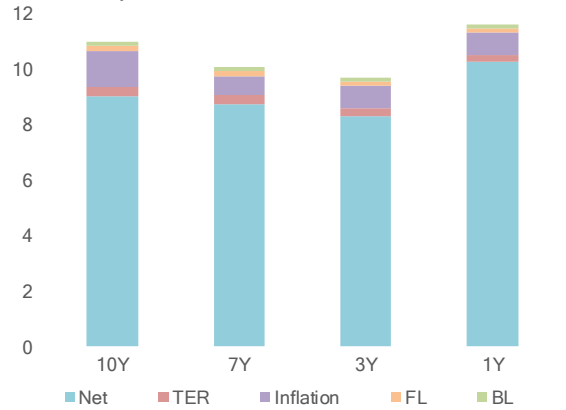
Note: EU UCITS ETFs universe, equity and bond UCITS ETFs, impact of ongoing costs, inflation, subscription and redemption fees on gross return, %.
Sources: Refinitiv Lipper, ESMA

ASR-PC.112
UCITS ETFs trend real net performance
Stronger impact of inflation in 2018 and 2019



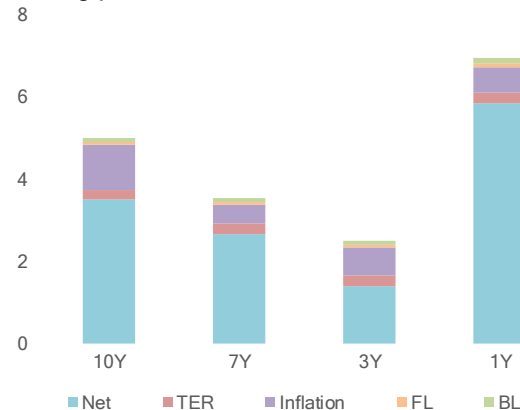
Note: EU UCITS ETFs universe, annual real net performance by asset class, % Other includes Mixed, Alternative and MoneyMarket strategies.
Sources: Refinitiv Lipper, ESMA

ASR-PC.113
Equity UCITS ETFs real performance by horizon
Weakest performance at 3Y horizon



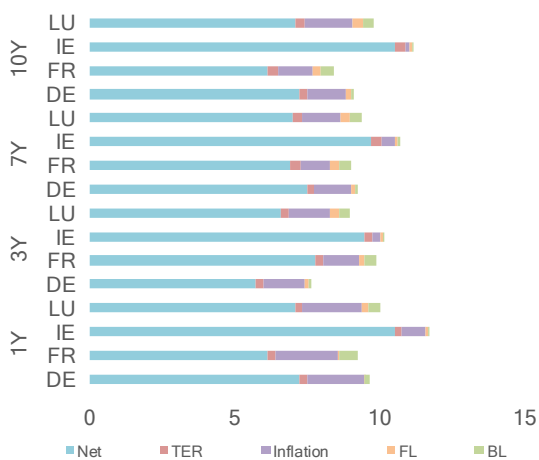
Note: EU UCITS ETFs equity fund shares annual gross returns, classified as net returns, ongoing costs, subscription (FL) and redemption (BL) fees, aggregated by time horizon, in %.
Sources: Refinitiv Lipper, ESMA

ASR-PC.114
Bond UCITS ETFs real performance by horizon
Strong performance at 1Y



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

ASR-PC.115
Equity UCITS real performance by domicile
Heterogeneity



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

Data and data 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, a comprehensive coverage by regulatory data does not exist, nor commercially available data provide a level of granularity and accuracy required for the purposes of our reporting.

This annex reports on the following:

- 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 most recent years and currently do not cover the complete time horizon as requested by the European Commission. Data coming from the UCITS Directive and PRIIPs are not yet available and usable at an EU level.

This has three main implications:

- Use of information based on the domicile of the fund.
- 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 compared to 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 that has a significant impact if a fund is sold cross-border. Therefore, we are unable to capture the so-called “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 Luxembourg or Ireland). This situation is relevant for a number of Member States, such as Italy.¹²⁹ 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, as in the case of mixed funds in 2019, because of absence of information. This, in turns may skew the final results towards higher or lower values. This is the case, for example, respectively for bond and mixed UCITS in 2019. Moreover, in few cases, the categorisation of the asset class an UCITS focuses on in the data obtained from the commercial data provider may be different from that of the national jurisdiction leading to potential differences in final results.¹³⁰

Ongoing costs and entry and exit fees

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

Ongoing costs – 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 cost charged by funds in which UCITS invest) and that contributes to explain the high variability of costs across countries.

¹²⁹ In Italy, according to a study from Assogestioni, even if the number has declined over recent years, more than the 30% of open-end funds are identified as round-trip funds.

¹³⁰ Chen, H., Cohen, L. and Gurun, U., 2019, “Don’t take their word for it: The misclassification of bond mutual funds”, Working Paper NBER.

Compared to last year, in this current report we developed an analysis based on few more data available at a more disaggregated level: management fees on 2018 and 2019 and transaction fees for 2019. The source is Morningstar Direct. These fees stem from the reporting related to MiFID II requirements¹³¹ 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 still ongoing. Therefore, extreme variability maybe visible and results across domiciles should be critically valued.

Entry and exit fees – 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.¹³² This means that the UCITS KIIDs will report them. These statements, however, are either not accessible, as the identification as being an investor required, or not reported in a harmonised format (e.g. layout or languages, etc.).

For UCITS ETFs as well, Refinitiv Lipper reports entry and exit fees at their maximum level for each share class. We include this information in the analysis. However, these fees only apply when investors subscribe or redeem shares on the primary market, while 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 neither in Refinitiv Lipper nor Morningstar Direct adequately filled 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.¹³³

Distribution fees

Distribution costs are a crucial component impacting 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, across channels but also, for the same channel, across investors. Lack of harmonisation characterises the level of granularity, data formats as well as language. Distribution costs may be part of the analysis to the extent 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.

The ESMA previous reports in 2019 and 2020¹³⁴ highlight the lack of transparency and the heterogeneity across EU Member States. From a regulatory perspective, the Directive 2019/1160¹³⁵ 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 to NCAs in August 2020.¹³⁶ 18 NCAs replied. Not all the participants were able to provide replies to all the questions and for all the three products within scope, namely UCITS, Retail AIFs and SRPs. As for previous years, the key finding remains the lack of harmonisation in distribution channels and cost

¹³¹ Commission Delegated Regulation (EU) 2015/565, Annex 2.

¹³² Articles 10 and 11, Commission Regulation No 583/2010.

¹³³ For more details on regulatory developments please refer to the related Annex, Regulatory developments, in this report.

¹³⁴ ESMA, 2019 and 2020, "Annual Statistical Report Performance and costs of retail investment products in the EU".

¹³⁵ 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.

¹³⁶ In 2018 and 2019, two ESMA survey were addressed to National Competent Authorities aiming to obtain additional information on management and distribution fees. The current survey is in line with these.

treatment. Full details and information are in the last section of this annex.

Taxonomy of costs: EU regulation and commercial data

There are differences in the definitions on costs used by Refinitiv Lipper and by current EU Regulation: UCITS Directive and Delegated Acts, MiFID II and 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 shall provide information also on cost and charges. Details of the content and format shall 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). Art.10 Section 3 of the Commission Regulation No 583/2010 defines the charges and their presentation.

For ongoing costs (art.10, 2(b)), a single figure shall 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 on 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 on the types of ongoing charges. As from 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), 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 is 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 include but are not limited to: entry/exit charges; a performance-related fee payable to the management company or investor advisor; transaction costs; interest on borrowing; payments to third parties [...].

PRIIPs: Details are referred to the Commission delegated regulation (EU) 2017/653.

Annex VI refers to the methodology for the calculation of costs. Part I, refers to the list of costs, one-off fees, recurring costs, 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; transaction costs. Annex VI fully harmonises the 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, CESR guidelines previously reported (see above), these are in line with PRIIPs.

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

Art.1 of MiFID II sets out the scope: “The MIFID II Directive applies to investment firms, market operators, data reporting service 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.

Art. 24(4 and 5) of MiFID II refer to costs and charges to be reported and how to report them. Art. 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. Art. 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 OC and is used as a proxy for ongoing costs.

More details can be found in the paper titled “Adjusted Performance Lipper Calculation Definition Methodology Research Team” from Refinitiv Lipper.

Entry and exit charges

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

Art. 11(1)(a) follows by clarifying that:

- regarding entry and exit charges, it shall be made clear that the charges are always maximum figures, as in some cases the investor might pay less.
- a statement shall 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 for one-off costs. A one-off cost is an entry or exit cost which 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 shall 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 shall be shown; constitution costs (up-front part); marketing costs (up-front part); subscription fee including taxes.

MIFID II: Annex II of Reg. 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 of institutions report the maximum fees, as required by regulation, these are the fees available.

Performance fees

UCITS KIID: Art. 12(3) of the Regulation No 583/2010 foresees the inclusion of a performance fee to be disclosed in accordance with art 10(2) (c) of the same regulation. The amount charged during the UCITS last financial year shall be included as a percentage figure. Details on the presentation of charges are reported in Annex II.

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

CESR guidelines: In the guidelines (page 5) 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”.

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

Commercial data: Performance fees not included in the TER.

UCITS ESG

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

ESG ratings also come from Morningstar but are not available for all funds. For a fund to receive a ‘portfolio sustainability score’, 67% or more of its assets must have an ESG rating (see Statistical methods for a description of the methodology used by Morningstar for the calculation of ESG ratings). Company-level ESG ratings are from Sustainalytics, which are ‘designed to help investors identify and understand financially material ESG-related risks within their investment

portfolio and how they might affect long-term investment performance’.

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 impacted on the type of studies previously developed as well as on the current study focusing 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 on gross and net performances and not on the full universe. This is however an improvement compared to 2019 and 2020 ESMA report, since we were able to conduct an analysis also on net returns. Since, in the AIFMD, the 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. PRIIPs has been applicable only since 1 January 2018, KIDs-based data would not cover products issued before this date. Moreover, data on the costs faced by investors are not generally available, for most EU Member States, even if, under PRIIPs, 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, though 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 payoffs.

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 payoffs 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 by 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 using a financial model for those that are not traded. This approach, used by e.g. Szymanowska et al. (2008), 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. Additionally, decisions should be taken with respect to the model that will be used and the inputs. These decisions, as for example 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 Bouveret et al. (2013).

Distribution: 2020 survey

The 2020 survey distinguishes among the three retail products within the scope of this report: UCITS, Retail AIFs, SRPs. Eighteen NCAs replied. Not all the participants were able to provide replies to all the questions and for all the three products.

Distribution channels

In terms of distribution channels, most of the countries identify banking institutions as the main distributor across the three products. For UCITS, most respondents report banks as accounting for more than 50% among distribution channels. Three countries (Denmark, Greece and Spain) indicate the banking channel as covering the 90% of the distribution. In Lithuania, instead, brokerage firms/trading platforms come out as almost the sole distribution channel. Regarding other distribution channels, there is heterogeneity across jurisdictions. In some, insurance service providers but also Independent Financial Advisors (IFAs), as in Ireland, prevail. In some others, the market appeared to be mostly covered by insurance service providers (France, Finland, Slovakia). In Belgium, units of Belgian UCITS are reported as being mainly marketed to Belgian investors by credit institutions and investment firms. However, they could also be marketed by insurance service providers or directly by management companies or self-managed UCITS. Interesting is the Maltese case. From the survey, in Malta, around the 63% of the market seems to be taken by IFAs with the rest mostly divided in Brokerage firms/trading platforms (13%) and asset managers (14%) as distributors. This last case merits some attention given the role of marketing companies. A marketing company as such may fall outside the scope of a distributing firm. It can be defined as a

firm that offers, recommends or sells an investment product and service to a client. The marketing costs can ultimately be indirect costs to distribution, as the marketing material will be used to attract clients with the aim of selling the units in the respective UCITS. In Malta the 8% of the market share of asset managers refers to marketing companies.

For what concerns retail AIFs, in Ireland more than half of the distribution is accounted for by asset managers, In Greece and Lithuania asset managers account for more than the 90% of distribution channels. In Belgium, as in the case of UCITS, there is a difference between distribution channels for retail investors (mostly credit institutions, insurance service providers belonging to the same financial group as the asset manager) and professional investors relying mostly on the management company (Manco).

For SRPs, the number of countries for which we have information is scarcer than before (six). Of these, two (Greece and Spain) report credit institutions as covering more than 90% of distribution channels. Belgium follows with credit institutions covering the 50%. In Portugal, several channels are indicated, such as credit institutions, insurance service providers and brokerage firms. Ireland mentioned that for the end of 2019 there were 11 out of 37 firms selling structured products also covering retail clients. A lot of Irish MiFID SRPs are distributed by Retail Intermediaries (RIs), with the MiFID firm acting as manufacturer. However, detailed figures are not available.

Levels and treatment of distribution costs

In terms of the share that distribution costs have with respect to total costs, the key finding is again the significant heterogeneity that is largely due both to differences in the main distribution channel but also in the regulatory treatment of costs. This corroborates the conclusion that a direct comparison across MS may be complicated and subject to significant limitations.

The number of detailed replies received is lower, only thirteen. The results are similar across channels and between UCITS or Retail AIFs. Regarding UCITS, in almost half of the cases (Finland, Hungary, Italy, Portugal Spain) when the distributor is a credit institution, distribution costs account for more than 50% of total costs. In Italy and Spain this is the case also for brokerage firms and asset managers. Similar is the case of Lithuania for brokerage firms. For the rest of the

respondents the share of distribution costs over total is more even. In Malta, for example, the share of distribution costs goes from 12% for credit institutions to 29% for brokerage firms. For retail AIFs, things change. In the case of credit institutions, distribution costs account for the 37% of total costs.

A significant driver of the lack of homogeneity lies in the treatment of distribution costs. For example, in France¹³⁷ distribution costs associated to the distribution of UCITS and UCITS-like AIFs are generally embedded in the management fees and retroceded to distributors in accordance with the distribution agreements executed between asset managers on behalf of their funds and distributors. Retrocession rates generally equal 50% of the management fees. In terms of entry costs, when they are not paid to the fund, these can be levied up to the maximum distribution fees disclosed in the prospectus at the discretion of the distributors. In order to ensure transparency and correctness of information provided to investors, the French AMF launches thematic supervision campaigns, on an on-going basis, including topics related to costs and charges. One of such investigation resulted into financial penalties levied against a Manco due to the lack of transparency of its retrocession agreement with a distributor.

In Hungary, distribution costs can be paid through the management fee or directly through the subscription and redemption fee paid by the customer to the investment service provider or banking institution. This is also the case for Slovakia and Austria. In the latter, there are specific supervisory requirements in case the fee goes beyond a given threshold. Similarly, to the above, it is common for Irish domiciled investment funds, and Mancos, to pay a single annual management fee that combines both the investment management fee and the fees paid to the distributor. In other cases, investors may pay an upfront subscription charge. In this case it may be that the charge will be paid directly to a distributor.

In Italy, the Bank of Italy and CONSOB regulate and supervise fund costs and charges. The Bank of Italy regulation on Collective Asset Management (Regulation) indicates which costs may be charged to retail open ended funds (both UCITS and AIFs) and directly to investors.

However, it does not specifically regulate distributions cost. For what concerns costs directly charged to investors, distribution is generally remunerated through subscription or redemption fees. Investors cannot be charged with both. With reference to costs charged to funds, within a closed list of admissible costs, no separated distribution fee can be charged to the fund. The amount that the Manco pays to distributors is taken from its income. In turn, the management fee is meant to cover all the ordinary different types of remuneration for the Manco, in such a way that investors see a single figure easily comparable across funds. CONSOB supervises, among other things, distribution fees in the context of supervision of the prospectus. As far as disclosures are concerned, CONSOB focuses on the description of costs in the prospectus and in the UCITS KIID, verifying consistency with the costs defined in the fund's Regulation and that the costs' presentation in the prospectus and UCITS KIID turns out be clear and complete

In Luxembourg, the fee payable to the distributor is a priori the entry fee reproduced in the UCITS KIID. The variability of the distribution fees is limited by providing a ceiling for an entry fee. The distribution fee (in the sense of a trailer fee for example), could be provided for and paid on a regular basis, which would then be included in the list of "other fees" likely to be paid by the fund. The fund may also have to pay distribution fees, through the Manco. In this case, the distribution fees as such are usually included in the management fees paid by the fund to the Manco. In terms of supervisory approach, it is highlighted that there are no requirements, neither under EU nor under Luxembourg legislation, to specifically disclose detailed information regarding the compensation for distributors. Therefore, the disclosure is usually on global costs and detailed on a voluntary basis. While there are no explicit limits stated in Luxembourg laws and regulations relative to costs and charges, Manco shall act in such a way as to prevent undue costs being charged to a UCITS and its unitholders, as part of their duty to act in the best interest of such UCITS and their unitholders.

For Portugal, distribution costs come normally from subscription, redemption and transfer fees

¹³⁷ Market analysis conducted by the AMF supervision team in early 2020.

and need to be clearly identified in the prospectus and UCITS KIID.

In Spain, generally, distribution costs are paid via inducements, as a percentage of the management fee of the fund. Entry and exit fees are not usually applied. This is also the case for Slovenia. The Spanish CNMV carried out an analysis of inducements paid to banks as distributors of these products, for Spanish investment funds and funds managed by international fund managers (mainly European). The data obtained showed that the impact of distribution costs on total costs, for funds aimed at retail clients, ranged between 50-80% on average. Related to that, there is a specific national supervisory approach that involve the analysis of inducements paid and received by banks and by investment firms. Moreover, when supervising banking groups that include a Manco as a subsidiary, the supervisory focus is placed on analysing if a circumvention of the inducement regulation exists via vertical integration when distributing in-house products.

For SRPs the information on the impact of distribution costs over total costs is extremely scarce, with only Finland, Greece and Spain providing some information. In Finland distribution costs account for more than half of the total costs when the distribution channel is a credit institution. In Greece, SRPs are managed and distributed mainly by credit institutions directly to their clients and therefore there are no distribution costs related to SRPs. In Spain, distribution costs are embedded in the price paid by the retail investor (implicit costs). The difference between fair value and price at the date of emission will account for manufacturing and distribution costs. Therefore, in case the manufacturer and the distributor are different companies the manufacturer pays the distributor part of the costs embedded in the price of the instrument. There is no available information on the breakdown of the difference between fair value and price. In terms of supervisory action, there is a national rule that requires firms to include a warning in the information they provide to clients in case of significant implicit costs embedded in the price (when the fair value of the product differs significantly from the price).

MiFID II impact

Practices and fee structure may be impacted by the MiFID II implementation. The effects, however, may differ across jurisdictions both in terms of cost levels and disclosure obligations. Below are details on main approaches.¹³⁸

In Germany, more and more manufacturers started providing products without distribution fees structured into the product costs. This enables distributors to charge these fees directly to the client and avoid that the inducements regime would be applicable. Moreover, the aggregated costs and charges shall be totalled, and an itemised break down of these costs is only mandatory at the request of the client.

Differently in Austria, firms should ensure that clients are provided with a clear breakdown and aggregation of all relevant known costs associated with the purchase of the package and its component products (e.g., administration fees, transaction costs, etc.). Where costs cannot be calculated with precision the firm should provide an estimation based on reasonable assumptions. Moreover, in terms of inducements the majority of Austrian credit institutions and investment firms accept inducements from third parties. Only a few Austrian firms offer independent advice where no inducements may be accepted or retained. Customers are informed of the retained inducements prior to the transaction by way of the ex-ante cost disclosure and the periodic ex-post cost disclosure.

MiFID II has been fully transposed in France. Therefore, investment firms providing portfolio management or investment advice on an independent basis must pay for the research that they obtain, paying themselves or passing on that charge to their clients. There is no visible effect on the fee structure, given that the majority of advice is provided on a non-independent basis and thus still remunerated through inducements. Moreover, for portfolio management, asset managers have created specific share classes with management fees clean of distribution costs. At the end of 2019, the ten biggest French Mancos declared managing 493 funds offering such clean share classes.

In Italy, the distribution of retail investment products is typically based on the provision of

¹³⁸ MiFID II 2014/65/EU, Article 23(1), in Article 24(1), (7), (8) and (9) and in Article 27(2) and Chapter IV in Delegated Regulation 2017/593.

non-independent investment advice. There are regulated independent advisors that cannot receive any inducement from third parties. The application of MiFID II in practice results in inducements received by distributors mostly justified by the provision of non-independent investment advice combined with an offer to the client to assess the suitability of the financial instruments in which he has invested. As regards the ban introduced by MiFID II on inducements in relation to the provision of portfolio management, it should be noted that, already in MiFID I framework, Italian intermediaries did not usually receive rebates in relation to financial instruments in which they invested on behalf of their clients.

In Portugal, the transposition of MiFID into national regulation involved additional obligations and rules and it was complemented with two thematic reviews assessing the firms' compliance with MiFID II requirements and aiming at determining the effects of the inducement rules in terms of practices and fee structure of products.

In Malta and Spain following MiFID II regulation, portfolio management and independent advice services cannot be remunerated via inducements. If received, the total amount must be transferred to the client. The Spanish CNMV supervisory experience has shown that firms have adapted their business models to the new regulation and a significant increase in the provision of portfolio management and investment advice. Therefore, there has been a substantial increase in direct charges to clients for the provision of portfolio management service with no inducements. Some firms (mainly banks) opted for non-independent advice receiving inducements complying with the new. Moreover, firms disclose detailed information on inducements to clients on an ex-ante and ex-post basis.

Product offered

Differences across distribution channels also relate to the type of investment product offered: a

product managed internally within the same group of the distributors (in-house) or products where the manager is not affiliated in the group of the distributor (third-party).

For UCITS and Retail AIFs, apart from some cases, when the distributor is a credit institution, more than 50% of the products offered are in-house products (90% in the case of Slovakia). In Belgium, for UCITS, the 90% of products offered are in-house products if the distribution channel is an asset manager. Focus remaining on credit institutions, in France and Hungary, there is a more even split between the two types of products. Looking at other distribution channels, for investment funds, UCITS and Retail AIFs, in Belgium and France brokerage firms mostly offer third-party products. In Belgium this is the case also for IFAs. In Italy more than 50% of the products are third-party products when the distribution channels are IFAs, brokerage firms or asset managers. Malta is different as across distribution channels most of the products offered are third-party products (57% of the products across distribution channels). Breaking down by distribution channel, the 100% of products offered by credit institutions and insurance service providers is composed by third-party products; asset managers follow with 75% of products being third-party and then brokerage firms (60%) and IFAs (58%).

- For SRPs, the few countries that provided a reply indicate credit institutions providing almost exclusively in-house products (Spain and Greece) or with the share of in-house products offered equal or above 50% (Belgium and Finland). Looking at other distribution channels, 90% of products offered by brokerage firms in Spain are third-party products and more than 50% in Finland when the distributor is an insurance service provider of a brokerage firm.

Statistical methods

We have developed a specific methodology when calculating past performance and costs for funds to account for different aggregation, 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 are 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 Union law are not available for the entire reporting period.

We use the following data for our analysis¹³⁹:

- Gross annual performances.
- TER data as a proxy for ongoing costs.
- annual fund value as a proxy for net asset value.
- 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 to add cost categories overtime and to incorporate data from different data sources where this improves the analysis. This is reflected in this year's report that includes an analysis of management fees once data gathered from Morningstar Direct were merged with those obtained from Refinitiv Lipper.

We distinguish between the following:

- Gross performances.
- Ongoing costs.

- Performances 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.

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 (FL and 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} , are

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

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.

Information on net flows¹⁴⁰ is considered to take into account the fact that these fees are not applied constantly over time, but they depend on actual redemptions or subscriptions of investors. We weight these fees by the ratio of net flows

¹³⁹ The data are 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, jurisdictions in which the share class is marketed. For inflation, annual inflation rates at monthly

frequencies come from the ECB Statistical Data Warehouse.

¹⁴⁰ Please note that Refinitiv Lipper provides net flows and does not distinguish between inflows and outflows.

over FV across quarters limiting their impact.¹⁴¹ The weighting is structured in this way in order to account for potential variability in the holding period. Once more granular data on actual subscription and redemption fees is available a more accurate calculation will be possible in future reports.

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 a 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.

UCITS ESG: ESG ratings

Morningstar follows a three-step process for the calculation of fund ESG ratings.¹⁴² First, it calculates an asset-weighted average of the portfolio holdings' ESG scores. These portfolio sustainability scores range from 0 to 100, with 0 the highest market, reflecting 'negligible ESG risk'. To receive a rating, at least 67% of a portfolio's assets under management must have an ESG rating.

Second, Morningstar calculates a historical portfolio sustainability score, which is a weighted average of the 12-month trailing portfolio sustainability scores from the first step, with more recent portfolio scores weighted more heavily.

Third, funds are assigned a rating ranging from 1 to 5 globes relative to the fund's peers. The top 10% of funds within each global category (e.g. European small caps) receive 5 globes, the next 22.5% receive 4 globes, the next 35% 3 globes,

the next 22.5% 2 globes, and the bottom 10% 1 globe, provided that there are at least 30 portfolios that have a historical portfolio sustainability score within this global category. Portfolios with high historical ESG risk are upper-bounded and can never obtain 4 or 5 globes.

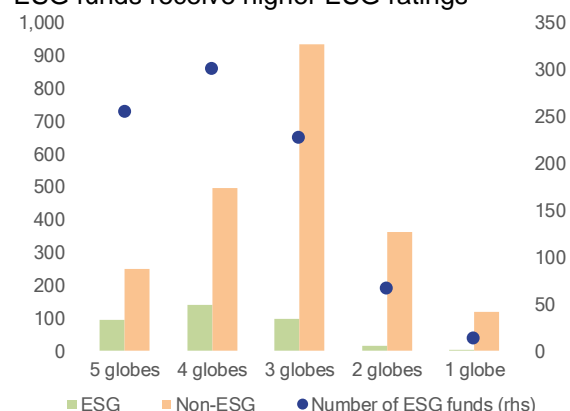
It is worth highlighting that fund ESG ratings are purely based on quantitative criteria and therefore do not take into account any qualitative aspects such as funds' engagement with investee companies. Moreover, fund ESG ratings are based on the ESG ratings of individual companies, which are widely perceived as inconsistent across ESG rating providers – therefore potential biases coming from company ratings cannot be entirely excluded.¹⁴³

The analysis used in the report is based on fund ESG ratings as at 4Q19. There were 6,271 EU UCITS equity funds with total AuM of EUR 2.5tn (i.e. around 86% of the total UCITS sample). Out of the total, ESG funds with a fund ESG rating amounted to EUR 355bn (i.e. 93% of the total AuM of ESG equity UCITS funds).

ASR-PC.116

ESG ratings

ESG funds receive higher ESG ratings



Note: EU-domiciled ESG and non-ESG equity UCITS fund AuM, including ETFs, by Morningstar sustainability rating, EUR bn, and number of ESG funds (right axis).

Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

EU equity UCITS funds are generally rated favourably: 32% of non-ESG funds received 4 or 5 globes, compared with 22% that received 1 or 2 globes. ESG funds tend to receive higher fund ESG ratings, with around two thirds awarded 4 or 5 globes (ASR-PC.116).

¹⁴¹ When the weights are negative, we only consider redemption otherwise only subscription fees. Weights are between 0 and 1. This could potentially imply an upward bias to smaller or newly created funds. We could also overestimate the impact as considering quarterly frequencies we could include subscription and

redemption fees at potentially at higher frequencies than those actually incurred by investors.

¹⁴² See Morningstar (2019), 'Sustainable rating: Methodology'.

¹⁴³ See for example Berg et al. (2019), 'Aggregate confusion: The divergence of ESG ratings.'

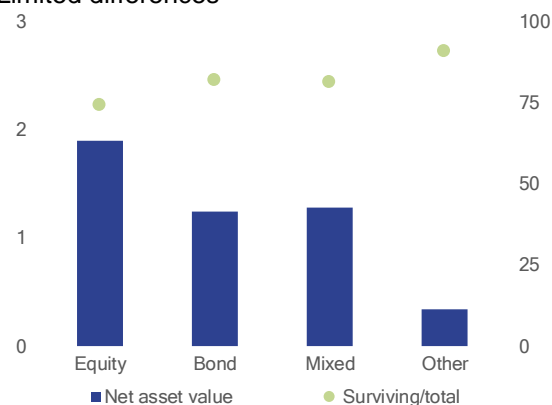
UCITS robustness checks

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 only of 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 end-2019. The overall sample of funds, surviving and non-surviving, stood at EUR 4.8tn, around 4% higher than the sample only focusing on surviving funds (ASR-PC.117). The largest difference it is the highest for funds primarily investing in equity. Surviving funds are 75% of surviving and non-surviving funds.

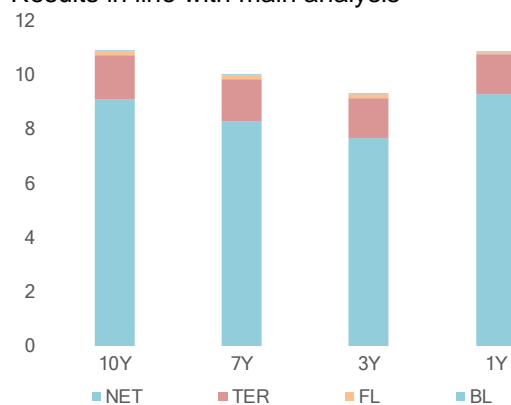
ASR-PC.117
Surviving and non-surviving funds for retail investors
Limited differences



Note: EU UCITS universe, in terms of fund value by asset class, surviving and non surviving funds, retail investors, 4Q19, EUR tn. Ratio only surviving funds over total funds by asset class on right-hand axis.
Sources: Refinitiv Lipper, ESMA.

However, this does not impact results in terms of performance and costs that remained at the same levels of the main analysis across time horizons and asset classes. As an example, focusing on equity, chart ASR-PC.118 shows how gross annual performance oscillated from a maximum of 11% at a ten-year horizon to a minimum of 9.3% at three-year horizon.

ASR-PC.118
Equity UCITS surviving and non-surviving performance
Results in line with main analysis



Note: EU 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 3Q10 to 2Q20
Sources: Refinitiv Lipper, ESMA.

Balanced and unbalanced panel

The long horizon that the report needs to cover, 2010-2019 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: if balanced or unbalanced. A balanced sample will include only funds having data over the entire time horizon. The number of fund shares remains constant in the sample (i.e. over the three-year horizon we only consider those funds present from the beginning to the end of the three years). An unbalanced sample includes all fund shares where data are available at some point during 2010 to 2019. The number of fund shares will therefore change over time. This may raise concerns on 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 three- and one-year horizons.

Focusing on the three largest retail asset classes, moving from an unbalanced to a balanced panel over the three-year horizon the number of fund shares reduced by more than 45%, from around 35% for the reporting period 2009-2018 (ASR-PC.119).¹⁴⁴ For equity and mixed funds, the unbalanced sample reports on average around 3,000 funds more than the balanced sample. In

¹⁴⁴ 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

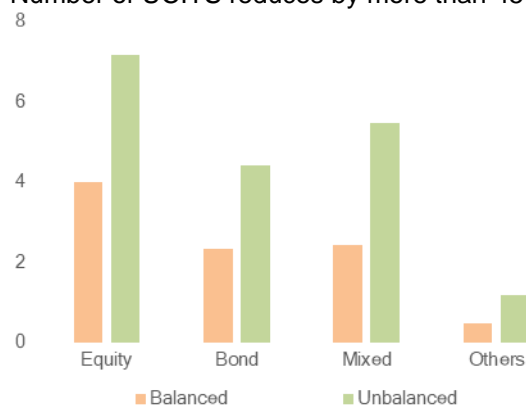
of the sample for alternative and money market UCITS, especially at longer time horizons, does not provide significant results.

the case of bonds this difference was about 2,000 funds.

ASR-PC.119

Number of funds per asset class 3Y horizon

Number of UCITS reduces by more than 45%



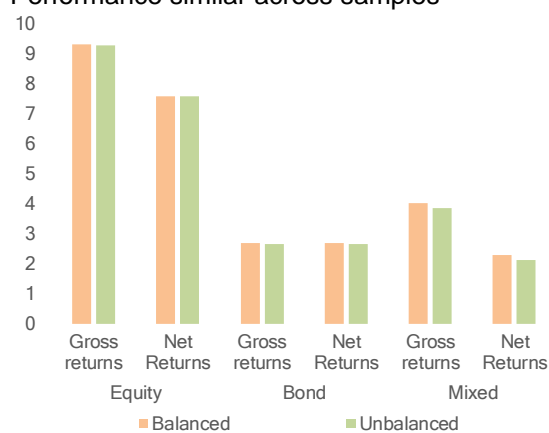
Note: EU UCITS universe, number of funds per asset class, balanced and unbalanced samples. 3Y horizon, thousands. Others include alternative strategies and money market.
Sources: Refinitiv Lipper, ESMA.

In terms of gross and net performances, the difference was negligible when we considered the two different samples, for equity and bonds, and very limited for mixed funds (ASR-PC.120).

ASR-PC.120

Performance per asset class 3Y horizon

Performance similar across samples



Note: EU UCITS gross and net performances for the largest retail asset classes, balanced and unbalanced samples. 3Y horizon, %.
Sources: Refinitiv Lipper, ESMA.

For equity and bond UCITS, both in gross and net terms, performances remained the same across the two samples. We observed a slight difference mainly in the case of mixed UCITS. This difference was mainly related to the availability of information that was much larger in the last two years rather than in previous years. In details, more than 20% of UCITS were not at all present

before 2018. 80% of the UCITS were present also in preceding years but not enough information was available for the analysis. This implied that these funds were excluded from the final sample. Overall, it seemed that, more recently, reporting has been improving.

Moving from three- to one year, as expected, the differences were much lower as the two samples, balanced and unbalanced, were more similar. In terms of number of funds, the unbalanced sample reduces by less than 20% on average. As to be expected, the longer is the time period, the larger the change in number of UCITS should be.

In terms of gross and net performances, deviations were also negligible. Against this background, we based the main analysis on an unbalanced panel in order to keep the largest number of observations.

AIFs sold to retail investors

Data come from AIFMD reporting. Over 2019, the coverage largely improved covering the entire market. Data concerning market size, by type of investor, by fund category, geographical focus are yearly fund level data. Aggregation is then performed by 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 regulation¹⁴⁵ supplementing 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 in a weighted average across funds category, using NAV or AuM as available.¹⁴⁶

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

Differently from the market overview analysis, however, we based this analysis on a smaller sample of funds. The sample reduced because we eliminated the following:

¹⁴⁵ Commission delegated regulation 231/2013 supplementing Directive 2011/61/EU (reporting obligations of NCAs are reported in article 24 of the Directive). The details on the reporting templates can be

also found in the "AIFMD reporting IT technical guidance (rev.4). [Updated]" published by ESMA.

¹⁴⁶ In our sample NAV and AuM do not significantly differ.

- 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. Also, these cases were excluded. But this indicates potential problems a priori in the reporting that is under investigation.
 - Those funds reporting monthly gross performance outside the range $-/+ 10\%$. This did not impact on the final NAV. The decision was linked to background analysis on hedge fund data based on Heureka Hedge. The maximum and minimum of gross performance for the ten years up to 2019 did not exceed the range identified above.¹⁴⁷
-

Statistical annex

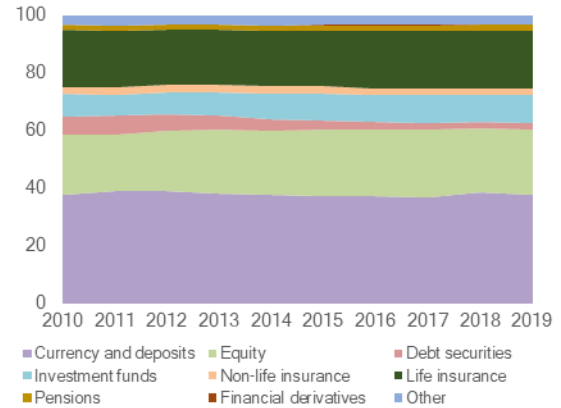
Market environment

ASR-PC-S.1
Securities market performance over time



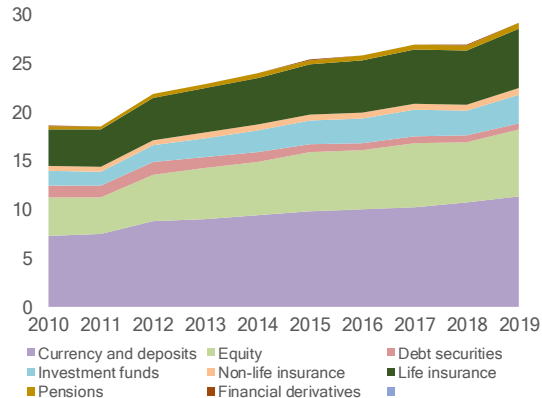
Note: Return indices on EU equities (Datastream regional index), EA corporate and sovereign bonds (iBoxx EUR, all maturities), monthly averages, December 2010 =100.
Sources: Refinitiv Datastream, ESMA.

ASR-PC-S.2
Structure of household financial assets



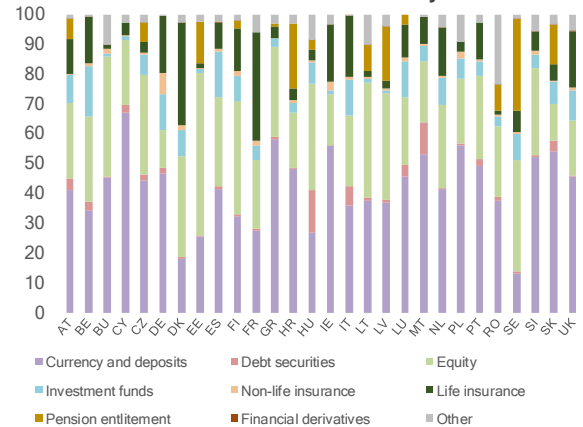
Note: Share of households financial assets in the EU, %. Life and non-life insurance include respectively life insurance and annuity entitlements and non life insurance non technical reserves. Derivatives includes employee's stock options.
Sources: Eurostat, ESMA.

ASR-PC-S.3
Household financial assets



Note: Households financial assets in the EU, EUR tn. Life and non-life insurance include respectively life insurance and annuity entitlements and non-life insurance non technical reserves. Derivatives includes employee's stock options.
Sources: Eurostat, ESMA.

ASR-PC-S.4
Structure of household financial assets by fund domicile



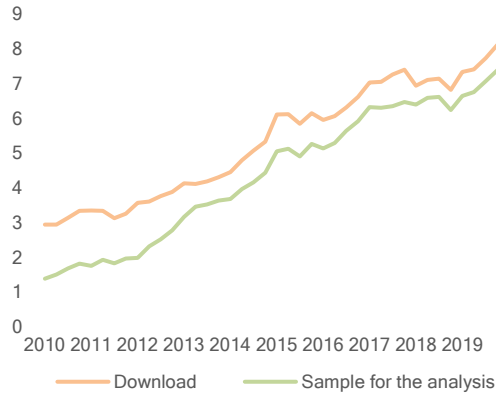
Note: Structure of financial assets by Member State, 2019, %.
Sources: Eurostat, ESMA.

UCITS

Market Overview

ASR-PC-S.5

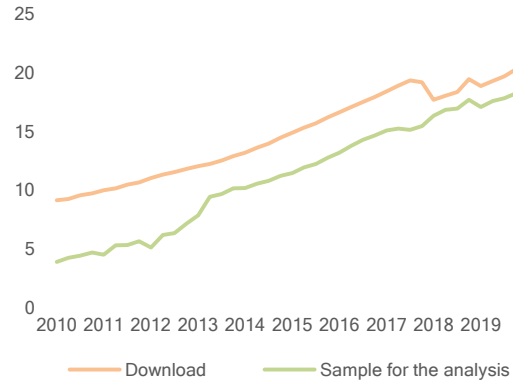
UCITS market size



Note: EU 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.6

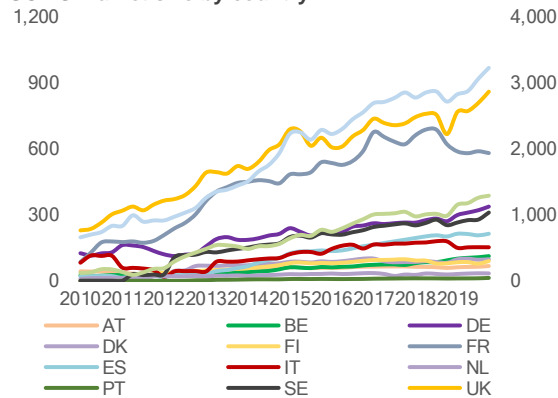
Number of UCITS funds



Note: EU UCITS market size in terms of number of funds. Download, 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, thousands. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.7

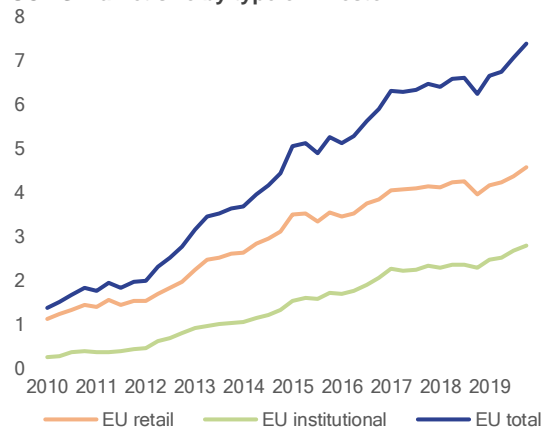
UCITS market size by country



Note: EU UCITS market size in terms of fund value, by country, EUR bn. All observations for which fund value, fund performance, net flows, subscription and redemption fees are available. All those EU countries with value less than EUR 100bn not included. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.8

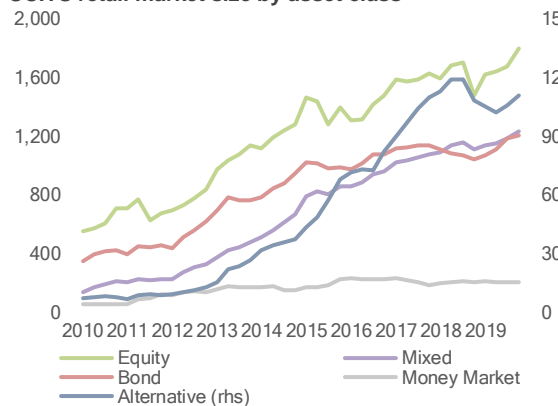
UCITS market size by type of investor



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

ASR-PC-S.9

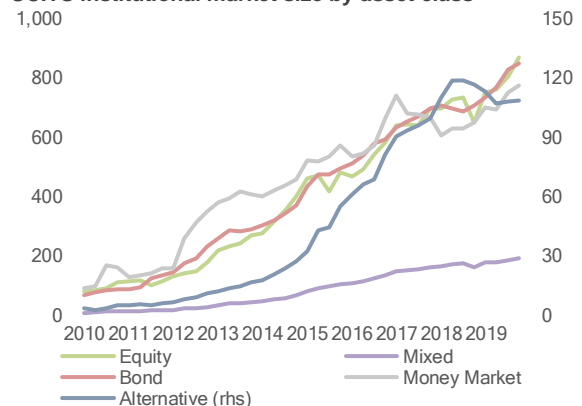
UCITS retail market size by asset class



Note: EU 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.10

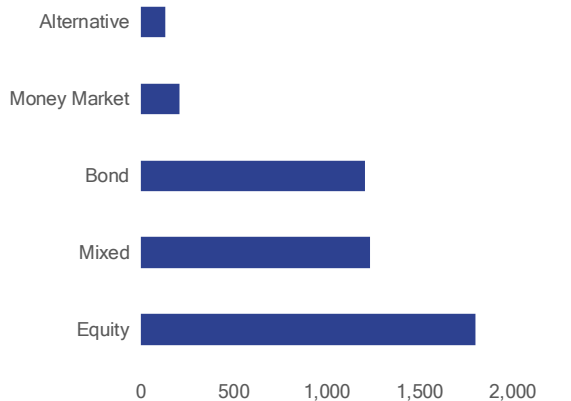
UCITS institutional market size by asset class



Note: EU UCITS market size in terms of fund value, by asset class, institutional 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.11

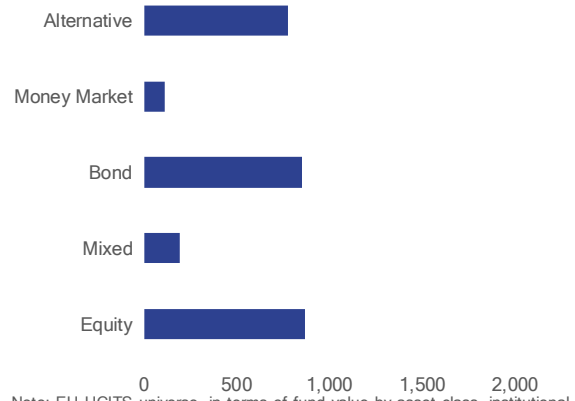
UCITS retail market by asset size - 2019



Note: EU UCITS universe, in terms of fund value by asset class, retail investors, 2019, EUR bn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.12

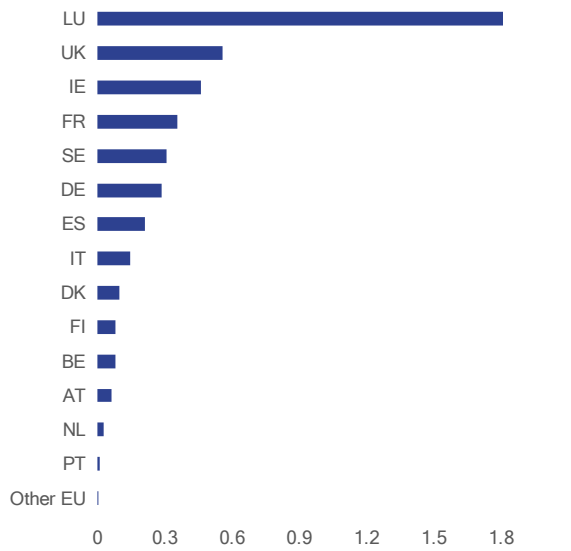
UCITS institutional market by asset size - 2019



Note: EU UCITS universe, in terms of fund value by asset class, institutional investors, 2019, EUR bn.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.13

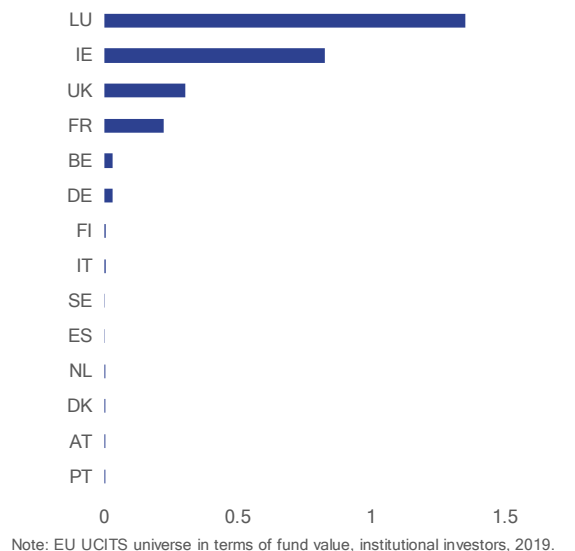
UCITS retail market by country - 2019



Note: EU UCITS universe in terms of fund value, retail investors, 2019. All observations for which information on fund value, fund performance, netflows, subscription and redemption fees available, EUR tn. Other EU includes: BG, CY, CZ, EE, GR, HR, HU, LT, LV, MT, PL, SI, SK, RO.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.14

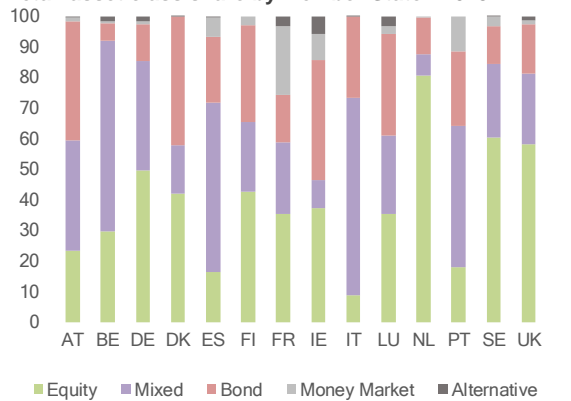
UCITS institutional market by country - 2019



Note: EU UCITS universe in terms of fund value, institutional investors, 2019. All observations for which information on fund value, fund performance, netflows, subscription and redemption fees available, EUR tn. Other EU includes: BG, CY, CZ, EE, GR, HR, HU, LT, LV, MT, PL, SI, SK, RO. PT not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.15

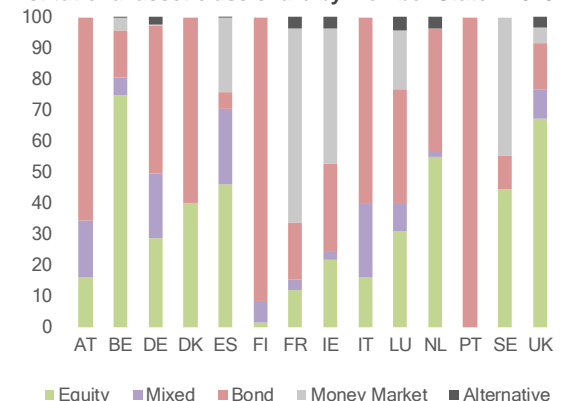
Retail asset class share by Member State - 2019



Note: EU UCITS share of asset classes over total national fund value per domicile, retail, 2019, %. Other EU not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.16

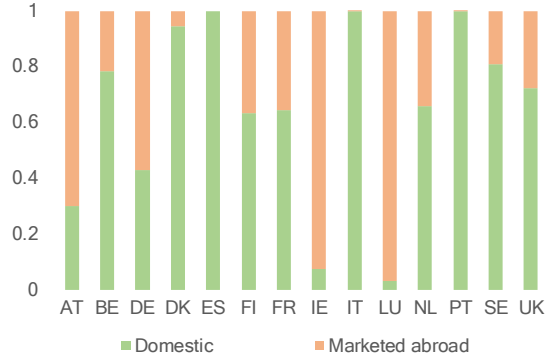
Institutional asset class share by Member State - 2019



Note: EU UCITS share of asset classes over total national fund value per domicile, institutional, 2019, %. Other EU not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.17

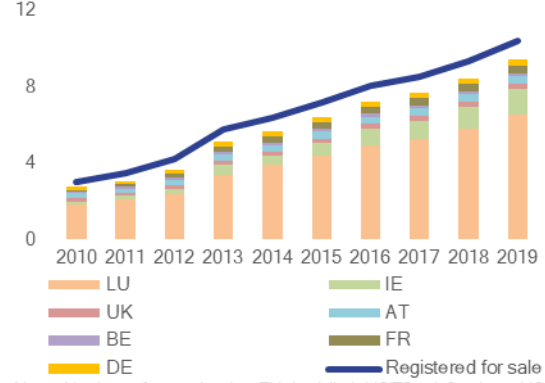
Domestic funds and funds marketed abroad



Note: EU-domiciled UCITS share of net asset value, by destination (domestic and marketed abroad) per member state, 2019. 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.18

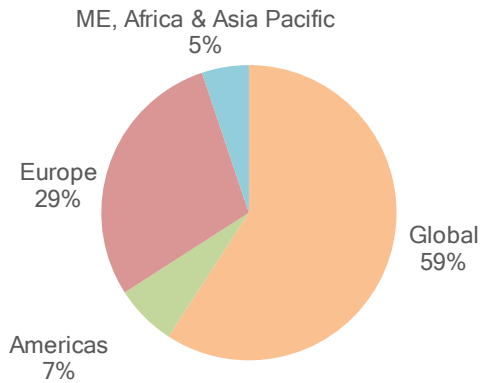
EU cross-border UCITS



Note: Number of cross-border EU-domiciled 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 EU, thousands. Registered for sale refer to those UCITS that can be sold cross-border.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.19

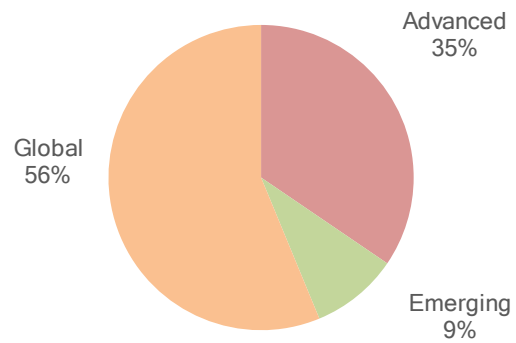
Fund investment geographical focus



Note: EU-domiciled UCITS share of total net asset value by geographical investment focus, 2019, retail investors %.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.20

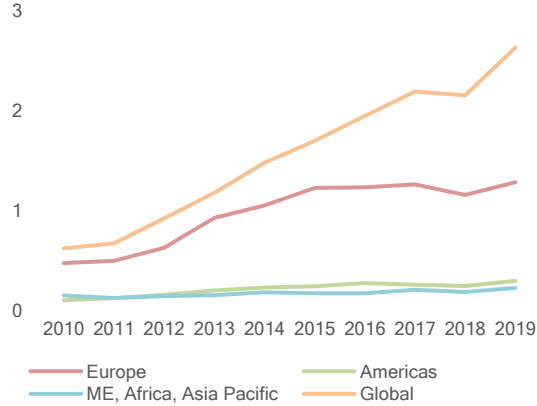
Fund investment by economic development focus



Note: EU-domiciled UCITS share of total net asset value by investment focus based on the economic development of a country, 2019, %.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.21

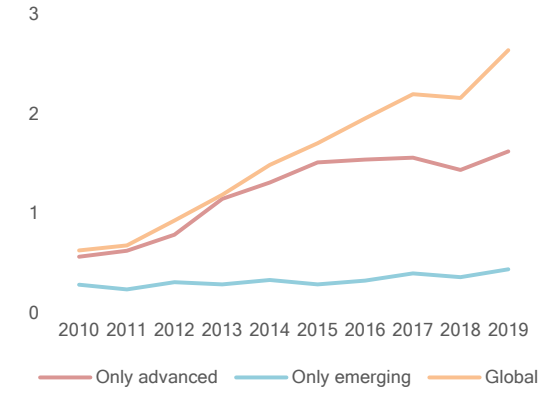
EU UCITS evolution of assets by geographical focus



Note: EU-domiciled UCITS evolution of total net asset value over time by investment's geographical focus, retail investors, EUR tn. ME refers to Middle East.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.22

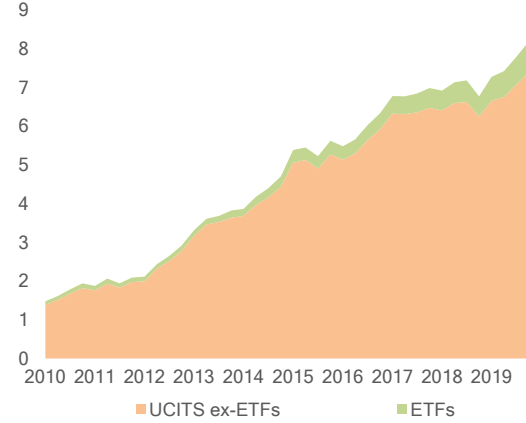
EU UCITS evolution of assets by economic development



Note: EU-domiciled UCITS evolution of total net asset value over time by investment's focus based on economic development, retail investors, EUR tn.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.23

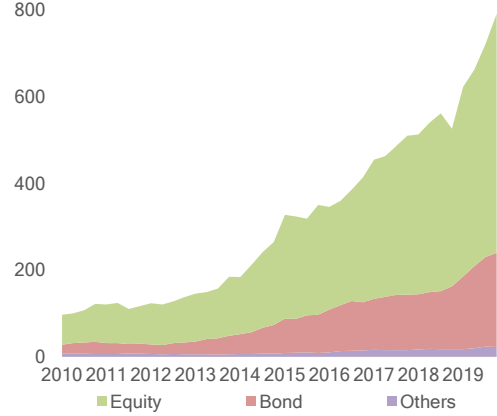
UCITS ETFs market size



Note: 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.24

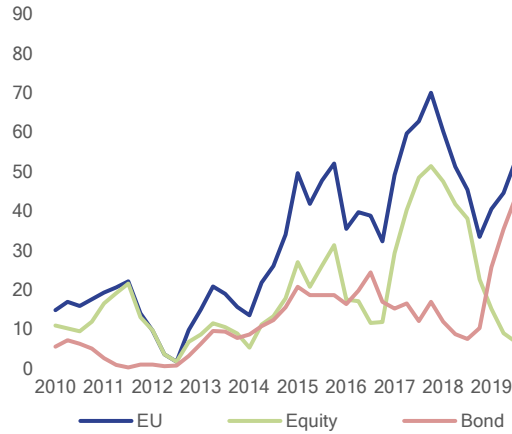
UCITS ETFs fund value distribution by asset class



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

ASR-PC-S.25

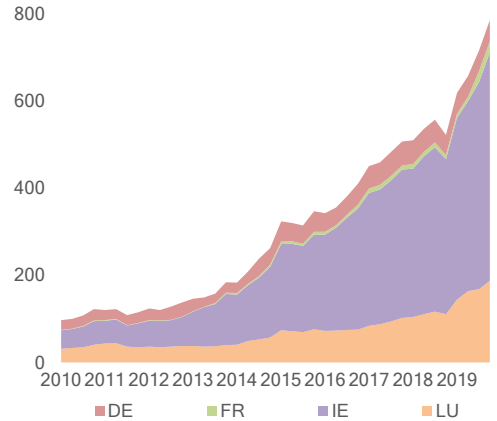
UCITS ETFs net flows



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

ASR-PC-S.26

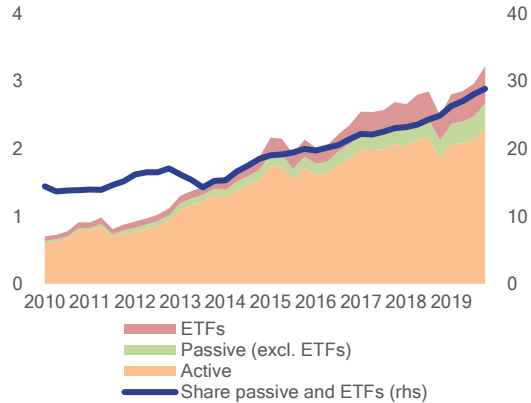
UCITS equity ETFs fund value distribution by domicile



Note: EU 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.27

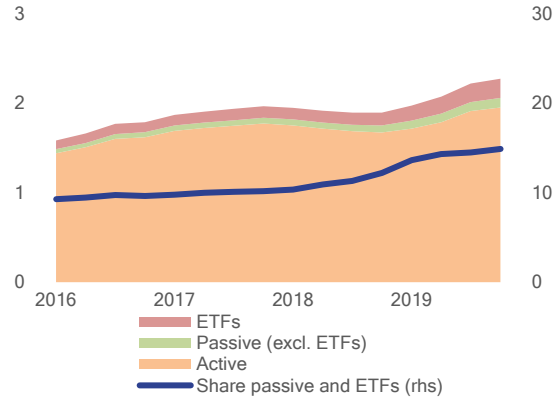
UCITS equity active and passive fund size



Note: Market size for EU-domiciled 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.28

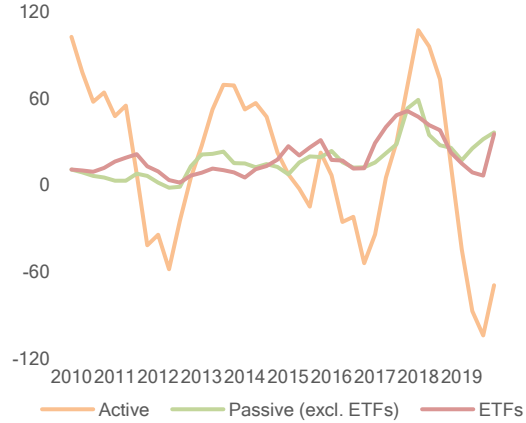
UCITS bond active and passive fund size



Note: Market size for EU-domiciled 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.29

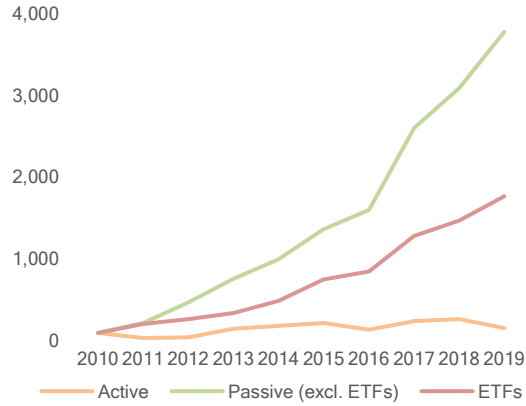
UCITS equity active and passive fund net flows



Note: EU-domiciled equity UCITS by management type, active passive, and ETFs. Annual netflows at quarterly frequencies, EUR bn. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.31

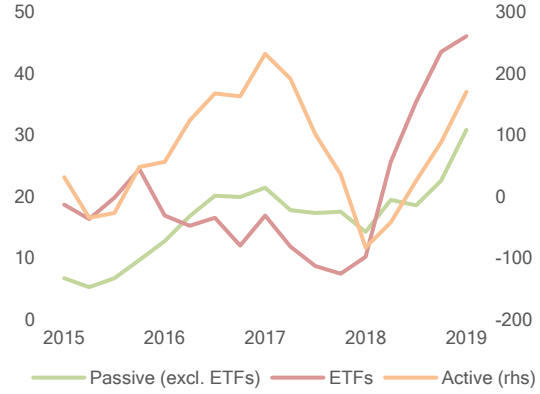
UCITS equity active and passive fund cumulated flows



Note: EU-domiciled equity UCITS by management type, active passive, and ETFs. Cumulative netflows, 4Q10 = 100. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.30

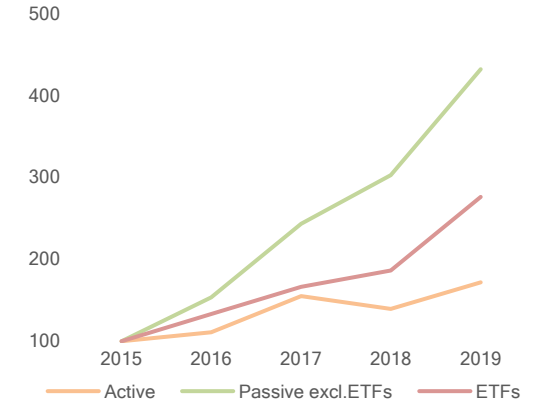
UCITS bond active and passive fund net flows



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

ASR-PC-S.32

UCITS bond active and passive fund cumulated flows



Note: EU-domiciled bond UCITS by management type, active passive and ETFs. Cumulative netflows, 4Q15 = 100. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.33**UCITS market share of domiciles by asset class retail investors**

	AT	BE	DE	DK	ES	FI	FR	IE
Equity	0.83	1.31	7.88	2.26	1.93	1.93	7.06	9.59
Mixed	1.86	4.02	8.28	1.25	9.42	1.52	6.78	3.36
Bond	2.07	0.38	2.82	3.39	3.79	2.15	4.64	15.08
Alternative	0.22	1.00	14.66	0.01	0.72	0.00	8.11	17.51
Money Mkt	0.00	0.14	1.34	0.00	6.16	1.10	38.11	19.18

	IT	LU	NL	PT	SE	UK	Other EU
Equity	0.72	36.79	1.33	0.10	10.29	17.94	0.03
Mixed	7.61	38.94	0.17	0.39	5.97	10.42	0.01
Bond	3.20	51.24	0.29	0.21	3.14	7.57	0.04
Alternative	0.06	40.18	0.00	0.00	0.02	4.52	0.04
Money Mkt	0.00	24.92	0.07	0.56	4.74	3.32	0.03

Note: Share of national fund value over the total EU per domicile, retail investors, by asset class, %

Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.34**UCITS market share of domiciles by asset class institutional investors**

	AT	BE	DE	DK	ES	FI	FR	IE
Equity	0.02	2.83	1.08	0.08	0.21	0.01	3.02	20.76
Mixed	0.09	0.98	3.52	0.00	0.50	0.24	4.07	10.27
Bond	0.07	0.59	1.84	0.12	0.03	0.74	4.79	27.70
Alternative	0.00	0.01	0.70	0.00	0.00	0.00	6.93	27.38
Money Mkt	0.00	0.18	0.01	0.00	0.12	0.00	17.99	46.46

Equity	0.09	48.05	0.19	0.00	0.21	23.44	0.00	0.09
Mixed	0.62	64.77	0.03	0.00	0.00	14.91	0.00	0.62
Bond	0.35	58.22	0.14	0.00	0.05	5.33	0.01	0.35
Alternative	0.00	51.12	0.09	0.00	0.00	8.64	0.00	0.00
Money Mkt	0.00	32.95	0.00	0.00	0.24	2.05	0.00	0.00

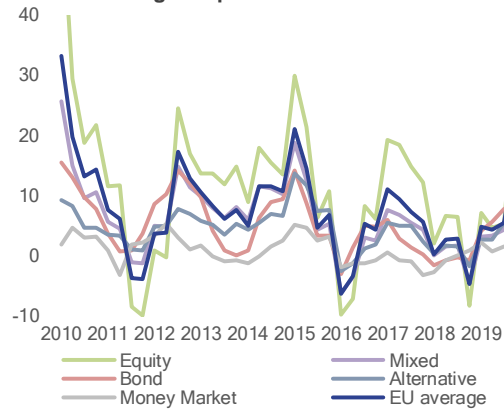
Note: Share of national fund value over the total EU per domicile, institutional investors, by asset class, %

Sources: Refinitiv Lipper, ESMA.

Performance and costs

ASR-PC-S.35

UCITS annual gross performance retail investors



Note: EU 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

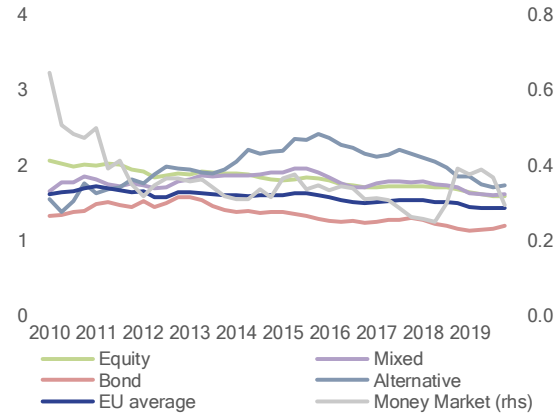
UCITS annual gross performance institutional investors



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

ASR-PC-S.37

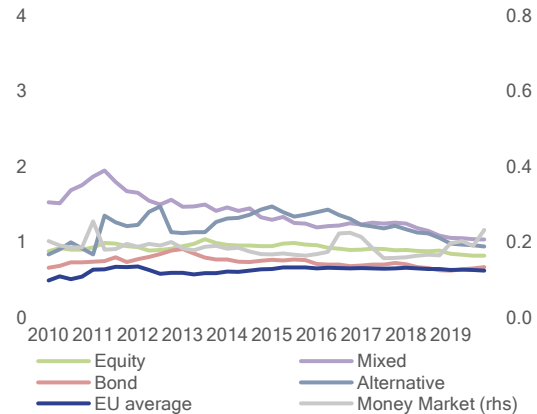
UCITS fund costs - retail investors



Note: EU UCITS universe, total costs as ongoing costs, subscription and redemption fees, by asset class, retail investors, in %. Money Market refers to MMF UCITS on right-hand side axis (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.38

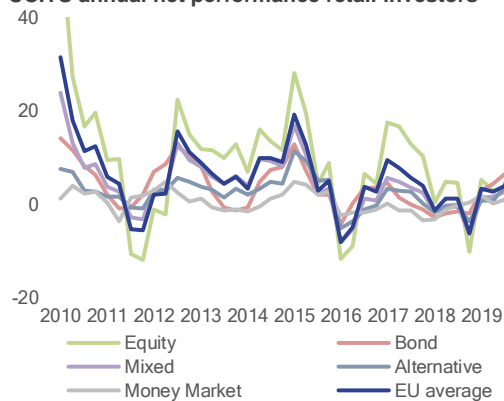
UCITS fund costs - institutional investors



Note: EU UCITS universe, total costs as ongoing costs, subscription and redemption fees, by asset class, institutional investors, in %. Money Market refers to MMF UCITS on right-hand side axis (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.39

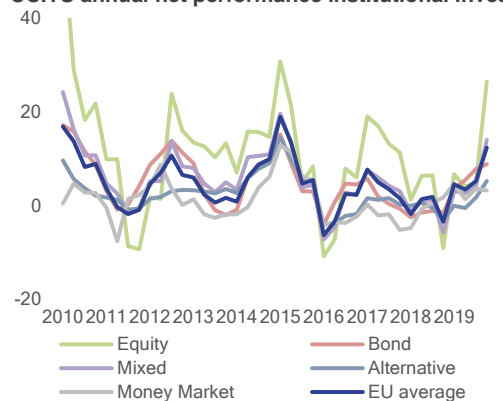
UCITS annual net performance retail investors



Note: EU UCITS universe, net annual performance by asset class, retail investors, in %. Net performance: gross performance net of ongoing costs, subscription and redemption fees. Money Market refers to MMF UCITS. Primary y-axis cut-off at +40% and -10%.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.40

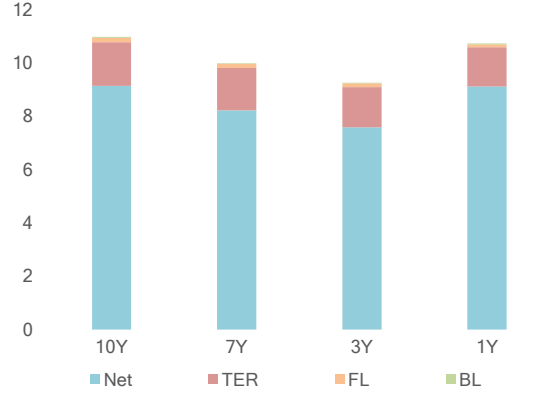
UCITS annual net performance institutional investors



Note: EU UCITS universe, net annual performance by asset class, institutional investors, in %. Net performance: gross performance net of ongoing costs, subscription and redemption fees. Money Market refers to MMF UCITS. Primary y-axis cut-off at +40% and -10%.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.41

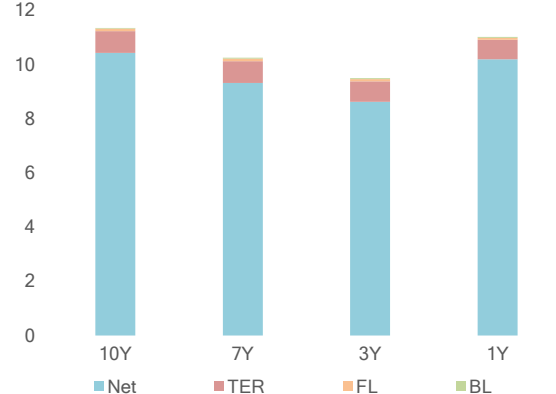
Equity UCITS performance and costs, retail



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

ASR-PC-S.42

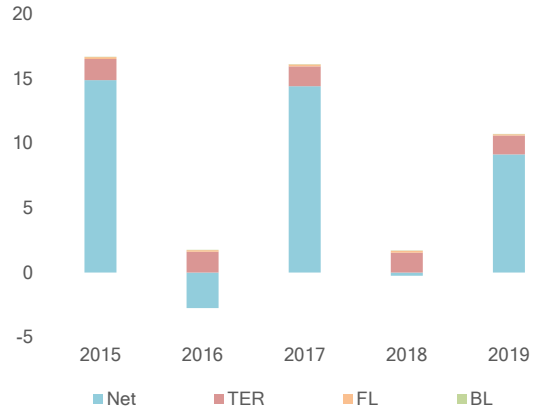
Equity UCITS performance and costs, institutional



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

ASR-PC-S.43

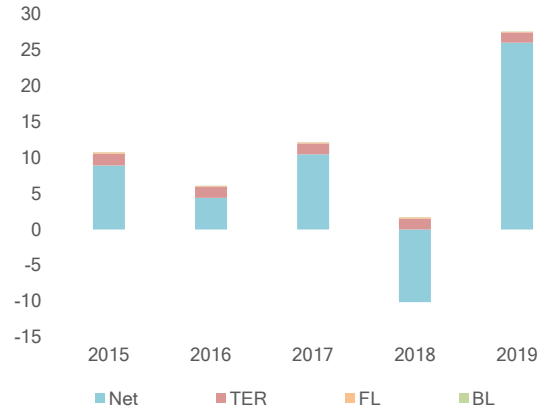
Equity year-on-year performance and costs, retail



Note: EU UCITS 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.44

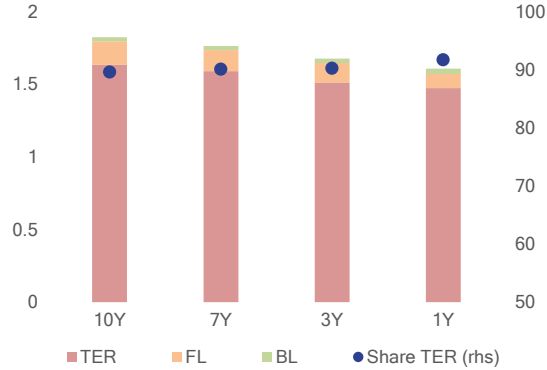
Equity end-of-year performance and costs, retail



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

ASR-PC-S.45

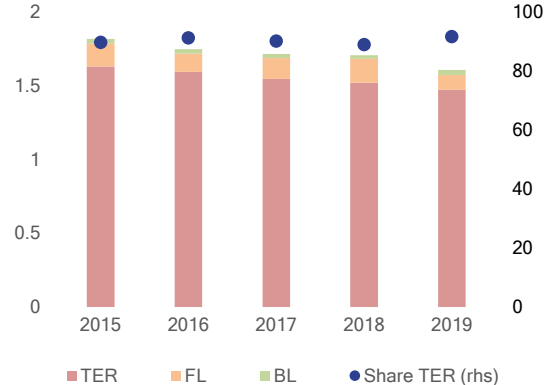
Equity costs by time horizon, retail



Note: EU UCITS equity fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Share of ongoing costs on total costs in % on the right hand side (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.46

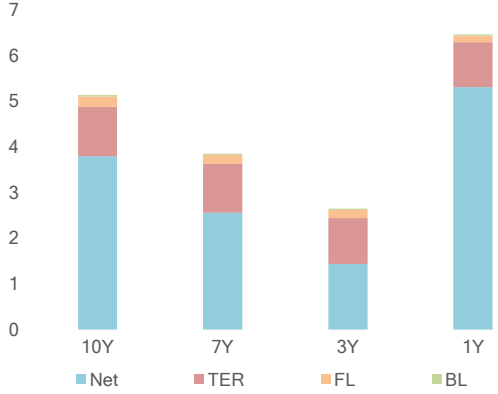
Equity costs year-on-year, retail



Note: EU UCITS equity fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by one-year time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.47

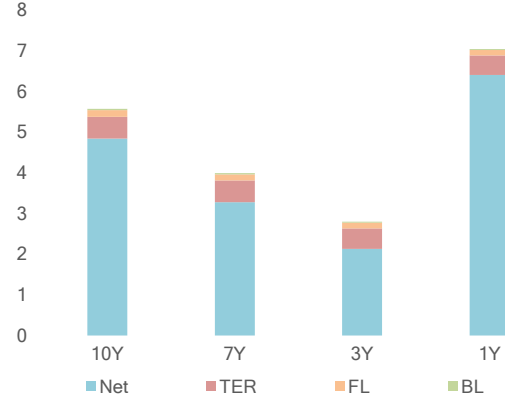
Bond UCITS performance and costs, retail



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

ASR-PC-S.48

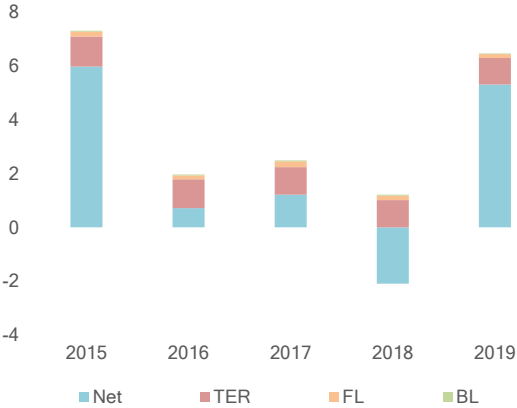
Bond UCITS performance and costs, institutional



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

ASR-PC-S.49

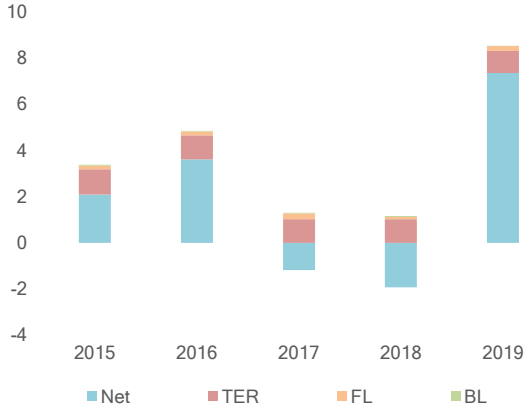
Bond year on year performance and costs, retail



Note: EU UCITS 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.50

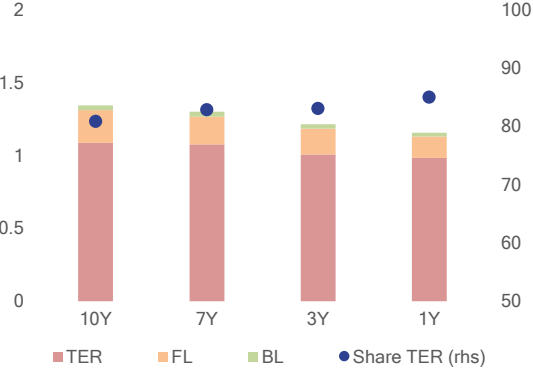
Bond end-of-year performance and costs, retail



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

ASR-PC-S.51

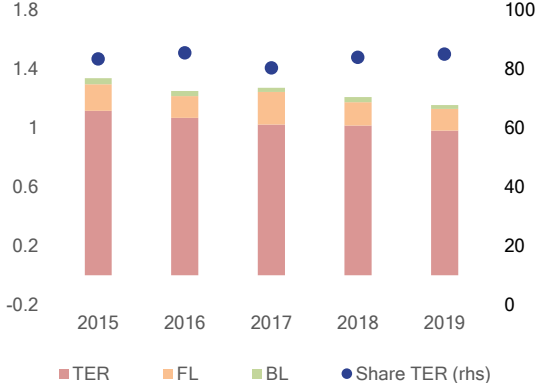
Bond costs by time horizon, retail



Note: EU UCITS bond fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Share of ongoing costs on total costs in % on the right hand side (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.52

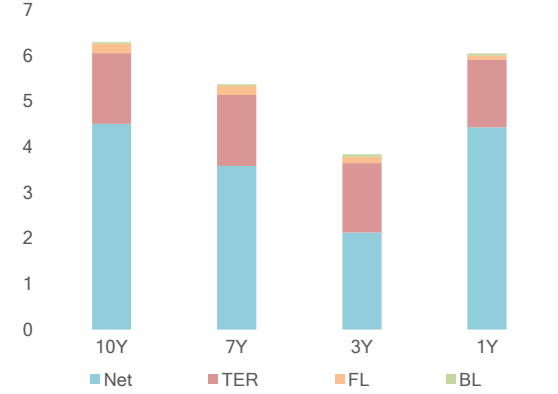
Bond costs year-on-year, retail



Note: EU UCITS bond fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by one-year time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.53

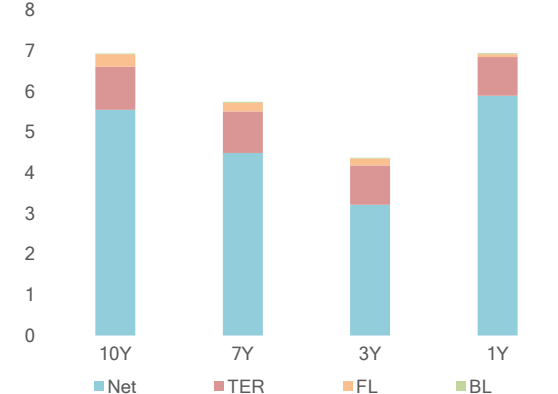
Mixed UCITS performance and costs, retail



Note: EU UCITS mixed fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.54

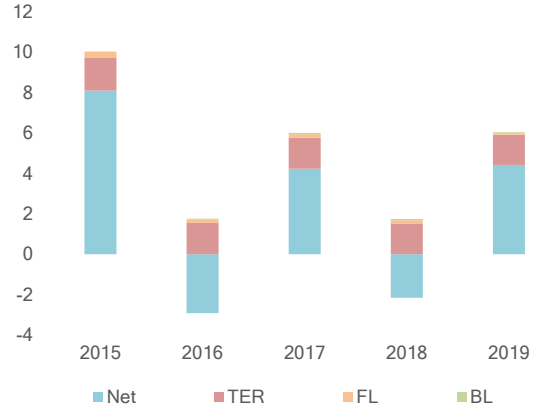
Mixed UCITS performance and costs, institutional



Note: EU UCITS mixed fund shares gross annual performance, institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.55

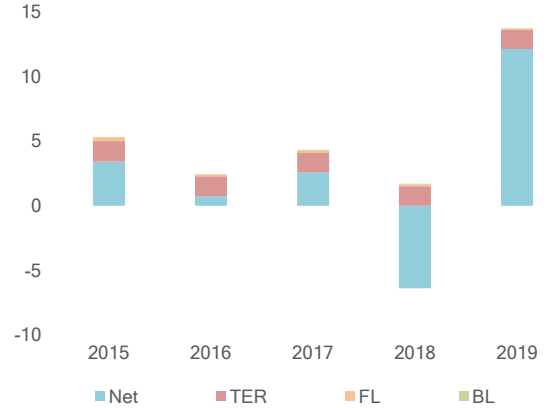
Mixed year-on-year performance and costs, retail



Note: EU UCITS mixed 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.56

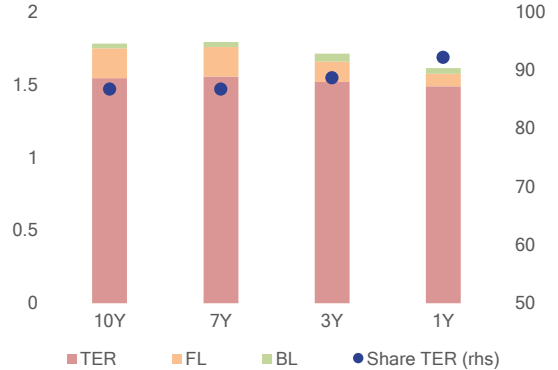
Mixed end-of-year performance and costs, retail



Note: EU UCITS mixed fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment end-of year, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.57

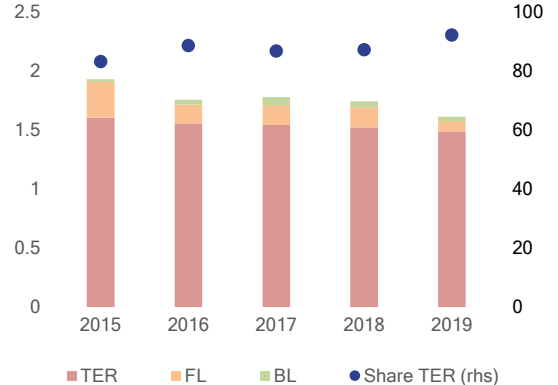
Mixed costs by time horizon, retail



Note: EU UCITS mixed fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Share of ongoing costs on total costs in % on the right hand side (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.58

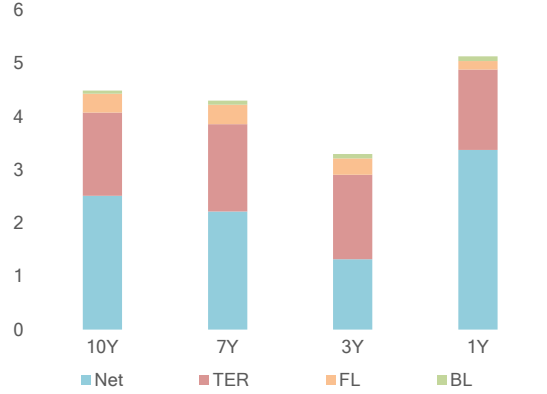
Mixed costs year-on-year, retail



Note: EU UCITS mixed fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by one-year time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.59

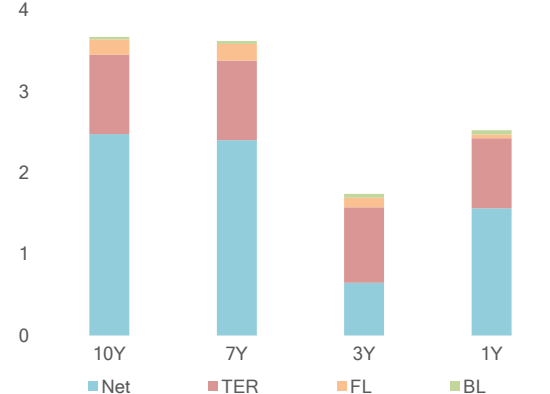
Alternative UCITS performance and costs, retail



Note: EU UCITS alternative fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.60

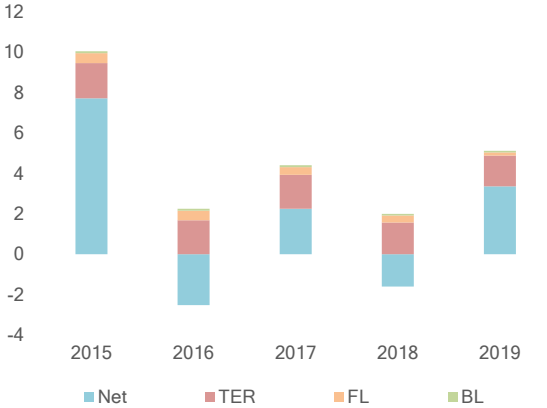
Alternative UCITS performance and costs, institutional



Note: EU UCITS alternative fund shares gross annual performance, institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.61

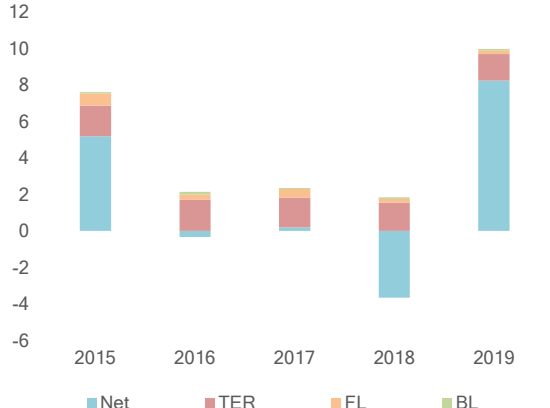
Alternative year-on-year performance and costs, retail



Note: EU UCITS alternative 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.62

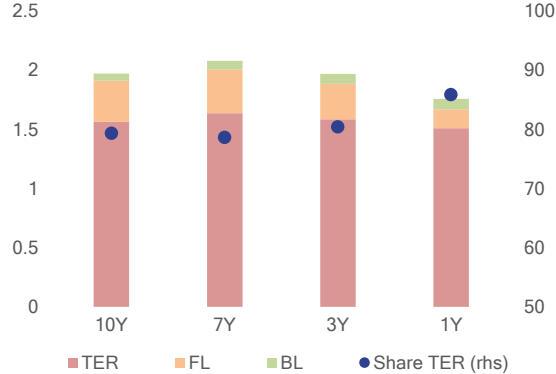
Alternative end-of-year performance and costs, retail



Note: EU UCITS alternative fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment end-of-year, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.63

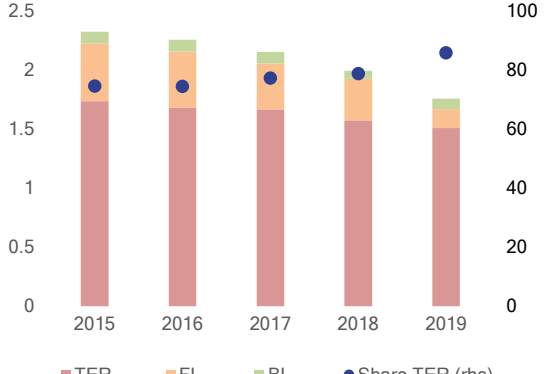
Alternative costs by time horizon retail



Note: EU UCITS alternative fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Share of ongoing costs on total costs in % on the right hand side (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.64

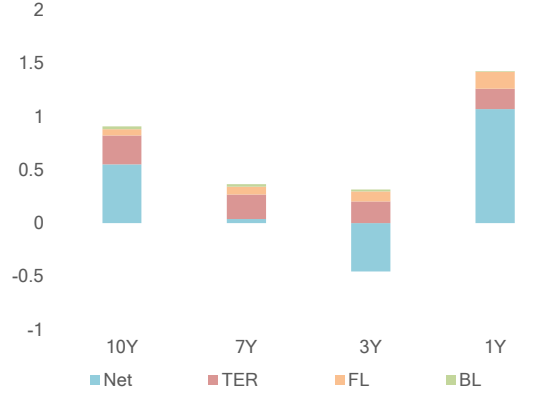
Alternative costs year-on-year, retail



Note: EU UCITS equity fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by one-year time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.65

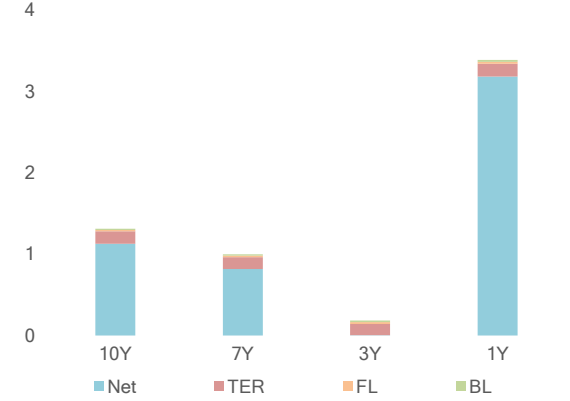
MMFs UCITS performance and costs, retail



Note: EU UCITS money market fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.66

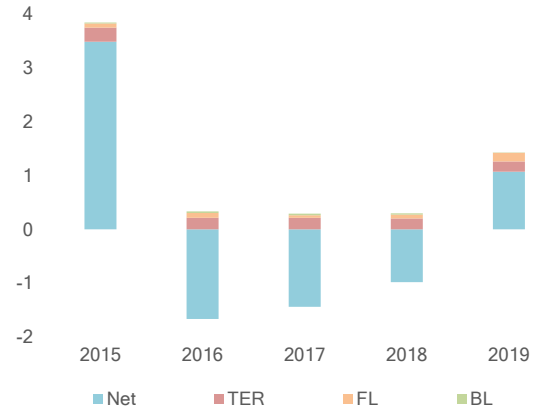
MMFs UCITS performance and costs, institutional



Note: EU UCITS money market fund shares gross annual performance, institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.67

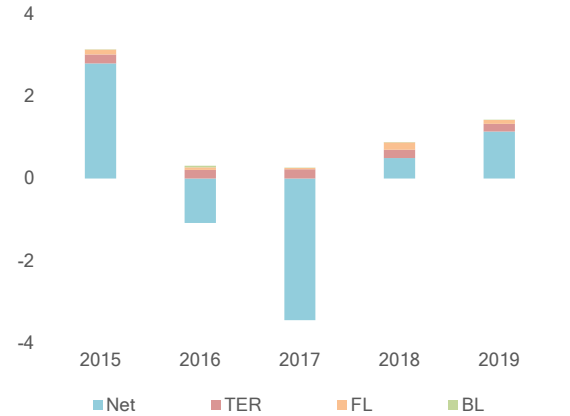
MMFs year-on-year performance and costs, retail



Note: EU UCITS money market 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.68

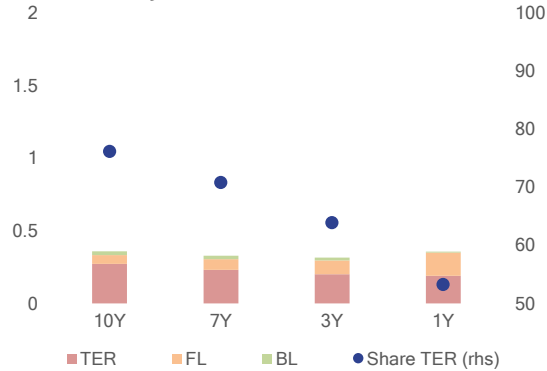
MMFs end-of-year performance and costs, retail



Note: EU UCITS money market fund shares gross annual performance, retail investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), 1Y investment end-of year, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.69

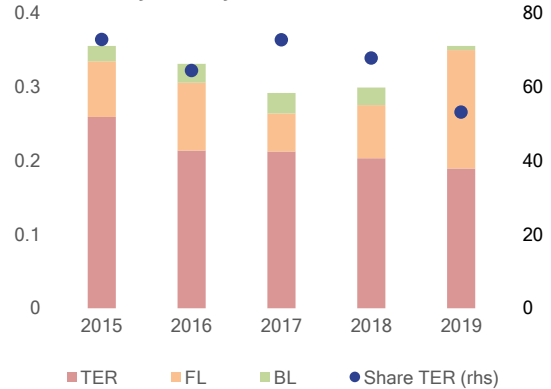
MMFs costs by time horizon, retail



Note: EU UCITS money market fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Share of ongoing costs on total costs in % on the right hand side (rhs).
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.70

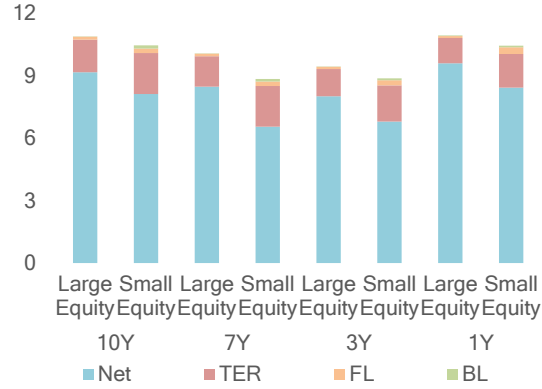
MMFs costs year-on-year, retail



Note: EU UCITS money market fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by one-year time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.71

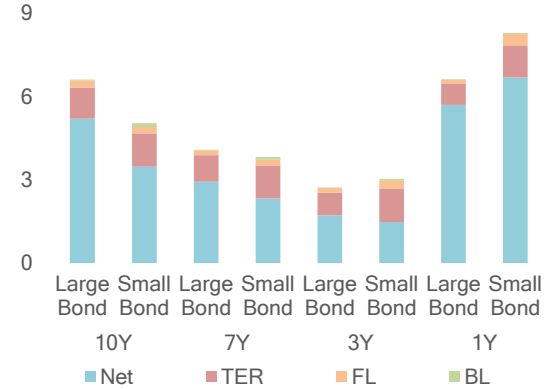
Equity UCITS- largest and smallest 25%, retail



Note: EU UCITS equity funds annual gross performance, largest and smallest 25% funds in terms of AuM, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.72

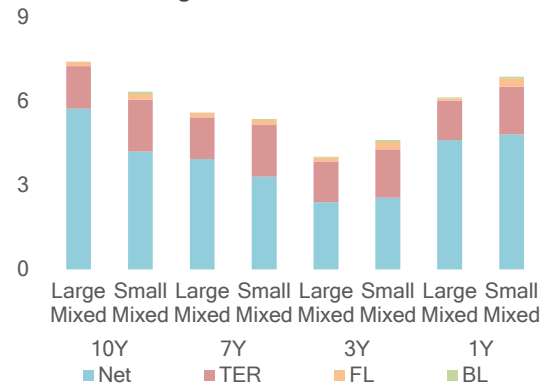
Bond UCITS- largest and smallest 25%, retail



Note: EU UCITS bond funds annual gross performance, largest and smallest 25% funds in terms of AuM, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.73

Mixed UCITS- largest and smallest 25%

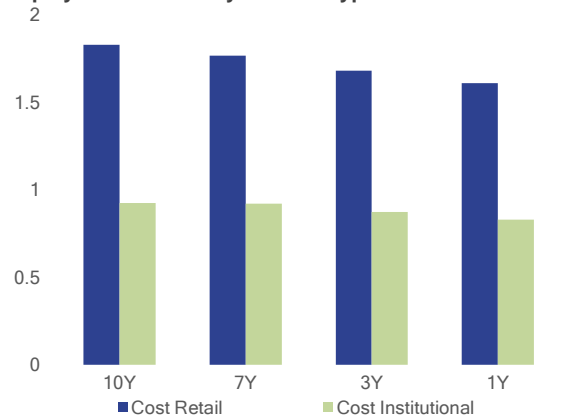


Note: EU UCITS mixed funds annual gross performance, largest and smallest 25% funds in terms of AuM, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, and time horizon, in %.
Sources: Refinitiv Lipper, ESMA.

Costs by type of investor

ASR-PC-S.74

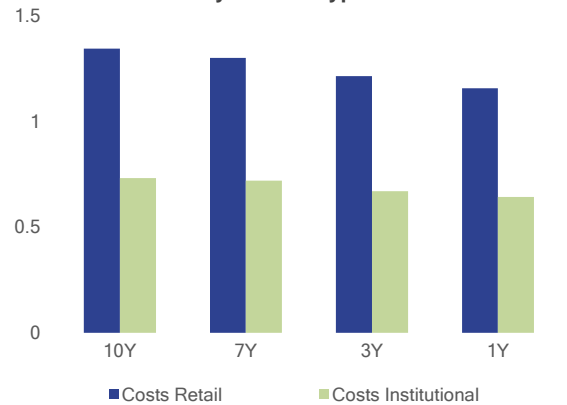
Equity UCITS costs by investor type



Note: EU 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.75

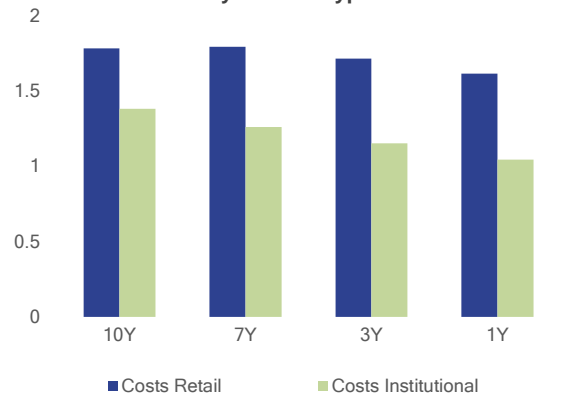
Bond UCITS costs by investor type



Note: EU 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.76

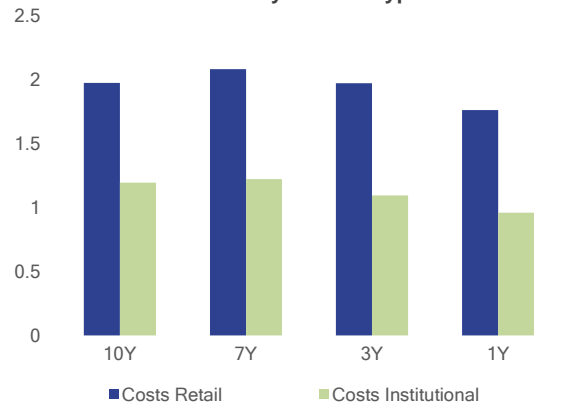
Mixed UCITS costs by investor type



Note: EU 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.

ASR-PC-S.77

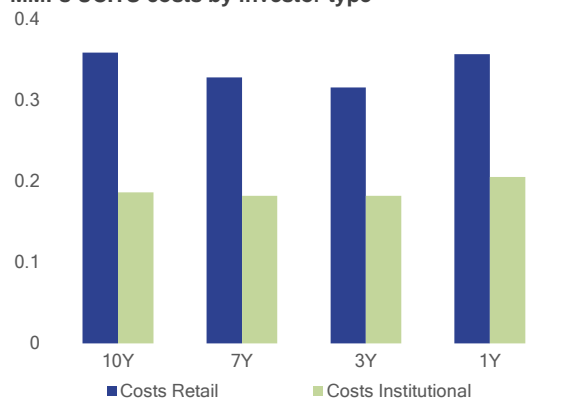
Alternative UCITS costs by investor type



Note: EU UCITS alternative 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.78

MMFs UCITS costs by investor type

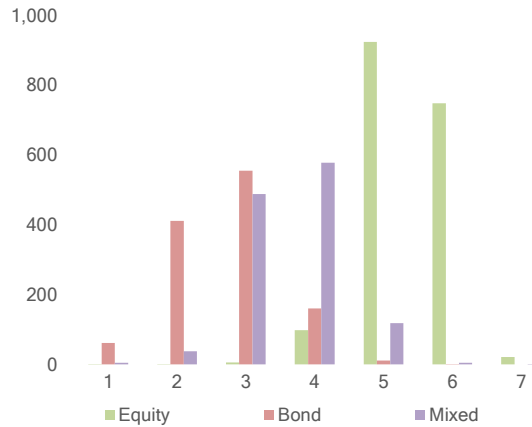


Note: EU UCITS money market fund shares total costs classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by horizon and type of investor, %.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by risk class

ASR-PC-S.79

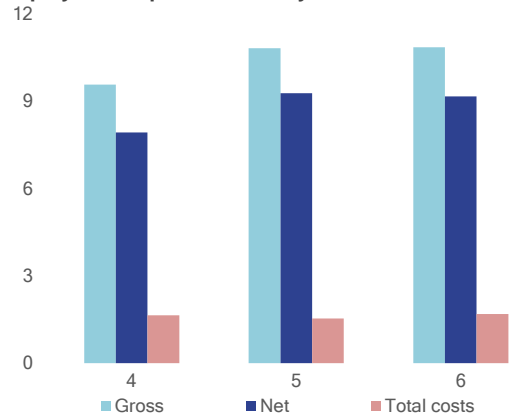
UCITS asset by asset type by SRRRI class



Note: EU UCITS SRRRI distribution in terms of asset value by asset type, retail investors, 2019, EUR thousands.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.80

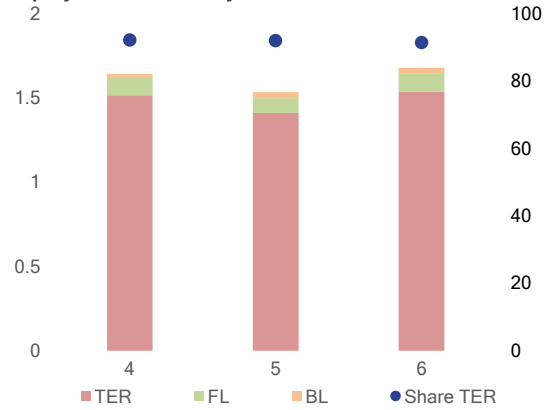
Equity UCITS performance by SRRRI class



Note: EU UCITS equity fund shares gross and net annual performances and total costs, retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.81

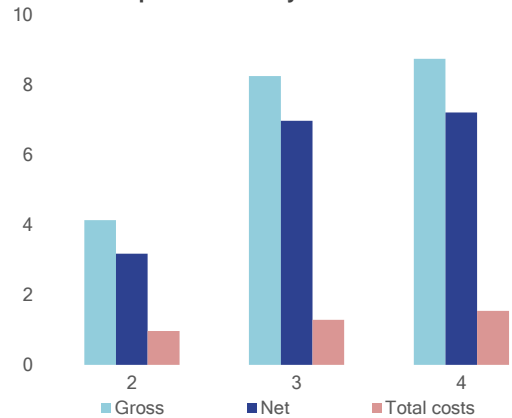
Equity UCITS costs by SRRRI class



Note: EU UCITS equity fund shares total costs classified as ongoing costs (TER), subscriptions (FL) and redemption fees (BL), retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

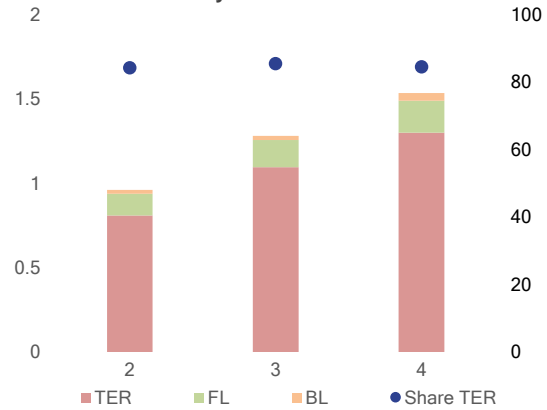
ASR-PC-S.82

Bond UCITS performance by SRRRI class



Note: EU UCITS bond fund shares gross and net annual performances and total costs, retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

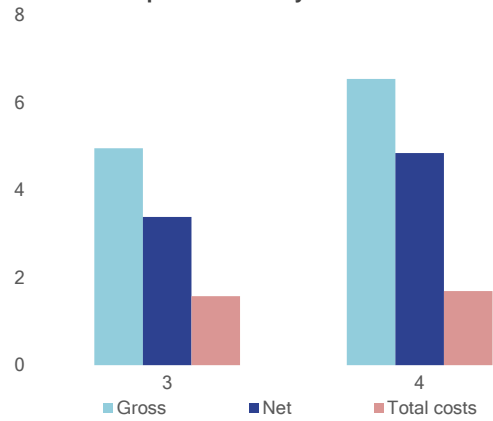
Bond UCITS costs by SRRRI class



Note: EU UCITS bond fund shares total costs classified as ongoing costs (TER), subscriptions (FL) and redemption fees (BL), retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.83

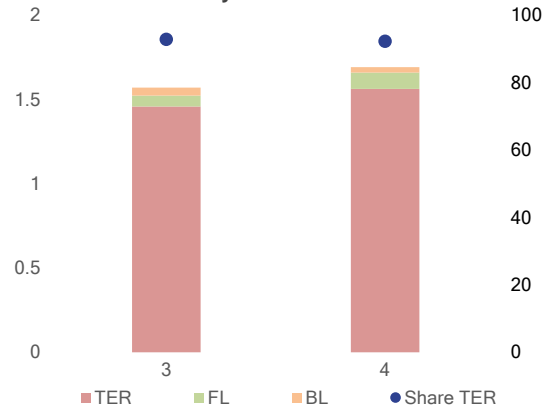
Mixed UCITS performance by SRRRI class



Note: EU UCITS mixed fund shares gross and net annual performances and total costs, retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.84

Mixed UCITS costs by SRRRI class

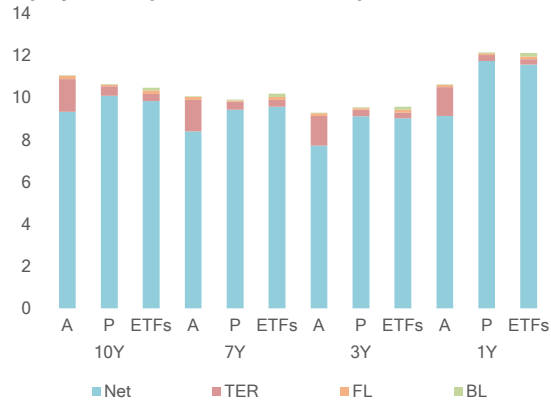


Note: EU UCITS mixed fund shares total costs classified as ongoing costs (TER), subscriptions (FL) and redemption fees (BL), retail investors, by SRRRI class, 2019, %.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by management type

ASR-PC-S.85

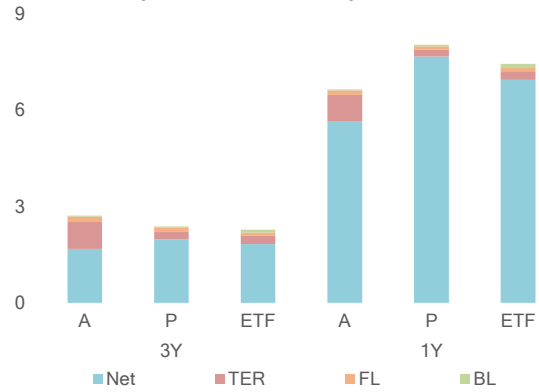
Equity UCITS performance active, passive and ETFs



Note: EU 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.86

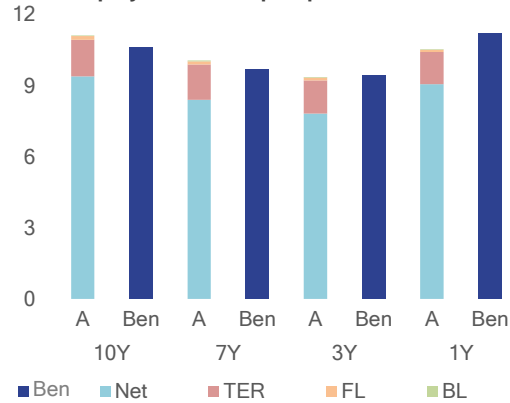
Bond UCITS performance active, passive and ETFs



Note: EU 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.87

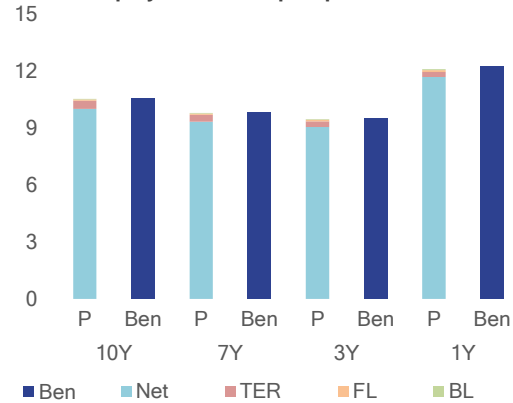
Active equity UCITS and prospectus benchmarks



Note: EU 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, in %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.88

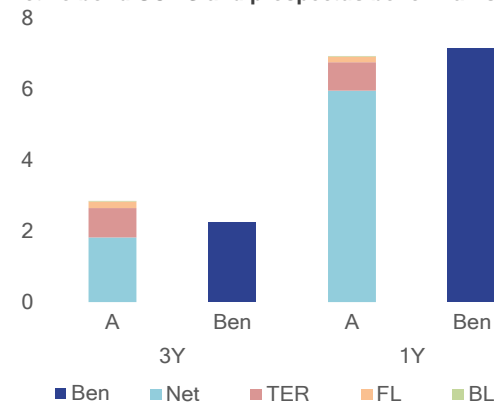
Passive equity UCITS and prospectus benchmarks



Note: EU 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.89

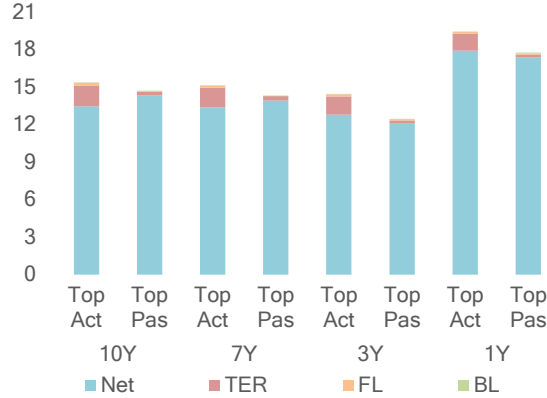
Active bond UCITS and prospectus benchmarks



Note: EU UCITS bond active funds (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.90

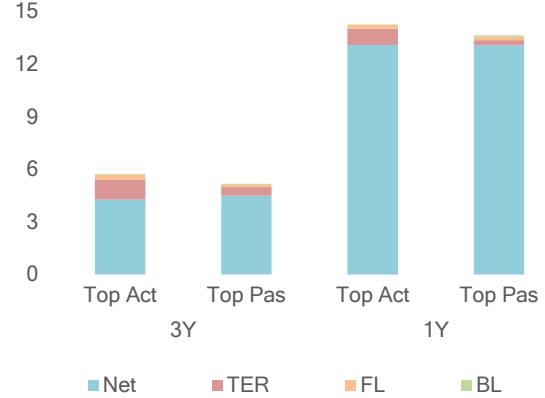
Top performing active and passive equity UCITS



Note: EU 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.91

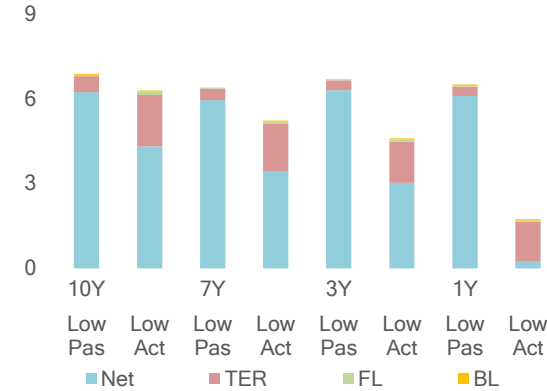
Top performing active and passive bond UCITS



Note: EU 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.92

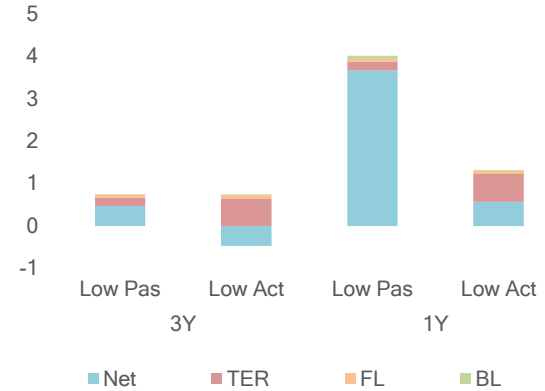
Bottom performing active and passive equity UCITS



Note: EU 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.93

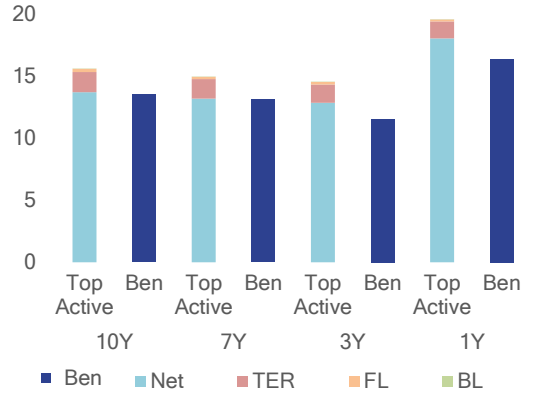
Bottom performing active and passive bond UCITS



Note: EU 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.94

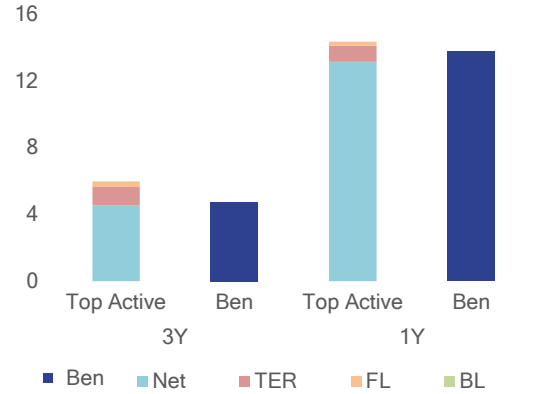
Top performing active equity UCITS and benchmarks



Note: EU UCITS equity 25% best performing active funds and respective benchmark (Ben) annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.95

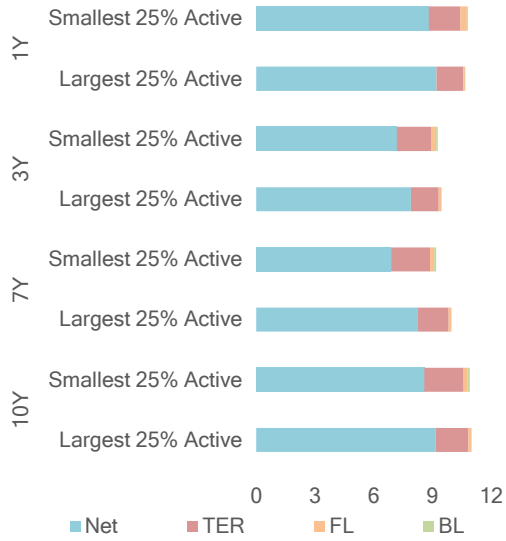
Top performing active bond UCITS and benchmark



Note: EU UCITS bond 25% best performing active funds and respective benchmark (Ben) annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.96

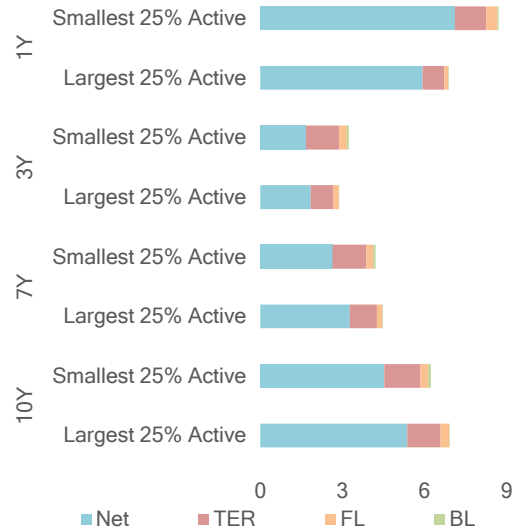
Equity UCITS performance active, largest and smallest



Note: EU UCITS equity 25% largest and smallest active funds and respective benchmark annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.97

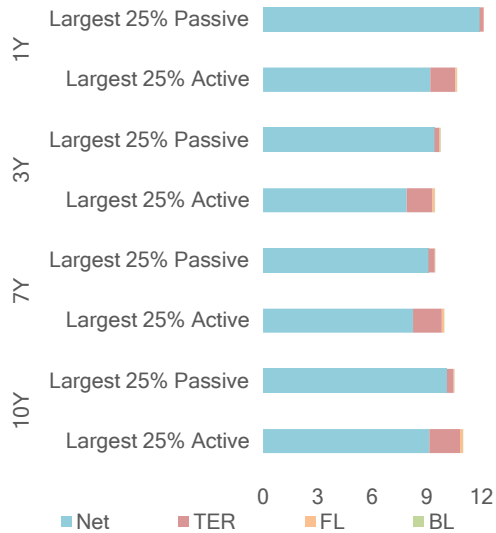
Bond UCITS performance active, largest and smallest



Note: EU UCITS bond 25% largest and smallest active funds and respective benchmark annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.98

Equity UCITS top 25% largest, active and passive

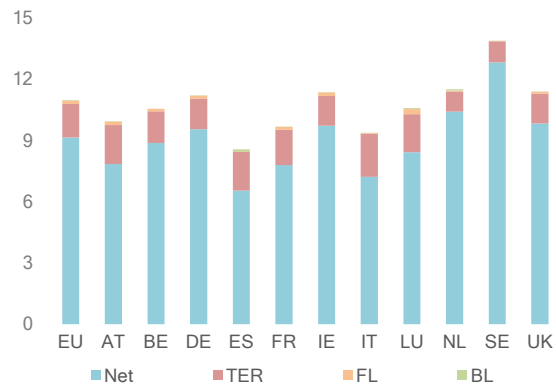


Note: EU UCITS equity 25% largest active and passive funds and respective benchmark annual gross performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption (BL) fees, by management type and time horizon.
Sources: Refinitiv Lipper, ESMA.

Performance and costs by fund domicile

ASR-PC-S.99

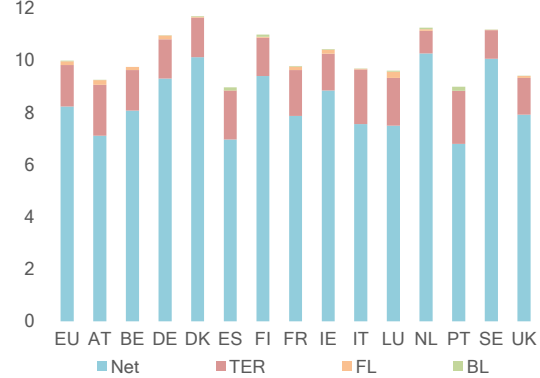
Equity UCITS by fund domicile – 10Y



Note: EU 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 EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.100

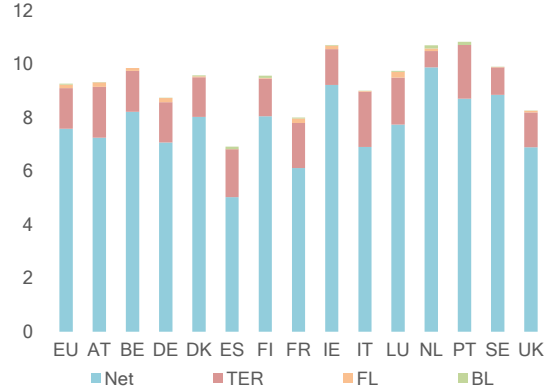
Equity UCITS by fund domicile – 7Y



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon %. Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.101

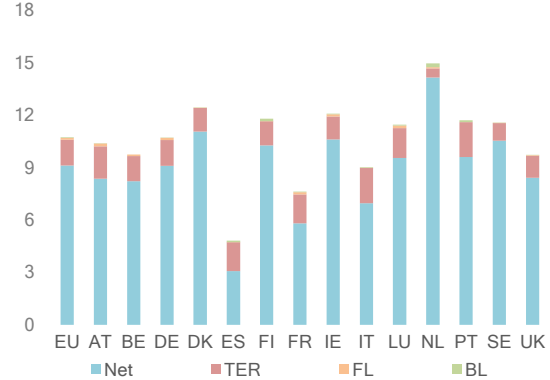
Equity UCITS by fund domicile – 3Y



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon %. Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.102

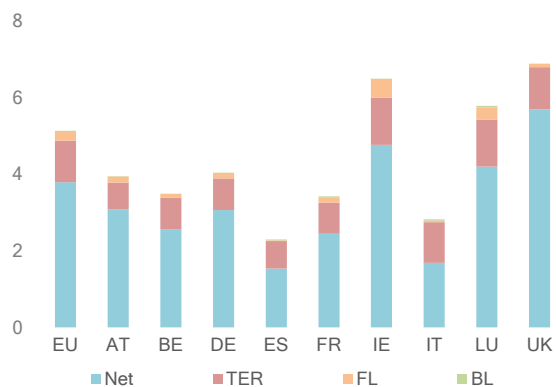
Equity UCITS by fund domicile – 1Y



Note: EU 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 EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.103

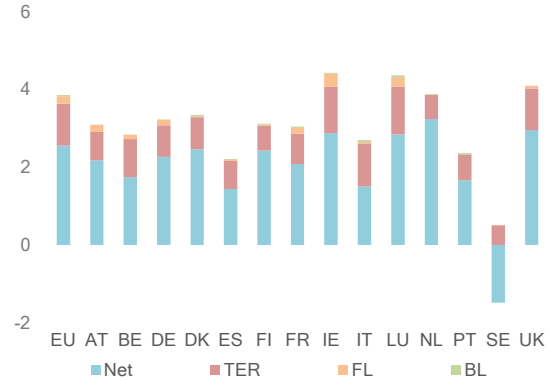
Bond UCITS by fund domicile – 10Y



Note: EU 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 EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.104

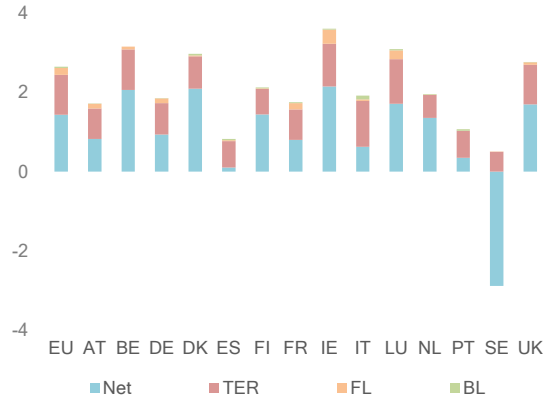
Bond UCITS by fund domicile – 7Y



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon %. Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.105

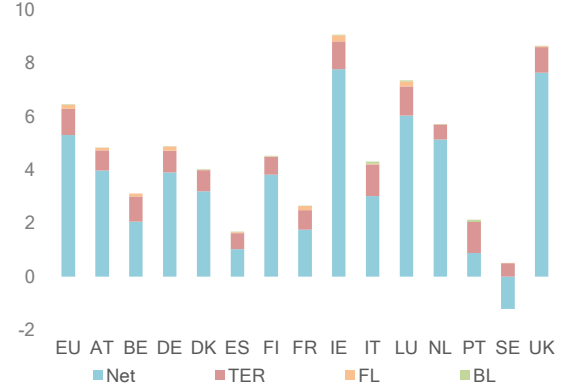
Bond UCITS by fund domicile – 3Y



Note: EU UCITS bond funds annual gross performance, classified as net performance, going costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.106

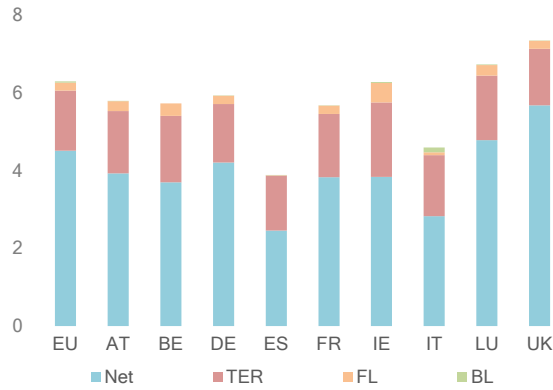
Bond UCITS by fund domicile – 1Y



Note: EU 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 EU countries not reported as data not available. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.107

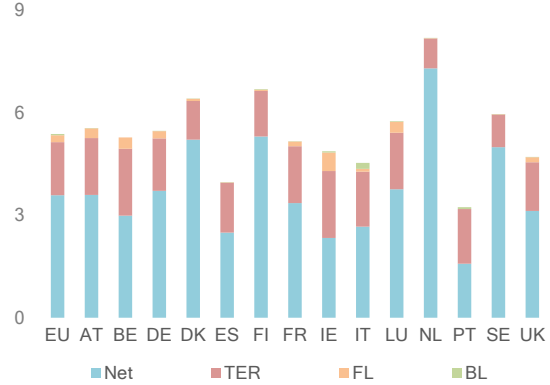
Mixed UCITS by fund domicile – 10Y



Note: EU 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 EU countries not reported as data not available. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.108

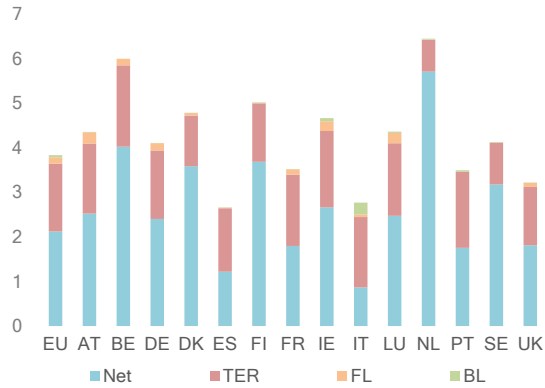
Mixed UCITS by fund domicile – 7Y



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon %. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.109

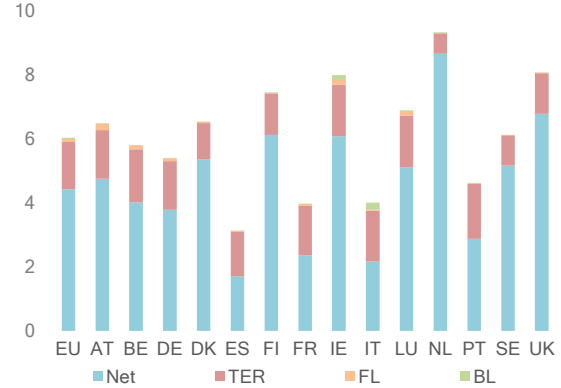
Mixed UCITS by fund domicile – 3Y



Note: EU UCITS mixed funds annual gross performance, classified as net performance, going costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. Other EU countries not reported as data not available. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.110

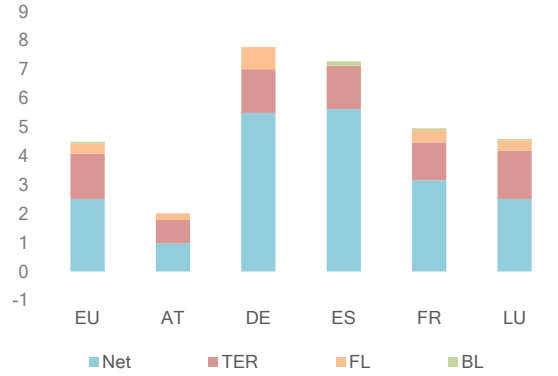
Mixed UCITS by fund domicile – 1Y



Note: EU 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 EU countries not reported as data not available. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.111

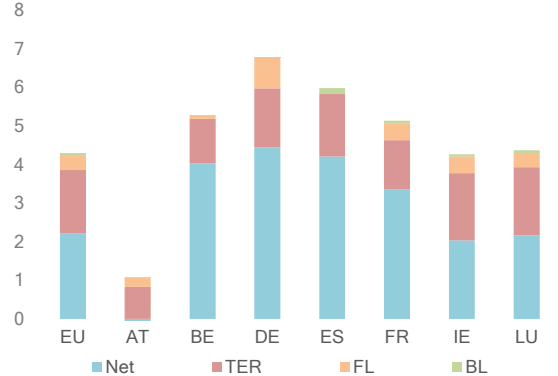
Alternative UCITS by fund domicile – 10Y



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

ASR-PC-S.112

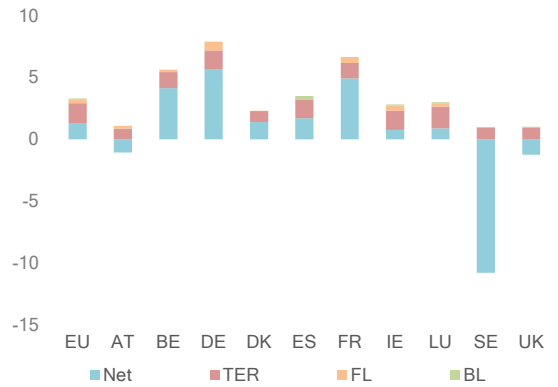
Alternative UCITS by fund domicile – 7Y



Note: EU UCITS alternative funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y time horizon, %. DK, FI, IT, NL, PT, SE and Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.113

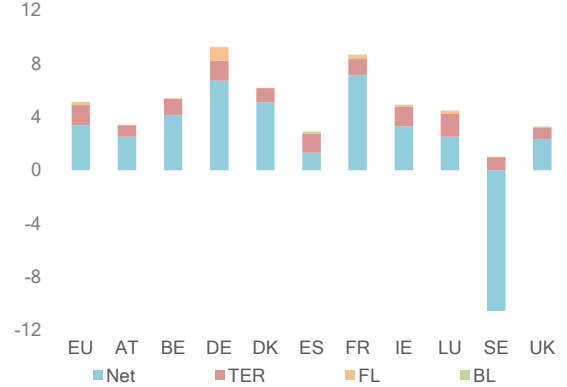
Alternative UCITS by fund domicile – 3Y



Note: EU UCITS alternative funds annual gross performance, classified as net performance, going costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. FI, IT, NL, PT and Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.114

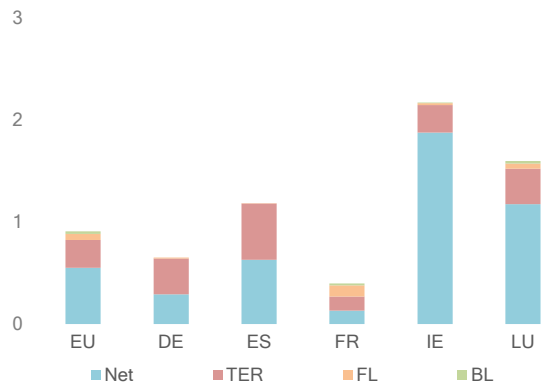
Alternative UCITS by fund domicile – 1Y



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

ASR-PC-S.115

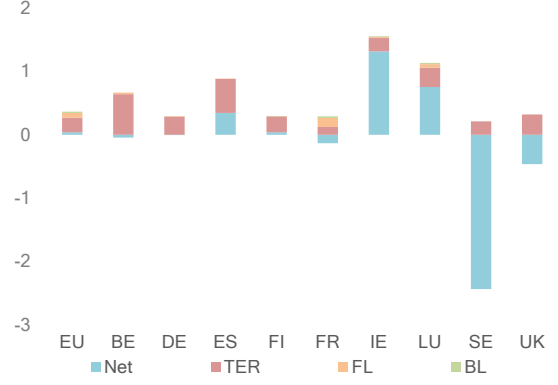
Money market UCITS by fund domicile – 10Y



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

ASR-PC-S.116

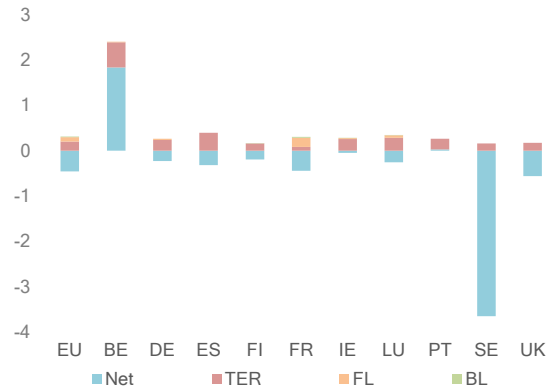
Money market UCITS by fund domicile – 7Y



Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 7Y horizon, %. AT, DK, FI, IT, NL, PT, and Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.117

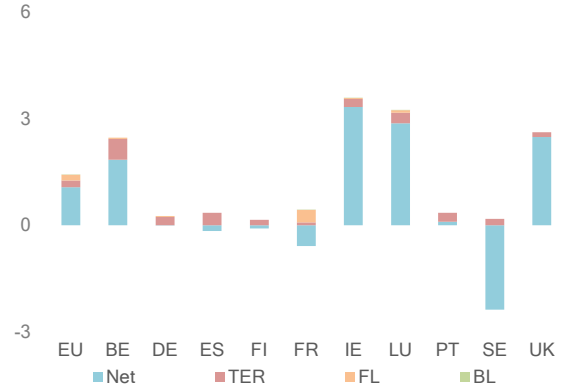
Money market UCITS by fund domicile – 3Y



Note: EU UCITS money market funds annual gross performance, classified as net performance, going costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 3Y horizon, %. AT, DK, IT, NL and Other EU countries not reported as data not available.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.118

Money market UCITS by fund domicile – 1Y



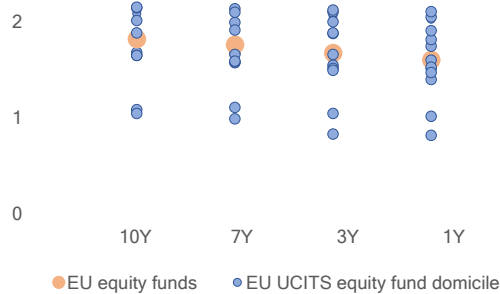
Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by domicile, 1Y horizon %. AT, DK, IT, NL, and Other EU countries not reported as data not available.
Sources: Refinitiv Lipper,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

EU UCITS cost dispersion across fund domiciles

ASR-PC-S.119

Equity UCITS cost dispersion, retail investors

3

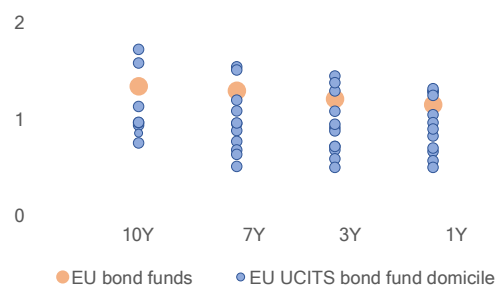


Note: EU UCITS equity fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for DK, FI, and PT at 10Y. Data not available for PT at 7Y. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.120

Bond UCITS cost dispersion, retail investors

3

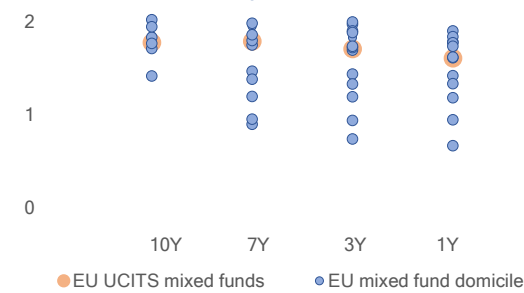


Note: EU UCITS bond fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for DK, FI, NL, PT, SE at 10Y. Data not available for PT at 7Y. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.121

Mixed UCITS cost dispersion, retail investors

3

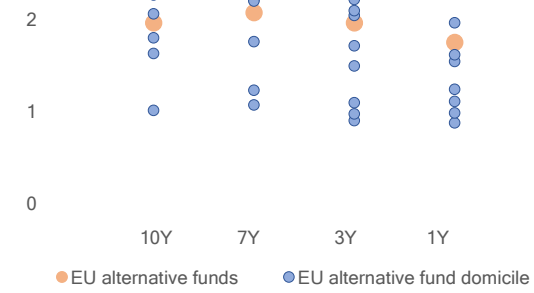


Note: EU UCITS mixed fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for DK, FI, NL, PT, SE at 10Y. Data not available for PT at 7Y. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.122

Alternative UCITS cost dispersion, retail investors

3

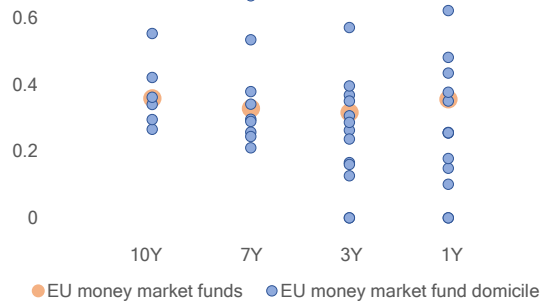


Note: EU UCITS alternative fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for FI, IT, NL, PT and Other EU. Data not available for BE, DK, IE, SE and UK at 10Y. Data not available for DK, SE at 7Y. Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.123

Money market UCITS cost dispersion, retail investors

0.8

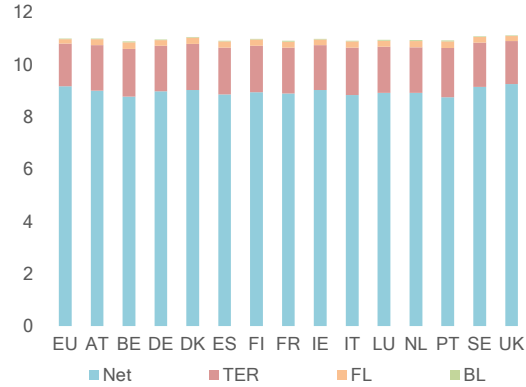


Note: EU UCITS money market fund, total costs computed as the sum of ongoing costs (TER), subscription and redemption fees, retail investors, %. Data not available for BE, DK, FI, IT, NL, PT, SE and UK at 10Y. Data not available for DK, IT, NL, PT at 7Y. Other EU countries not reported. Sources: Refinitiv Lipper, ESMA.

Performance and costs by investor domicile

ASR-PC-S.124

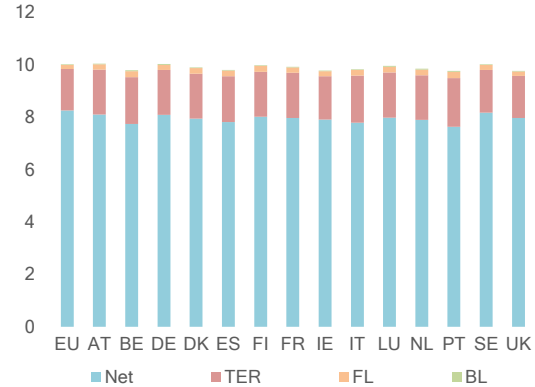
Equity UCITS by investor domicile – 10Y



Note: EU 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 EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.125

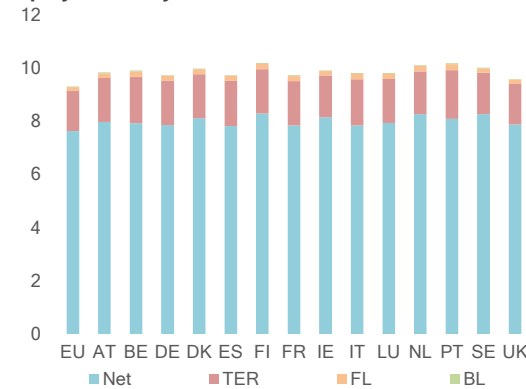
Equity UCITS by investor domicile – 7Y



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.126

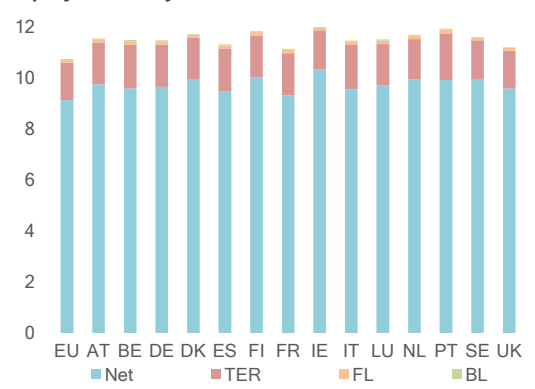
Equity UCITS by investor domicile – 3Y



Note: EU UCITS equity funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.127

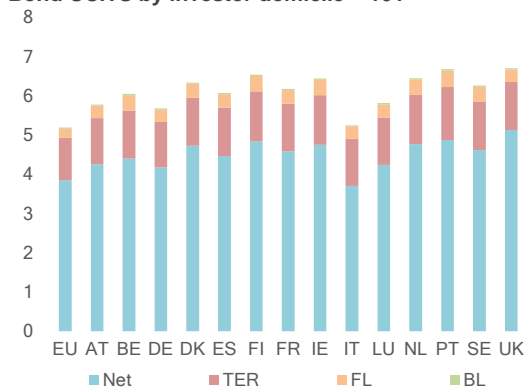
Equity UCITS by investor domicile – 1Y



Note: EU 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 EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.128

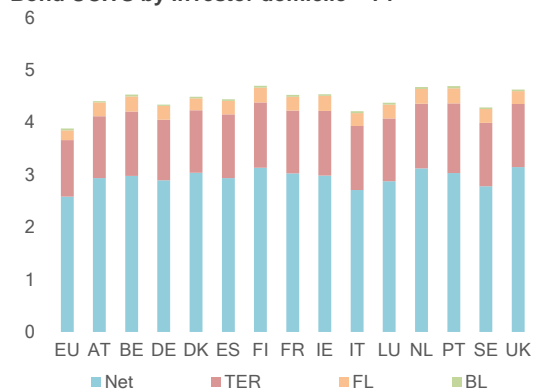
Bond UCITS by investor domicile – 10Y



Note: EU 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 EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.129

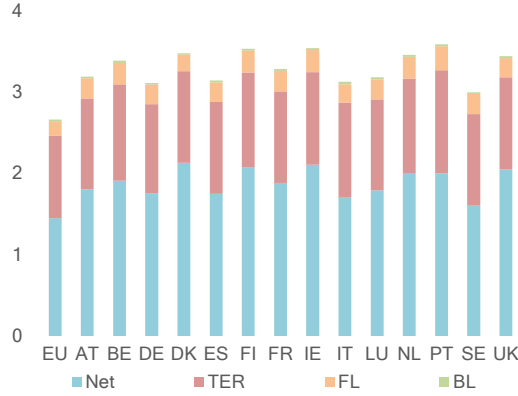
Bond UCITS by investor domicile – 7Y



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.130

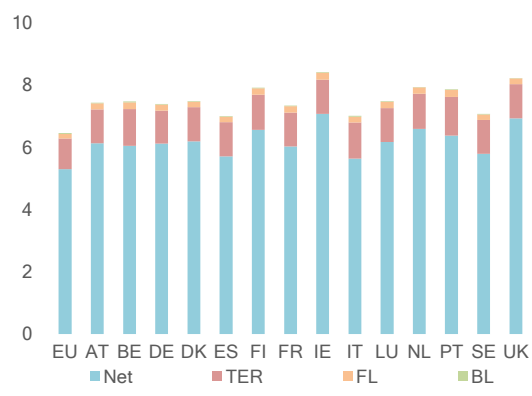
Bond UCITS by investor domicile – 3Y



Note: EU UCITS bond funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.131

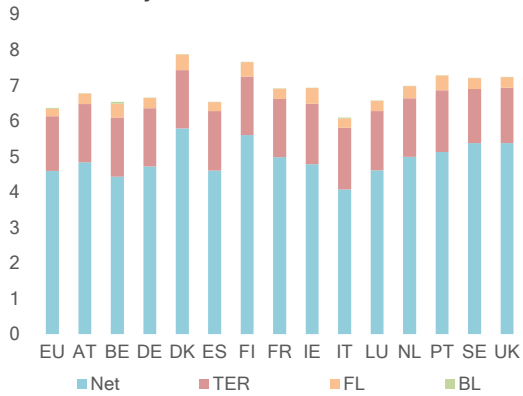
Bond UCITS by investor domicile – 1Y



Note: EU 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 EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.132

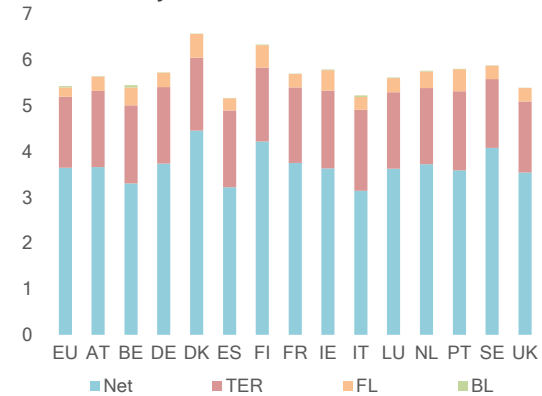
Mixed UCITS by investor domicile – 10Y



Note: EU 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 EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.133

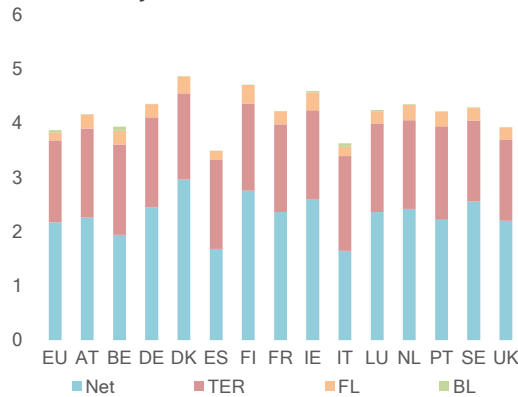
Mixed UCITS by investor domicile – 7Y



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.134

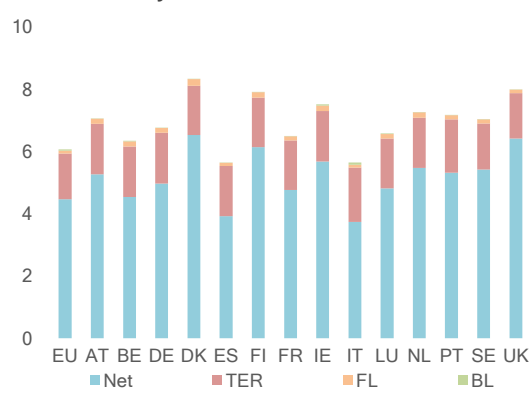
Mixed UCITS by investor domicile – 3Y



Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.135

Mixed UCITS by investor domicile – 1Y

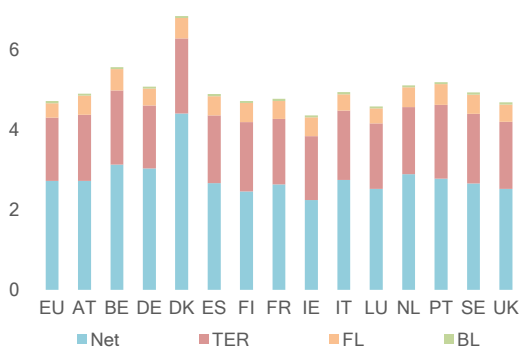


Note: EU UCITS mixed funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.136

Alternative UCITS by investor domicile – 10Y

8

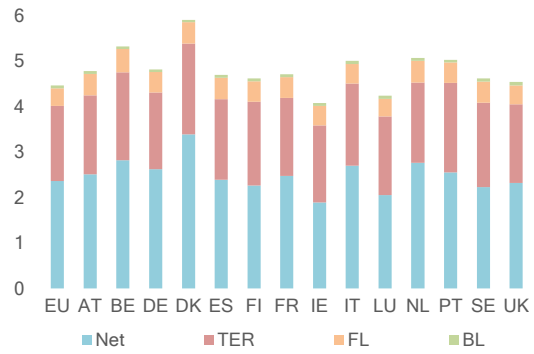


Note: EU UCITS alternative funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 10Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.137

Alternative UCITS by investor domicile – 7Y

7

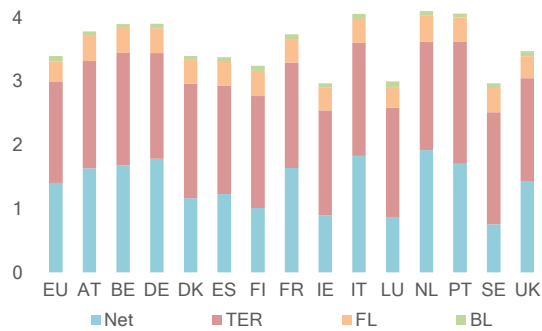


Note: EU UCITS alternative funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.138

Alternative UCITS by investor domicile – 3Y

5

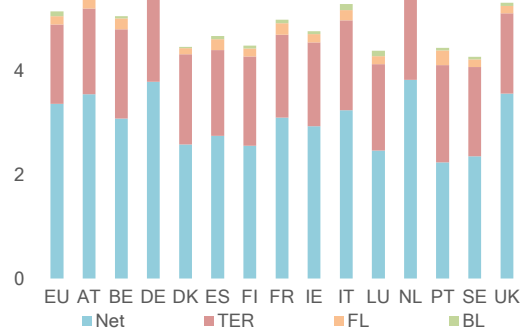


Note: EU UCITS alternative funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.139

Alternative UCITS by investor domicile – 1Y

6

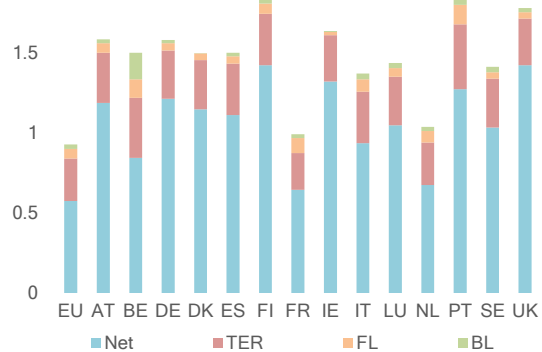


Note: EU UCITS alternative funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.140

Money market UCITS by investor domicile – 10Y

2

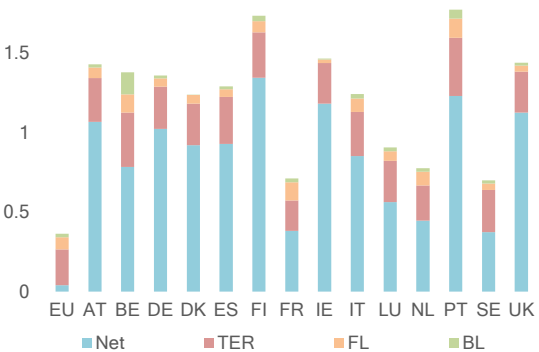


Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 10Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.141

Money market UCITS by investor domicile – 7Y

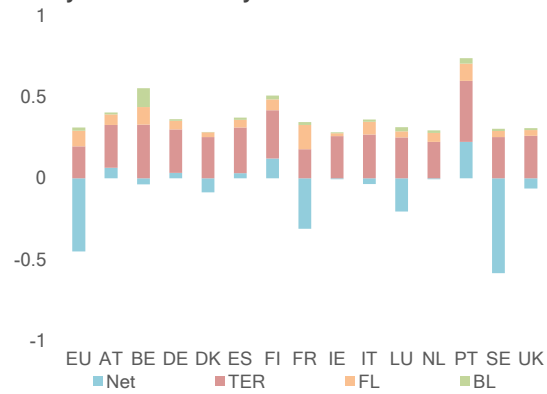
2



Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 7Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.142

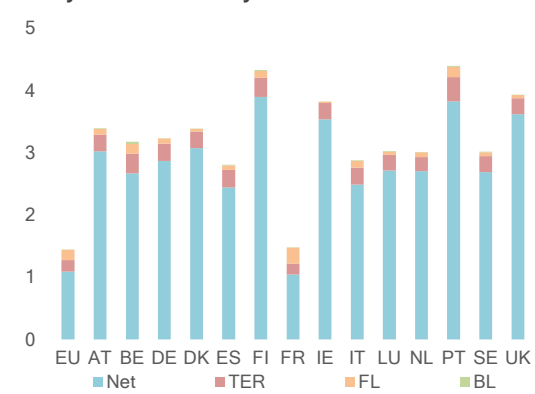
Money market UCITS by investor domicile – 3Y



Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 3Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.143

Money market UCITS by investor domicile – 1Y

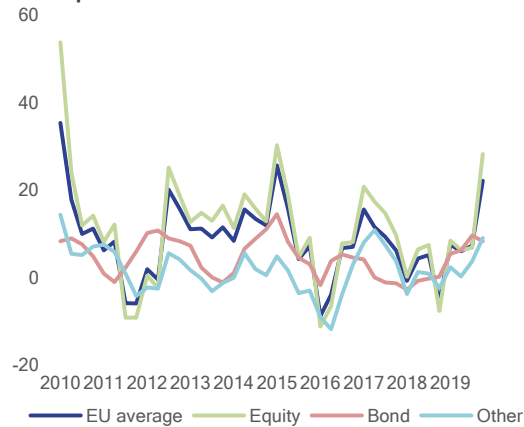


Note: EU UCITS money market funds gross annual performance, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), retail investors, by marketed country, 1Y horizon %. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

UCITS ETFs performance and costs

ASR-PC-S.144

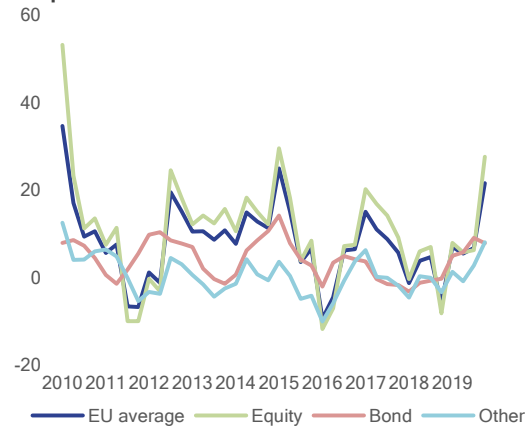
Gross performance over time



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

ASR-PC-S.145

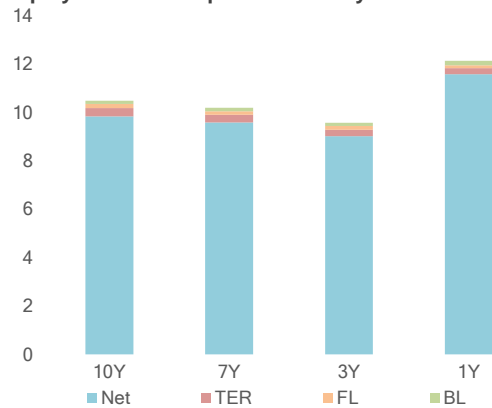
Net performance over time



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

ASR-PC-S.146

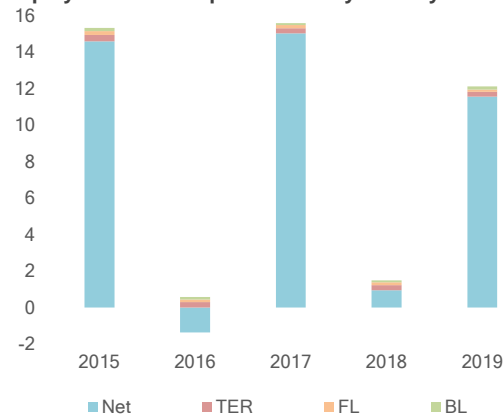
Equity UCITS ETFs performance by time horizon



Note: EU 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.147

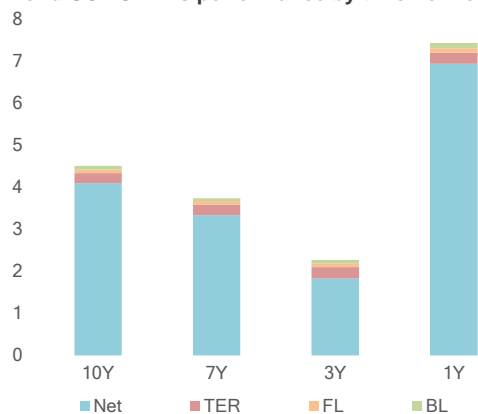
Equity UCITS ETFs performance year-on-year



Note: EU 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.148

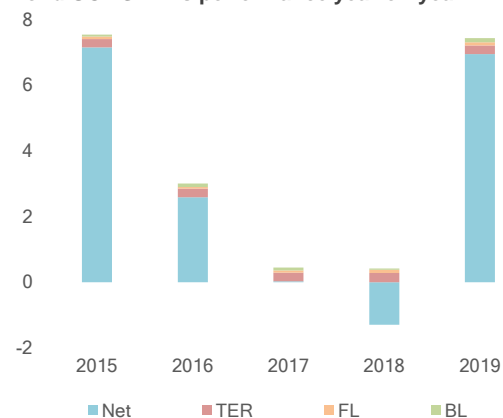
Bond UCITS ETFs performance by time horizon



Note: EU 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.149

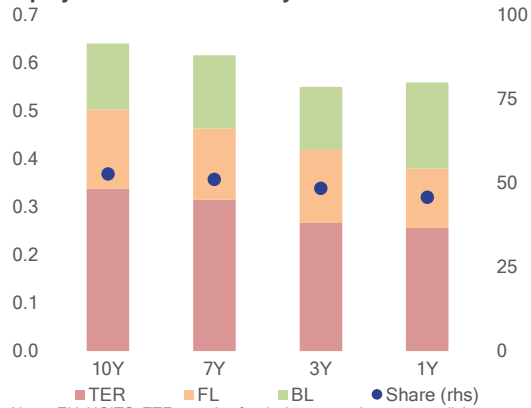
Bond UCITS ETFs performance year-on-year



Note: EU 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.150

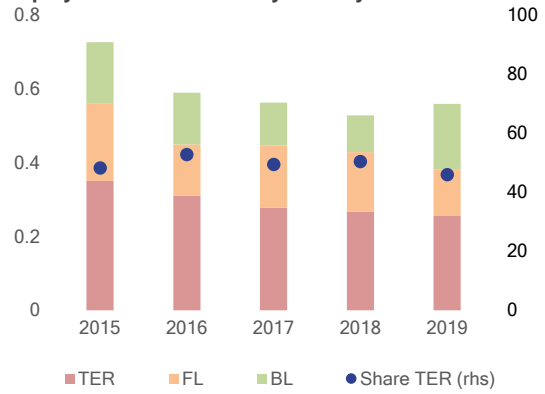
Equity UCITS ETFs costs by time horizon



Note: EU UCITS ETFs equity fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %. Share of ongoing costs over total costs, %.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.151

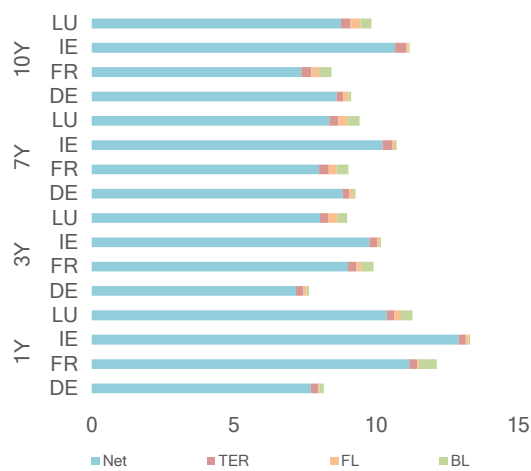
Equity UCITS ETFs costs year-on-year



Note: EU UCITS ETF equity fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.152

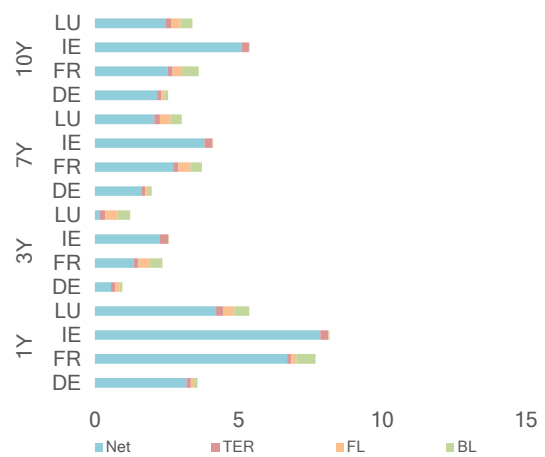
Equity UCITS ETFs performance by domicile



Note: EU 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 EU countries not reported as domiciles not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.153

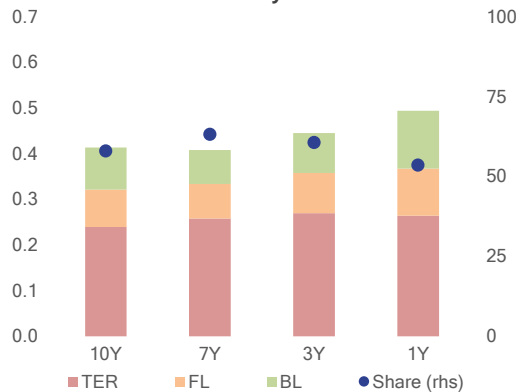
Equity UCITS ETFs costs by domicile



Note: EU 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 EU countries not reported as domiciles not significant.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.154

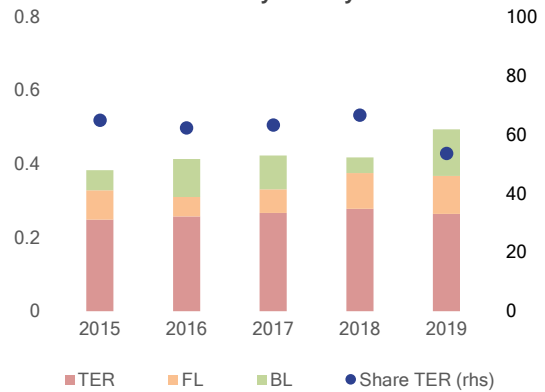
Bond UCITS ETFs costs by time horizon



Note: EU UCITS ETFs bond fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption (BL) fees, aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA

ASR-PC-S.155

Bond UCITS ETFs costs year-on-year

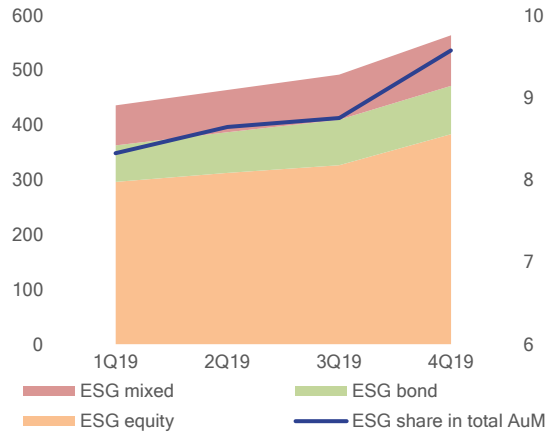


Note: EU UCITS ETF bond fund shares total costs, retail investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %.
Sources: Refinitiv Lipper, ESMA.

UCITS ESG performance and costs

ASR-PC-S.156

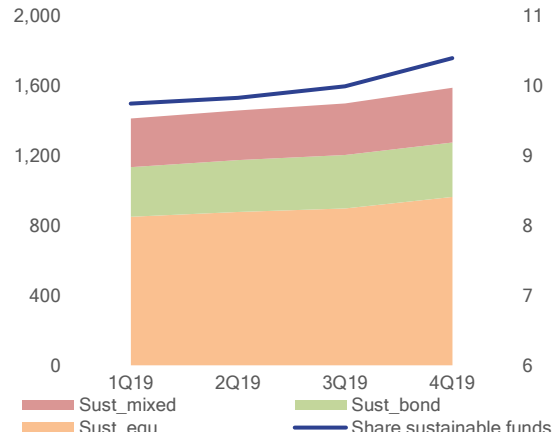
UCITS ESG market size



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

ASR-PC-S.157

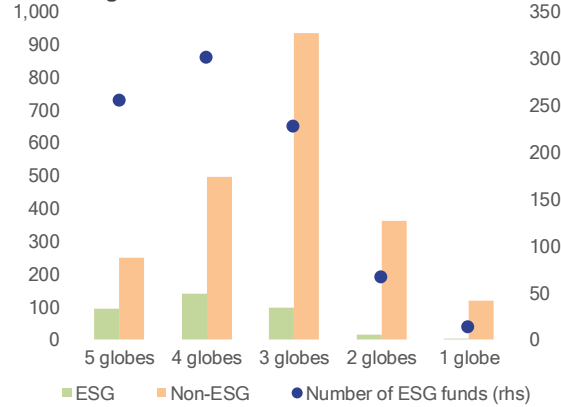
ESG number of funds



Note: EU UCITS ESG, equity, bond and mixed, number of funds. Share of ESG funds over total number of funds (rhs), %.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.158

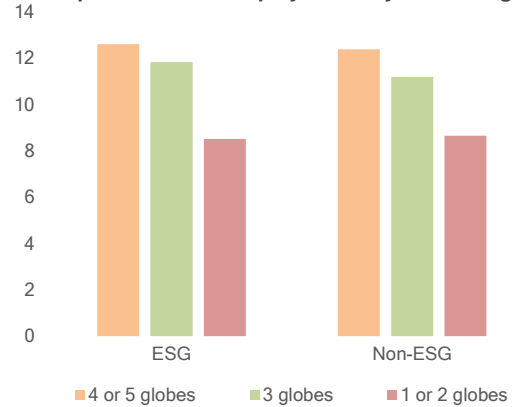
ESG ratings



Note: EU-domiciled ESG and non-ESG equity UCITS fund AuM, including ETFs, by Morningstar sustainability rating, EUR bn, and number of ESG funds (right axis).
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.159

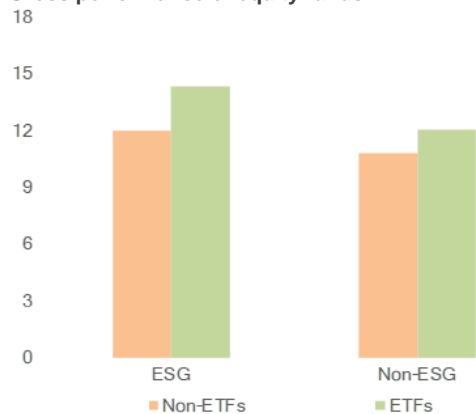
Gross performance of equity funds by ESG rating



Note: EU UCITS equity fund share gross annual performance by Morningstar ESG rating, %. ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.160

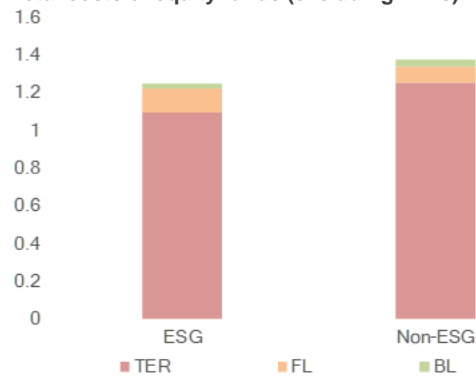
Gross performance of equity funds



Note: EU UCITS equity fund and ETF gross annual performance in 2019, ESG vs. non-ESG funds, in %.
Sources: Morningstar, Refinitiv Lipper, ESMA.

ASR-PC-S.161

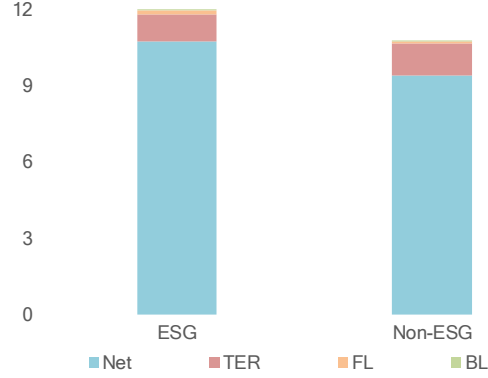
Total costs of equity funds (excluding ETFs)



Note: EU equity UCITS fund shares total costs, retail and institutional investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.162

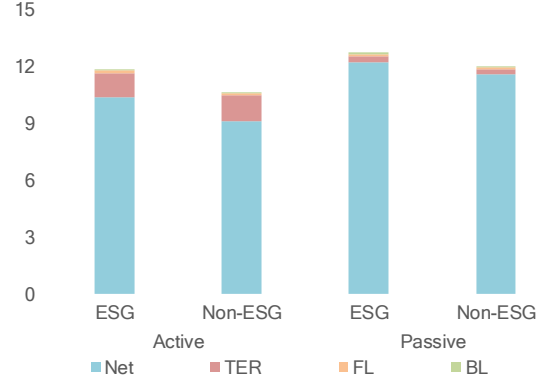
Net performance of equity funds



Note: EU equity UCITS fund shares gross annual performance, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.163

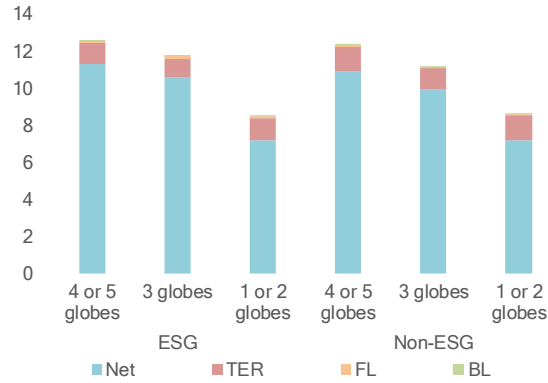
Net performance of active and passive equity funds



Note: EU equity UCITS fund shares gross annual performance by management type and sustainable investment, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon, %. Equity UCITS ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.164

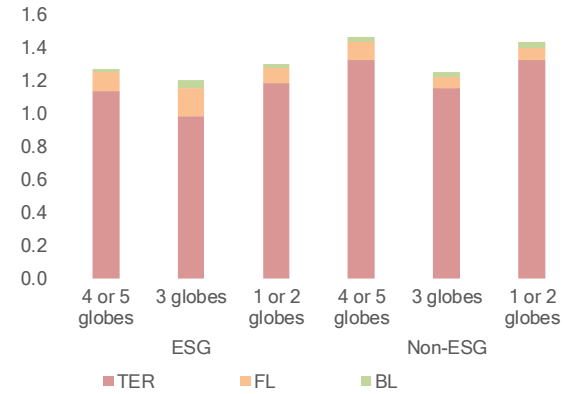
Net performance of equity funds by ESG



Note: EU equity UCITS fund shares gross annual performance, retail and institutional investors, classified as net performance, ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and Morningstar sustainability rating, %. Equity UCITS ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

ASR-PC-S.165

Total costs of equity funds by ESG rating



Note: EU equity UCITS fund shares total costs, retail and institutional investors, classified as ongoing costs (TER), subscription (FL) and redemption fees (BL), aggregated by time horizon and Morningstar sustainability rating, %. UCITS ETFs not included.
Sources: Morningstar Direct, Refinitiv Lipper, ESMA.

Gross and net performance by asset class and domicile

ASR-PC-S.166

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

	10Y					7Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	9.93	7.84	1.91	0.18	0.00	9.25	7.11	1.95	0.19	0.00
BE	10.56	8.87	1.56	0.12	0.00	10.05	8.37	1.56	0.12	0.00
DE	11.20	9.55	1.50	0.14	0.00	10.96	9.30	1.51	0.14	0.00
DK						11.71	10.13	1.51	0.04	0.03
ES	8.57	6.55	1.91	0.00	0.11	8.97	6.97	1.87	0.00	0.12
FI						10.99	9.40	1.46	0.04	0.08
FR	9.68	7.79	1.73	0.15	0.02	9.79	7.87	1.76	0.14	0.02
IE	11.37	9.72	1.46	0.17	0.02	10.44	8.85	1.41	0.16	0.03
IT	9.37	7.22	2.11	0.03	0.01	9.70	7.56	2.10	0.02	0.02
LU	10.58	8.42	1.86	0.25	0.04	9.61	7.50	1.83	0.24	0.04
NL	11.50	10.42	0.99	0.04	0.05	11.26	10.27	0.86	0.06	0.07
PT						9.00	6.80	2.04	0.00	0.16
SE	13.88	12.83	1.04	0.01	0.00	11.17	10.06	1.09	0.01	0.00
UK	11.38	9.83	1.46	0.09	0.00	9.40	7.92	1.41	0.07	0.01
EU	10.97	9.15	1.63	0.16	0.03	10.00	8.23	1.59	0.15	0.03

	3Y					1Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	9.32	7.25	1.89	0.17	0.00	10.38	8.35	1.87	0.16	0.00
BE	7.57	5.94	1.52	0.11	0.00	9.74	8.22	1.43	0.09	0.00
DE	8.73	7.07	1.51	0.15	0.00	10.70	9.09	1.48	0.12	0.00
DK	9.57	8.02	1.48	0.03	0.04	12.46	11.06	1.35	0.03	0.02
ES	6.92	5.04	1.78	0.00	0.09	4.82	3.07	1.66	0.00	0.08
FI	9.57	8.05	1.40	0.02	0.09	11.79	10.26	1.39	0.01	0.13
FR	8.00	6.11	1.69	0.17	0.03	7.63	5.81	1.65	0.14	0.03
IE	10.72	9.22	1.33	0.13	0.03	12.09	10.62	1.31	0.12	0.04
IT	9.01	6.90	2.06	0.03	0.02	9.00	6.95	2.02	0.01	0.03
LU	9.75	7.75	1.75	0.22	0.04	11.45	9.54	1.72	0.15	0.04
NL	10.71	9.88	0.61	0.10	0.12	14.97	14.16	0.52	0.06	0.23
PT	10.83	8.70	2.01	0.00	0.11	11.70	9.59	2.01	0.00	0.10
SE	9.89	8.85	1.03	0.01	0.00	11.55	10.54	1.01	0.01	0.00
UK	8.25	6.90	1.30	0.05	0.00	9.71	8.41	1.26	0.03	0.00
EU	9.27	7.59	1.51	0.13	0.03	10.73	9.13	1.47	0.10	0.03

Note: EU 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.167

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

	10Y					7Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	3.94	3.08	0.70	0.16	0.00	3.08	2.18	0.73	0.17	0.00
BE	3.49	2.55	0.84	0.10	0.00	2.83	1.74	0.98	0.11	0.00
DE	4.04	3.07	0.83	0.14	0.00	3.22	2.26	0.81	0.14	0.00
DK						3.34	2.46	0.82	0.03	0.03
ES	2.30	1.54	0.71	0.02	0.02	2.21	1.44	0.73	0.03	0.02
FI						3.12	2.43	0.64	0.02	0.03
FR	3.42	2.45	0.80	0.14	0.02	3.04	2.08	0.78	0.16	0.03
IE	6.50	4.77	1.23	0.47	0.03	4.42	2.88	1.19	0.33	0.02
IT	2.83	1.69	1.06	0.04	0.04	2.70	1.50	1.11	0.04	0.05
LU	5.79	4.20	1.23	0.31	0.04	4.36	2.85	1.22	0.25	0.04
NL						3.88	3.24	0.62	0.00	0.02
PT						2.36	1.66	0.66	0.00	0.04
SE						-0.97	-1.48	0.51	0.01	0.00
UK	6.89	5.70	1.10	0.09	0.00	4.09	2.96	1.07	0.06	0.00
EU	5.14	3.79	1.09	0.22	0.03	3.85	2.55	1.08	0.19	0.03

	3Y					1Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	1.71	0.82	0.76	0.12	0.00	4.83	3.98	0.76	0.09	0.00
BE	1.36	0.27	1.02	0.07	0.00	3.11	2.06	0.95	0.10	0.00
DE	1.84	0.93	0.79	0.12	0.00	4.88	3.91	0.81	0.16	0.00
DK	2.97	2.09	0.82	0.02	0.04	4.03	3.20	0.79	0.02	0.02
ES	0.82	0.10	0.67	0.02	0.03	1.69	1.02	0.61	0.03	0.03
FI	2.12	1.44	0.65	0.01	0.03	4.53	3.82	0.67	0.01	0.02
FR	1.75	0.80	0.77	0.16	0.02	2.67	1.76	0.73	0.15	0.02
IE	3.60	2.15	1.07	0.36	0.02	9.08	7.78	1.05	0.22	0.03
IT	1.92	0.62	1.16	0.04	0.10	4.31	3.03	1.18	0.03	0.08
LU	3.09	1.71	1.13	0.22	0.03	7.36	6.04	1.10	0.19	0.03
NL	1.95	1.36	0.58	0.00	0.02	5.72	5.15	0.57	0.00	0.01
PT	1.07	0.35	0.68	0.00	0.04	2.13	0.89	1.16	0.00	0.09
SE	-2.38	-2.89	0.50	0.01	0.00	-0.71	-1.21	0.50	0.01	0.00
UK	2.76	1.69	1.00	0.06	0.00	8.66	7.66	0.96	0.04	0.00
EU	2.64	1.43	1.01	0.18	0.03	6.46	5.31	0.98	0.15	0.03

Note: EU 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, FI, NL, PT and SE not reported at 10Y. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.168**Mixed UCITS - gross and net performance and costs by country for different investment horizons**

	10Y					7Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	5.78	3.93	1.60	0.25	0.00	5.55	3.59	1.66	0.29	0.00
BE	5.72	3.70	1.71	0.32	0.00	5.28	2.98	1.96	0.34	0.00
DE	5.92	4.21	1.50	0.21	0.00	5.46	3.71	1.54	0.21	0.00
DK						6.41	5.21	1.13	0.06	0.01
ES	3.87	2.46	1.41	0.00	0.00	3.96	2.49	1.46	0.01	0.00
FI						6.69	5.30	1.33	0.03	0.02
FR	5.67	3.83	1.62	0.21	0.00	5.16	3.36	1.66	0.14	0.00
IE	6.27	3.83	1.91	0.50	0.02	4.87	2.33	1.96	0.55	0.03
IT	4.59	2.82	1.57	0.07	0.13	4.53	2.67	1.61	0.09	0.17
LU	6.73	4.78	1.66	0.27	0.02	5.75	3.76	1.66	0.32	0.02
NL	8.77	7.86	0.90	0.01	0.01	8.19	7.29	0.87	0.01	0.02
PT						3.24	1.58	1.60	0.00	0.06
SE						5.94	4.99	0.95	0.00	0.00
UK	7.33	5.68	1.45	0.21	0.00	4.70	3.13	1.42	0.15	0.00
EU	6.29	4.51	1.54	0.21	0.03	5.37	3.58	1.55	0.20	0.04
	3Y					1Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	4.35	2.52	1.58	0.25	0.00	6.49	4.76	1.52	0.21	0.00
BE	4.23	2.25	1.83	0.15	0.00	5.81	4.02	1.66	0.13	0.00
DE	4.10	2.40	1.54	0.16	0.00	5.41	3.79	1.52	0.09	0.00
DK	4.78	3.59	1.13	0.06	0.01	6.54	5.36	1.14	0.04	0.00
ES	2.66	1.22	1.43	0.01	0.00	3.14	1.72	1.40	0.03	0.00
FI	5.02	3.69	1.31	0.01	0.01	7.47	6.13	1.31	0.01	0.02
FR	3.52	1.80	1.60	0.12	0.01	3.99	2.37	1.55	0.06	0.01
IE	4.66	2.66	1.71	0.22	0.07	8.00	6.10	1.60	0.15	0.15
IT	2.77	0.87	1.58	0.05	0.27	4.01	2.17	1.59	0.03	0.22
LU	4.36	2.47	1.63	0.23	0.02	6.91	5.13	1.61	0.15	0.02
NL	6.45	5.71	0.71	0.01	0.02	9.34	8.67	0.64	0.00	0.03
PT	3.50	1.76	1.71	0.00	0.03	4.63	2.89	1.72	0.00	0.02
SE	4.12	3.18	0.94	0.00	0.00	6.12	5.17	0.95	0.00	0.00
UK	3.21	1.81	1.32	0.09	0.00	8.09	6.80	1.27	0.02	0.00
EU	3.84	2.12	1.52	0.14	0.05	6.04	4.43	1.49	0.09	0.04

Note: EU 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. DK, FI, PT and SE not reported at 10Y. Other EU countries not reported.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.169**Alternative UCITS - gross and net performances and costs by country for different investment horizons**

	10Y					7Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	2.00	0.98	0.80	0.22	0.00	0.95	-0.13	0.83	0.25	0.00
BE						5.27	4.03	1.15	0.09	0.00
DE	7.77	5.49	1.51	0.76	0.00	6.76	4.44	1.53	0.79	0.00
DK										
ES	7.27	5.63	1.49	0.00	0.15	5.97	4.21	1.61	0.00	0.16
FI										
FR	4.96	3.15	1.32	0.43	0.06	5.13	3.36	1.27	0.43	0.06
IE						4.26	2.04	1.74	0.43	0.06
IT										
LU	4.58	2.51	1.67	0.34	0.05	4.37	2.16	1.77	0.36	0.07
NL										
PT										
SE										
UK	1.79	0.33	1.18	0.19	0.09	0.93	-0.46	1.08	0.20	0.11
EU	4.48	2.51	1.57	0.35	0.06	4.30	2.22	1.64	0.37	0.07
	3Y					1Y				
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT	0.04	-1.06	0.87	0.23	0.00	3.40	2.52	0.86	0.02	0.00
BE	3.34	1.84	1.29	0.21	0.00	5.38	4.13	1.24	0.01	0.00
DE	7.87	5.64	1.53	0.69	0.00	9.25	6.72	1.51	1.01	0.00
DK	2.29	1.38	0.90	0.01	0.00	6.19	5.08	1.09	0.03	0.00
ES	3.50	1.69	1.54	0.00	0.27	2.90	1.31	1.46	0.00	0.14
FI										
FR	6.65	4.93	1.23	0.41	0.07	8.67	7.12	1.23	0.23	0.09
IE	2.82	0.77	1.55	0.42	0.09	4.91	3.29	1.46	0.07	0.09
IT										
LU	3.00	0.90	1.75	0.27	0.09	4.49	2.52	1.70	0.18	0.10
NL										
PT										
SE	-9.81	-10.78	0.96	0.01	0.01	-9.57	-10.56	0.98	0.00	0.01
UK	-0.23	-1.26	0.95	0.02	0.05	3.28	2.32	0.89	0.03	0.04
EU	3.29	1.32	1.58	0.30	0.09	5.13	3.37	1.51	0.16	0.09

Note: EU UCITS alternative 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. FI, IT, NL, PT and Other EU countries not reported. BE and IE not reported at 10Y. DK and SE not reported at 10Y and 7Y.
Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.170**Money market UCITS - gross and net performances and costs by country for different investment horizons**

	10Y			7Y						
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT										
BE										
DE	0.65	0.29	0.35	0.01	0.00	0.62	-0.05	0.64	0.02	0.00
DK						0.29	0.00	0.28	0.01	0.00
ES	1.18	0.63	0.55	0.00	0.00	0.88	0.35	0.53	0.00	0.00
FI						0.29	0.04	0.26	0.00	0.00
FR	0.40	0.13	0.14	0.11	0.02	0.15	-0.14	0.12	0.15	0.02
IE	2.17	1.88	0.27	0.02	0.01	1.56	1.31	0.22	0.01	0.01
IT										
LU	1.60	1.18	0.35	0.05	0.02	1.13	0.75	0.31	0.05	0.02
NL										
PT										
SE										
UK										
EU	0.91	0.55	0.27	0.06	0.03	0.37	0.04	0.23	0.07	0.02
	3Y			1Y						
	Gross	Net	TER	FL	BL	Gross	Net	TER	FL	BL
AT										
BE	1.35	0.78	0.56	0.01	0.00	2.46	1.84	0.59	0.03	0.00
DE	0.04	-0.23	0.24	0.02	0.00	0.25	0.00	0.23	0.02	0.00
DK										
ES	0.08	-0.32	0.40	0.00	0.00	0.19	-0.16	0.35	0.00	0.00
FI	-0.03	-0.20	0.16	0.00	0.00	0.06	-0.09	0.15	0.00	0.00
FR	-0.14	-0.44	0.08	0.20	0.02	-0.15	-0.59	0.08	0.35	0.01
IE	0.24	-0.05	0.26	0.02	0.01	3.58	3.33	0.22	0.03	0.00
IT										
LU	0.10	-0.25	0.29	0.05	0.01	3.25	2.87	0.29	0.07	0.01
NL										
PT	0.27	0.03	0.24	0.00	0.00	0.35	0.09	0.26	0.00	0.00
SE	-3.49	-3.65	0.16	0.00	0.00	-2.20	-2.38	0.18	0.00	0.00
UK	-0.38	-0.56	0.17	0.00	0.00	2.62	2.48	0.14	0.00	0.00
EU	-0.14	-0.46	0.20	0.09	0.02	1.43	1.07	0.19	0.16	0.01

Note: EU UCITS money market fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered. AT, DK, IT, NL and Other countries not reported. BE, FI, SE and UK not reported at 10Y. PT not reported at 10Y and 7Y.

Sources: Refinitiv Lipper, ESMA.

Fund domicile and marketing country**ASR-PC-S.171****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	UK	Other EU
	AT	672				6	359		9	1			9	0	
BE	78	486			99	84		28	92	25		36		1	66
DK	3		425	9	10	22			17	17		17	28	17	0
FI	7		9	261	9	13		8	6		4	10	94		10
FR	75	91	1	4	1,825	139	7	168	109	50	16	130	14	26	6
DE	248	2	0	0	25	886	13	12	33	8	2	28	1	0	3
IE	584	321	376	496	634	742	1,162	636	597	538	162	696	568	914	77
IT								553							
LU	3,082	2,375	1,376	2,093	3,124	4,098	1,318	3,352	6,351	2,324	1,517	3,160	2,321	2,471	1,502
NL	8	22			9	14	7	1	19	104	7	9		11	7
PT											105	1			
ES												1,118			
SE		1	6	74	5				4	1			377		2
UK	103	68	36	30	96	105	142	54	60	60	34	59	57	1,278	1

Other EU

Note: EU UCITS number of funds by country of domicile (rows) and marketed country (columns), 2019. Please note that a fund appearing as marketed in a country will also appear in the domicile. Sources: Refinitiv Lipper, ESMA.

Gross and net performance including inflation

ASR-PC-S.172

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

	10Y						7Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	9.93	5.99	1.91	1.85	0.18	0.00	9.25	5.35	1.95	1.76	0.19	0.00
BE	10.56	7.15	1.56	1.72	0.12	0.00	10.05	6.79	1.56	1.58	0.12	0.00
DE	11.20	8.21	1.50	1.33	0.14	0.00	10.96	7.98	1.51	1.32	0.14	0.00
DK							11.71	9.42	1.51	0.71	0.04	0.03
ES	8.57	5.35	1.91	1.20	0.00	0.11	8.97	6.08	1.87	0.89	0.00	0.12
FI							10.99	8.19	1.46	1.22	0.04	0.08
FR	9.68	6.59	1.73	1.20	0.15	0.02	9.79	6.82	1.76	1.05	0.14	0.02
IE	11.37	9.57	1.46	0.15	0.17	0.02	10.44	8.35	1.41	0.50	0.16	0.03
IT	9.37	5.91	2.11	1.31	0.03	0.01	9.70	6.52	2.10	1.04	0.02	0.02
LU	10.58	6.73	1.86	1.69	0.25	0.04	9.61	6.15	1.83	1.36	0.24	0.04
NL	11.50	9.13	0.99	1.29	0.04	0.05	11.26	9.06	0.86	1.21	0.06	0.07
PT							9.00	5.79	2.04	1.01	0.00	0.16
SE	13.88	11.57	1.04	1.26	0.01	0.00	11.17	8.98	1.09	1.09	0.01	0.00
UK	11.38	7.59	1.46	2.24	0.09	0.00	9.40	6.13	1.41	1.78	0.07	0.01
EU	10.97	7.59	1.63	1.56	0.16	0.03	10.00	6.94	1.59	1.30	0.15	0.03
	3Y						1Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	9.32	5.45	1.89	1.80	0.17	0.00	10.38	6.30	1.87	2.05	0.16	0.00
BE	7.57	3.87	1.52	2.06	0.11	0.00	9.74	5.93	1.43	2.29	0.09	0.00
DE	8.73	5.64	1.51	1.43	0.15	0.00	10.70	7.15	1.48	1.94	0.12	0.00
DK	9.57	7.48	1.48	0.54	0.03	0.04	12.46	10.38	1.35	0.68	0.03	0.02
ES	6.92	3.84	1.78	1.19	0.00	0.09	4.82	1.25	1.66	1.81	0.00	0.08
FI	9.57	7.23	1.40	0.82	0.02	0.09	11.79	9.06	1.39	1.20	0.01	0.13
FR	8.00	4.87	1.69	1.24	0.17	0.03	7.63	3.69	1.65	2.12	0.14	0.03
IE	10.72	8.96	1.33	0.26	0.13	0.03	12.09	9.81	1.31	0.80	0.12	0.04
IT	9.01	6.02	2.06	0.88	0.03	0.02	9.00	5.69	2.02	1.26	0.01	0.03
LU	9.75	6.31	1.75	1.43	0.22	0.04	11.45	7.50	1.72	2.04	0.15	0.04
NL	10.71	8.94	0.61	0.94	0.10	0.12	14.97	12.63	0.52	1.52	0.06	0.23
PT	10.83	7.54	2.01	1.17	0.00	0.11	11.70	8.26	2.01	1.34	0.00	0.10
SE	9.89	7.10	1.03	1.75	0.01	0.00	11.55	8.33	1.01	2.21	0.01	0.00
UK	8.25	4.85	1.30	2.05	0.05	0.00	9.71	6.04	1.26	2.37	0.03	0.00
EU	9.27	6.18	1.51	1.41	0.13	0.03	10.73	7.19	1.47	1.93	0.10	0.03

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

Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.173

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

	10Y						7Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	3.94	1.28	0.70	1.81	0.16	0.00	3.08	0.43	0.73	1.75	0.17	0.00
BE	3.49	0.87	0.84	1.68	0.10	0.00	2.83	0.16	0.98	1.58	0.11	0.00
DE	4.04	1.76	0.83	1.31	0.14	0.00	3.22	0.95	0.81	1.31	0.14	0.00
DK							3.34	1.75	0.82	0.71	0.03	0.03
ES	2.30	0.38	0.71	1.16	0.02	0.02	2.21	0.53	0.73	0.91	0.03	0.02
FI							3.12	1.19	0.64	1.23	0.02	0.03
FR	3.42	1.28	0.80	1.17	0.14	0.02	3.04	1.03	0.78	1.05	0.16	0.03
IE	6.50	4.62	1.23	0.15	0.47	0.03	4.42	2.37	1.19	0.50	0.33	0.02
IT	2.83	0.40	1.06	1.29	0.04	0.04	2.70	0.46	1.11	1.04	0.04	0.05
LU	5.79	2.57	1.23	1.63	0.31	0.04	4.36	1.49	1.22	1.35	0.25	0.04
NL							3.88	2.02	0.62	1.22	0.00	0.02
PT							2.36	0.66	0.66	1.00	0.00	0.04
SE							-0.97	-2.56	0.51	1.08	0.01	0.00
UK	6.89	3.48	1.10	2.22	0.09	0.00	4.09	1.18	1.07	1.78	0.06	0.00
EU	5.14	2.29	1.09	1.50	0.22	0.03	3.85	1.32	1.08	1.24	0.19	0.03
	3Y						1Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	1.71	-0.93	0.76	1.75	0.12	0.00	4.83	1.95	0.76	2.03	0.09	0.00
BE	1.36	-1.78	1.02	2.05	0.07	0.00	3.11	-0.21	0.95	2.27	0.10	0.00
DE	1.84	-0.46	0.79	1.39	0.12	0.00	4.88	1.99	0.81	1.92	0.16	0.00
DK	2.97	1.56	0.82	0.52	0.02	0.04	4.03	2.52	0.79	0.67	0.02	0.02
ES	0.82	-1.01	0.67	1.11	0.02	0.03	1.69	-0.75	0.61	1.78	0.03	0.03
FI	2.12	0.62	0.65	0.81	0.01	0.03	4.53	2.63	0.67	1.20	0.01	0.02
FR	1.75	-0.40	0.77	1.20	0.16	0.02	2.67	-0.33	0.73	2.10	0.15	0.02
IE	3.60	1.92	1.07	0.23	0.36	0.02	9.08	6.99	1.05	0.80	0.22	0.03
IT	1.92	-0.22	1.16	0.84	0.04	0.10	4.31	1.78	1.18	1.25	0.03	0.08
LU	3.09	0.31	1.13	1.39	0.22	0.03	7.36	4.02	1.10	2.02	0.19	0.03
NL	1.95	0.44	0.58	0.92	0.00	0.02	5.72	3.63	0.57	1.52	0.00	0.01
PT	1.07	-0.79	0.68	1.14	0.00	0.04	2.13	-0.42	1.16	1.30	0.00	0.09
SE	-2.38	-4.62	0.50	1.74	0.01	0.00	-0.71	-3.41	0.50	2.20	0.01	0.00
UK	2.76	-0.30	1.00	1.99	0.06	0.00	8.66	5.30	0.96	2.36	0.04	0.00
EU	2.64	0.20	1.01	1.24	0.18	0.03	6.46	3.52	0.98	1.79	0.15	0.03

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

Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.174**Mixed UCITS - gross and net performance and costs by country for different investment horizons**

	10Y						7Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	5.78	2.11	1.60	1.82	0.25	0.00	5.55	1.84	1.66	1.75	0.29	0.00
BE	5.72	2.00	1.71	1.69	0.32	0.00	5.28	1.41	1.96	1.58	0.34	0.00
DE	5.92	2.88	1.50	1.32	0.21	0.00	5.46	2.40	1.54	1.31	0.21	0.00
DK							6.41	4.50	1.13	0.71	0.06	0.01
ES	3.87	1.29	1.41	1.17	0.00	0.00	3.96	1.59	1.46	0.90	0.01	0.00
FI							6.69	4.08	1.33	1.22	0.03	0.02
FR	5.67	2.65	1.62	1.18	0.21	0.00	5.16	2.30	1.66	1.06	0.14	0.00
IE	6.27	3.68	1.91	0.15	0.50	0.02	4.87	1.83	1.96	0.50	0.55	0.03
IT	4.59	1.54	1.57	1.29	0.07	0.13	4.53	1.64	1.61	1.03	0.09	0.17
LU	6.73	3.13	1.66	1.64	0.27	0.02	5.75	2.42	1.66	1.35	0.32	0.02
NL	8.77	6.57	0.90	1.29	0.01	0.01	8.19	6.09	0.87	1.20	0.01	0.02
PT							3.24	0.56	1.60	1.02	0.00	0.06
SE							5.94	3.90	0.95	1.08	0.00	0.00
UK	7.33	3.46	1.45	2.21	0.21	0.00	4.70	1.36	1.42	1.76	0.15	0.00
EU	6.29	2.99	1.54	1.52	0.21	0.03	5.37	2.30	1.55	1.27	0.20	0.04
	3Y						1Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	4.35	0.75	1.58	1.76	0.25	0.00	6.28	2.73	1.52	2.03	0.21	0.00
BE	4.23	0.20	1.83	2.05	0.15	0.00	5.68	1.75	1.66	2.28	0.13	0.00
DE	4.10	1.00	1.54	1.41	0.16	0.00	5.32	1.86	1.52	1.93	0.09	0.00
DK	4.78	3.06	1.13	0.53	0.06	0.01	6.50	4.68	1.14	0.68	0.04	0.00
ES	2.66	0.09	1.43	1.13	0.01	0.00	3.11	-0.07	1.40	1.79	0.03	0.00
FI	5.02	2.87	1.31	0.82	0.01	0.01	7.44	4.93	1.31	1.20	0.01	0.02
FR	3.52	0.58	1.60	1.22	0.12	0.01	3.92	0.26	1.55	2.11	0.06	0.01
IE	4.66	2.42	1.71	0.24	0.22	0.07	7.70	5.29	1.60	0.80	0.15	0.15
IT	2.77	0.02	1.58	0.85	0.05	0.27	3.76	0.92	1.59	1.25	0.03	0.22
LU	4.36	1.07	1.63	1.41	0.23	0.02	6.74	3.10	1.61	2.03	0.15	0.02
NL	6.45	4.78	0.71	0.94	0.01	0.02	9.32	7.15	0.64	1.52	0.00	0.03
PT	3.50	0.61	1.71	1.14	0.00	0.03	4.61	1.58	1.72	1.31	0.00	0.02
SE	4.12	1.44	0.94	1.74	0.00	0.00	6.12	2.97	0.95	2.20	0.00	0.00
UK	3.21	-0.19	1.32	2.00	0.09	0.00	8.06	4.44	1.27	2.36	0.02	0.00
EU	3.84	0.75	1.52	1.37	0.14	0.05	5.92	2.50	1.49	1.92	0.09	0.04

Note: EU UCITS mixed fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. For BE, BL not considered. DK, FI, PT and SE not reported at 10Y horizon. Other EU countries not reported.

Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.175**Alternative UCITS - gross and net performances and costs by country for different investment horizons**

	10Y						7Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	2.00	-0.83	0.80	1.81	0.22	0.00	0.95	-1.88	0.83	1.75	0.25	0.00
BE							5.27	2.43	1.15	1.60	0.09	0.00
DE	7.77	4.17	1.51	1.32	0.76	0.00	6.76	3.13	1.53	1.31	0.79	0.00
DK												
ES	7.27	4.49	1.49	1.14	0.00	0.15	5.97	3.33	1.61	0.88	0.00	0.16
FI												
FR	4.96	1.98	1.32	1.17	0.43	0.06	5.13	2.31	1.27	1.05	0.43	0.06
IE							4.26	1.54	1.74	0.49	0.43	0.06
IT												
LU	4.58	0.88	1.67	1.64	0.34	0.05	4.37	0.81	1.77	1.35	0.36	0.07
NL												
PT												
SE												
UK	1.79	0.19	0.09	2.22	-1.89	1.18	0.93	-2.22	1.08	1.77	0.20	0.11
EU	4.48	1.05	1.57	1.46	0.35	0.06	4.30	1.07	1.64	1.15	0.37	0.07
	3Y						1Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT	0.04	-2.82	0.87	1.76	0.23	0.00	3.40	0.49	0.86	2.03	0.02	0.00
BE	3.34	-0.22	1.29	2.06	0.21	0.00	5.38	1.85	1.24	2.28	0.01	0.00
DE	7.87	4.23	1.53	1.40	0.69	0.00	9.25	4.79	1.51	1.94	1.01	0.00
DK	2.29	0.86	0.90	0.53	0.01	0.00	6.19	4.40	1.09	0.68	0.03	0.00
ES	3.50	0.56	1.54	1.13	0.00	0.27	2.90	-0.48	1.46	1.79	0.00	0.14
FI							0.00					
FR	6.65	3.73	1.23	1.20	0.41	0.07	8.67	5.02	1.23	2.10	0.23	0.09
IE	2.82	0.53	1.55	0.24	0.42	0.09	4.91	2.49	1.46	0.80	0.07	0.09
IT												
LU	3.00	-0.50	1.75	1.40	0.27	0.09	4.49	0.49	1.70	2.03	0.18	0.10
NL												
PT												
SE	-9.81	-12.52	0.96	1.73	0.01	0.01	-9.57	-12.76	0.98	2.20	0.00	0.01
UK	-0.23	-3.25	0.95	2.00	0.02	0.05	3.28	-0.04	0.89	2.36	0.03	0.04
EU	3.29	0.17	1.58	1.15	0.30	0.09	5.13	1.61	1.51	1.76	0.16	0.09

Note: EU UCITS alternative 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. FI, IT, NL, PT and Other EU countries not reported. BE and IE not reported at 10Y. DK and SE not reported at 10Y and 7Y.

Sources: Refinitiv Lipper, ESMA.

ASR-PC-S.176**Money market UCITS - gross and net performances and costs by country for different investment horizons**

	10Y						7Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT												
BE						0.00	0.62	-1.63	0.64	1.59	0.02	0.00
DE	0.65	-1.02	0.35	1.31	0.01	0.00	0.29	-1.32	0.28	1.31	0.01	0.00
DK												
ES	1.18	-0.53	0.55	1.16	0.00	0.00	0.88	-0.57	0.53	0.91	0.00	0.00
FI							0.29	-1.21	0.26	1.24	0.00	0.00
FR	0.40	-1.04	0.14	1.17	0.11	0.02	0.15	-1.19	0.12	1.06	0.15	0.02
IE	2.17	1.74	0.27	0.14	0.02	0.01	1.56	0.81	0.22	0.50	0.01	0.01
IT												
LU	1.60	-0.46	0.35	1.63	0.05	0.02	1.13	-0.61	0.31	1.36	0.05	0.02
NL												
PT												
SE							-2.23	-3.51	0.21	1.08	0.00	0.00
UK							-0.14	-2.23	0.32	1.77	0.00	0.00
EU	0.91	-0.66	0.27	1.21	0.06	0.03	0.37	-1.02	0.23	1.06	0.07	0.02
	3Y						1Y					
	Gross	Net	TER	Infl	FL	BL	Gross	Net	TER	Infl	FL	BL
AT												
BE	1.35	-1.27	0.56	2.04	0.01	0.00	2.46	-0.43	0.59	2.27	0.03	0.00
DE	0.04	-1.62	0.24	1.39	0.02	0.00	0.25	-1.93	0.23	1.93	0.02	0.00
DK												
ES	0.08	-1.43	0.40	1.12	0.00	0.00	0.19	-1.94	0.35	1.78	0.00	0.00
FI	-0.03	-1.01	0.16	0.82	0.00	0.00	0.06	-1.29	0.15	1.20	0.00	0.00
FR	-0.14	-1.65	0.08	1.20	0.20	0.02	-0.15	-2.69	0.08	2.10	0.35	0.01
IE	0.24	-0.28	0.26	0.23	0.02	0.01	3.58	2.53	0.22	0.80	0.03	0.00
IT												
LU	0.10	-1.64	0.29	1.39	0.05	0.01	3.25	0.84	0.29	2.03	0.07	0.01
NL												
PT	0.27	-1.10	0.24	1.13	0.00	0.00	0.35	-1.21	0.26	1.30	0.00	0.00
SE	-3.49	-5.39	0.16	1.74	0.00	0.00	-2.20	-4.58	0.18	2.20	0.00	0.00
UK	-0.38	-2.54	0.17	1.98	0.00	0.00	2.62	0.13	0.14	2.35	0.00	0.00
EU	-0.14	-1.57	0.20	1.12	0.09	0.02	1.43	-0.76	0.19	1.83	0.16	0.01

Note: EU UCITS money market fund shares' annual gross and net returns, %, ongoing costs (TER), subscription (FL) and redemption (BL) fees, ppt. Aggregation by time horizon and country. For BE, BL not considered. AT, DK, IT, NL and Other EU not reported. BE, FI, SE and UK not reported at 10Y. DK, IT, NL, PT not reported at 10Y and 7Y.

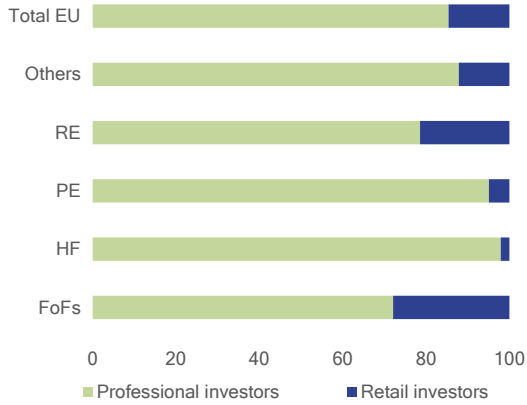
Sources: Refinitiv Lipper, ESMA.

AIFs sold to retail investors

Market Overview

ASR-PC-S.177

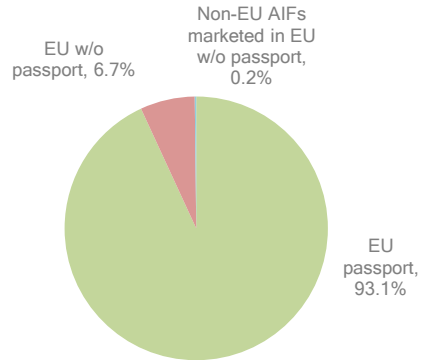
AIFs NAV by type of client



Note: NAV of AIFs by type of client reported at the end of 2019 under the AIFM Directive, in %.
Sources: National Competent Authorities, ESMA

ASR-PC-S.178

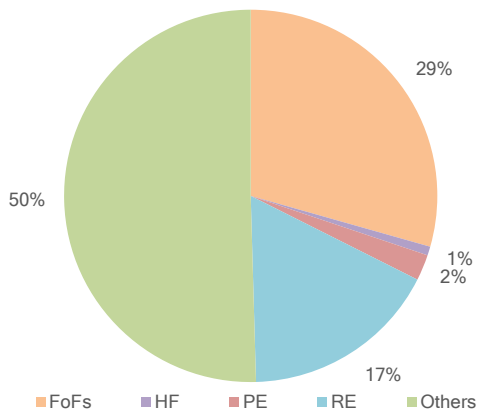
Retail AIFs, AIFMD passport



Note: NAV of retail AIFs by manager's access to AIFMD passport, end 2019, %. Authorised EU AIFMs can access AIFMD passport or market non-EU 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.179

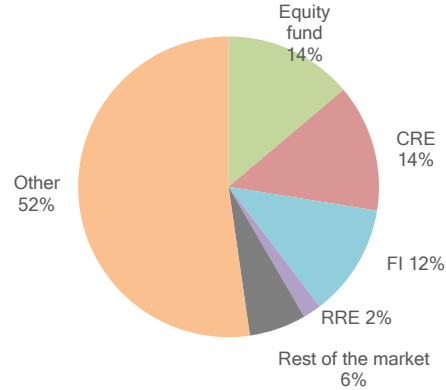
Retail AIFs, NAV by type of fund



Note: NAV of retail AIF type at the end of 2019 reported under AIFM Directive, in %
Sources: National Competent Authority, ESMA

ASR-PC-S.180

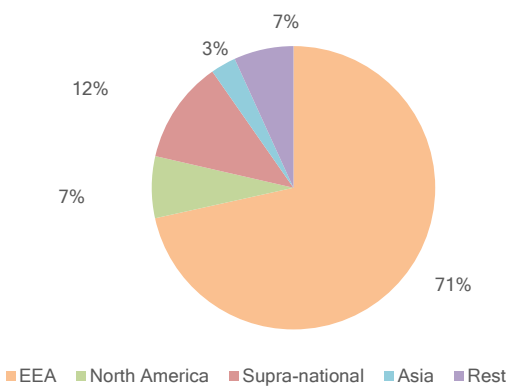
Retail AIFs, NAV by type of strategy



Note: Share of NAV by investment strategy, end of 2019 retail clients, reported under AIFMD, in %. FI = Fixed Income; CRE = Commercial Real Estate; RRE; Residential Real; Estate.
Sources: National Competent Authorities, ESMA

ASR-PC-S.181

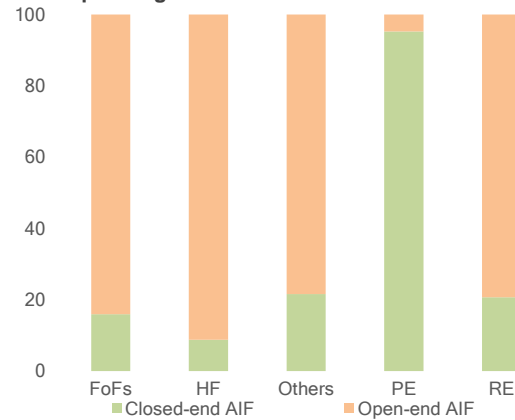
Retail AIFs, NAV by regional investment focus



Note: NAV of AIFs by regional investment focus, retail clients, end of 2019, in %. Reported according to the AIFMD. AIFs managed by authorised and registered AIFMs.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.182

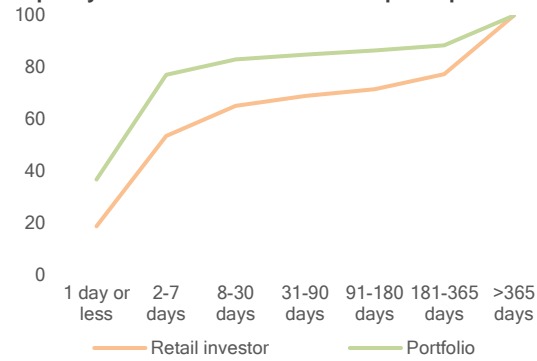
Redemption rights to retail investors



Note: NAV of AIF by redemption rights offered to retail clients, end 2019, %, reporting according to AIFMD. AIFs managed by authorised and registered AIFMs.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.183

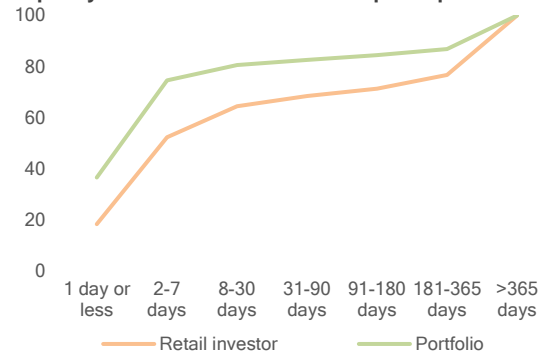
Liquidity risk – AIFs with 100% retail participation



Note: 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.184

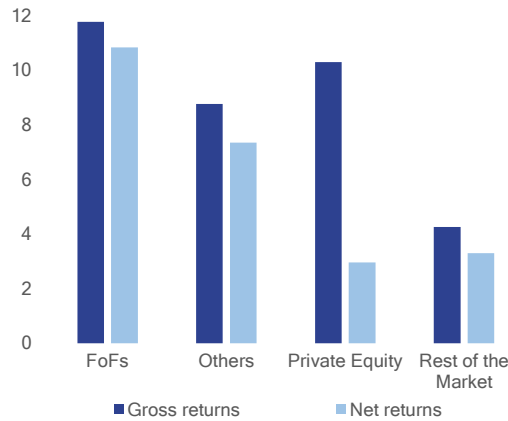
Liquidity risk – AIFs with 60% retail participation



Note: 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. 60% retail participation.
Sources: National Competent Authorities, ESMA.

ASR-PC-S.185

Retail AIFs, gross and net performance



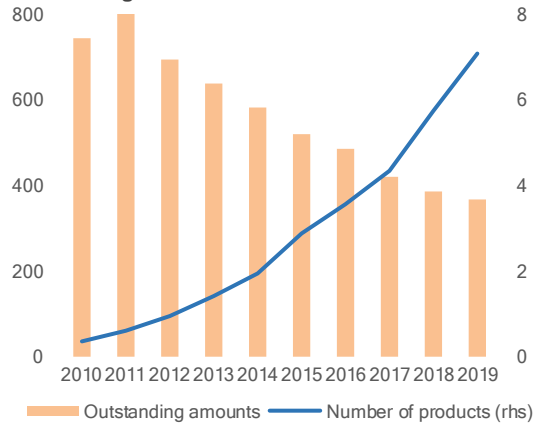
Note: EU AIFs annualised monthly gross and net performance by fund type, %, 2019. Reported according to AIFMD. Rest of the market includes Hedge Funds, Real Estate and None.
Sources: National Competent Authorities, ESMA.

Structured retail products

Market Overview

ASR-PC-S.186

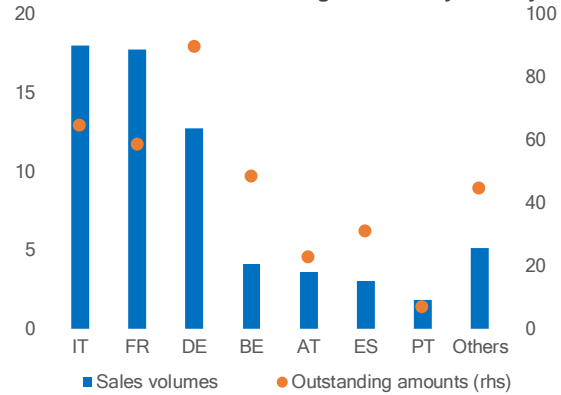
Outstanding amounts of SRPs in the EU



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

ASR-PC-S.187

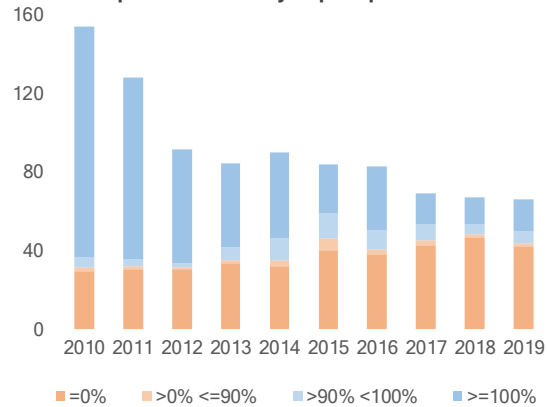
Sales volumes and outstanding amounts by country



Note: Sales volumes, EUR mn, and outstanding amounts, EUR bn, of structured retail products in 2019 for top 7 EU countries by sales volumes, EUR bn. "Others"=EU countries not otherwise listed.
Sources: StructuredRetailProducts.com, ESMA.

ASR-PC-S.188

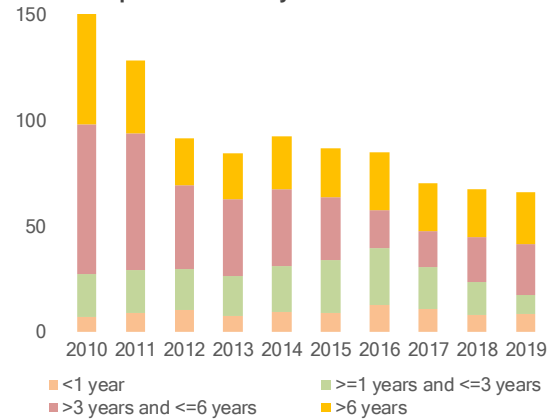
Volume of products sold by capital protection



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.189

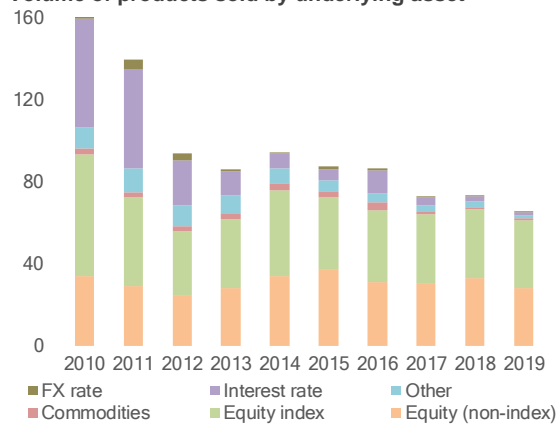
Volume of products sold by term



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.190

Volume of products sold by underlying asset

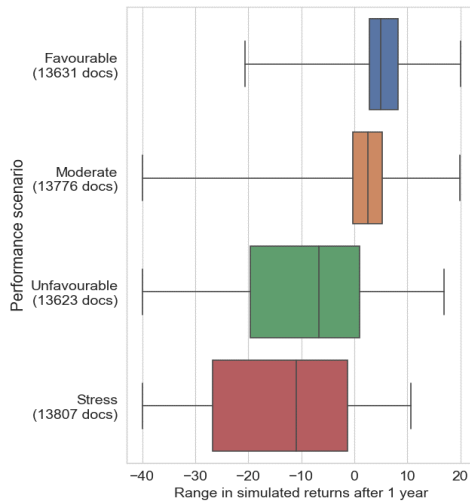


Note: Annual volumes of structured products sold in EU to retail investors by asset class, EUR bn.
Sources: StructuredRetailProducts.com, ESMA.

SRPs performance and costs

ASR-PC-S.191

Completeness of performance scenario information

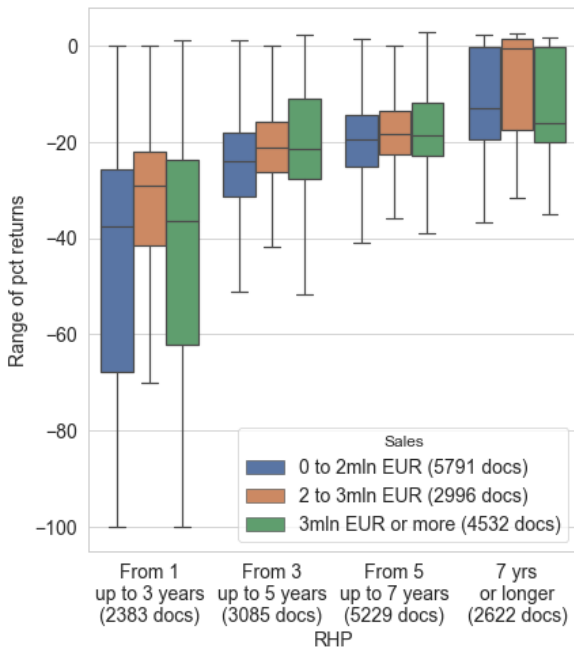


Notes: Range in performance returns for 14,909 PRIIPs in each performance scenario category, using only scenarios that may occur after 1 year of holding the PRIIP. The scenario calculation methodology is set out in the PRIIPs KID Regulation. Similar results are obtained when comparing scenario returns 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') illustrate the 10th and 90th percentiles for that category.

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

ASR-PC-S.193

Variation in stress scenario returns across PRIIPs

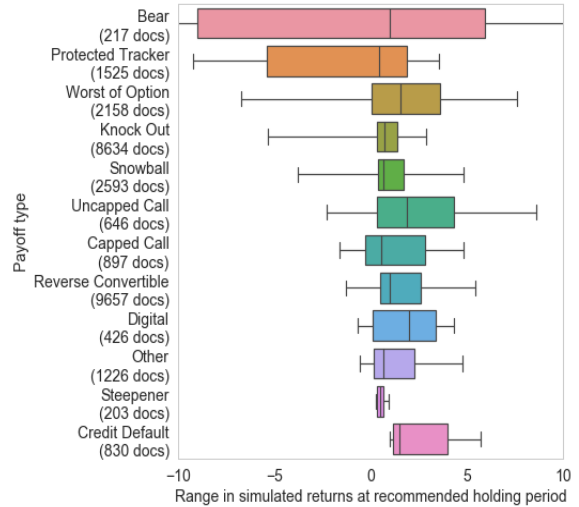


Note: The chart shows the range in the median stressful scenario return (in %) for 13,946 PRIIPs, grouped by estimated sales volume (EUR mln) and recommended holding period. Box edges are the respective 25th and 75th percentile simulated return across the group, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that same group.

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

ASR-PC-S.192

Moderate scenario returns across payoff types

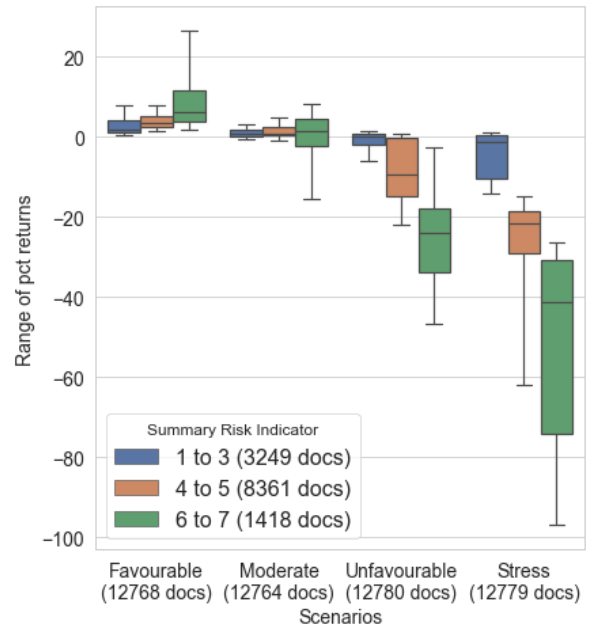


Note: The chart presents the range in moderate scenario returns (after costs) at the product maturity / recommended holding period for PRIIPs grouped by payoff type. The vertical line in each box shows, within each payoff type, the median moderate scenario returns (after costs) at the recommended holding period. Box edges are the 25th and 75th percentiles, and additional lines ('whiskers') illustrate the 10th and 90th percentiles for that payoff type. Nota Bene: one product can contain multiple payoff types. 'Other' collects all PRIIPs containing payoff types that have 200 or fewer observations in the data sample.

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

ASR-PC-S.194

Evaluating the Summary Risk Indicator

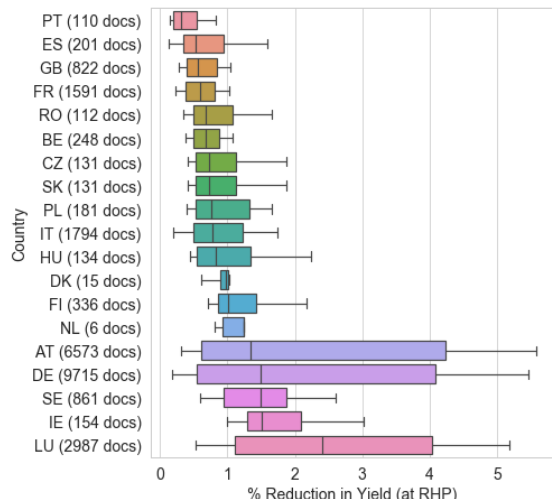


Notes: The boxes and vertical lines indicate the range of returns (at the recommended holding period) across PRIIPs grouped by the Summary Risk Indicator (SRI). The SRI aggregates the estimated Credit Risk (default risk) and Market Risk (adverse market price risk) associated with the PRIIP. The necessary simulations and formulae used to produce the SRI are set out in the PRIIPs KID 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') illustrate the 10th and 90th percentiles for that same group.

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

ASR-PC-S.195

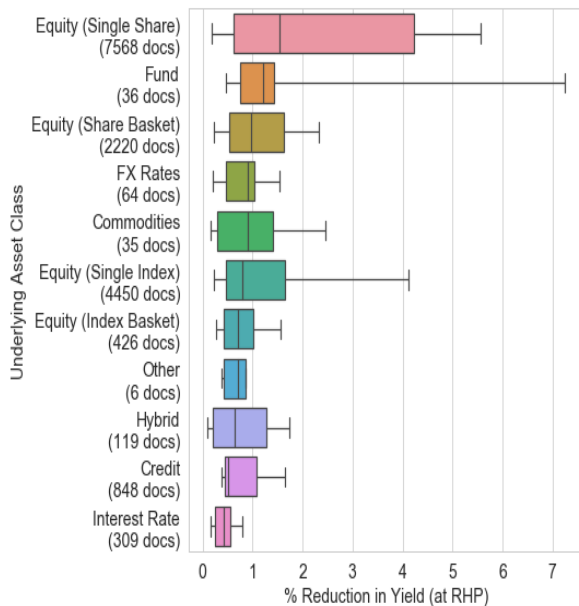
Range in total costs for PRIIPs by country



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') illustrate the 10th and 90th percentiles for that country group. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.197

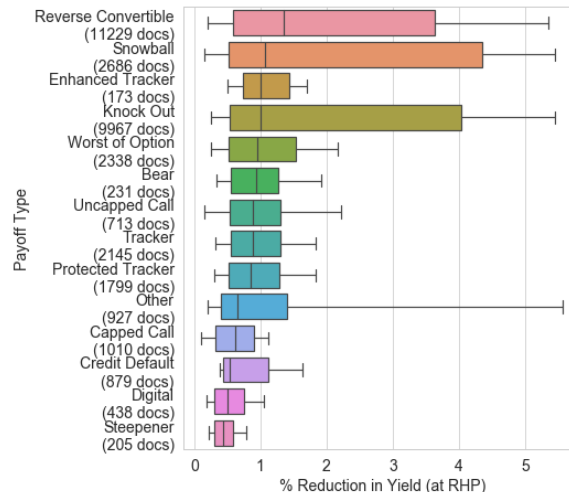
Range in total costs for PRIIPs by underlying asset



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') illustrate 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.196

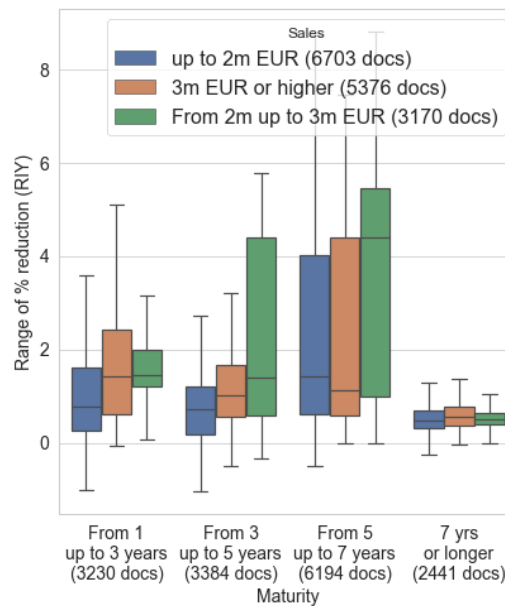
Range in total costs for PRIIPs by payoff type



Note: Each bar displays the range in percent total cost (Reduction in Yield) at product maturity/recommended holding period, across PRIIPs in the sample, 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') illustrate the 10th and 90th percentiles for that payoff type. 'Other' collects all PRIIPs containing payoff types that have 150 or fewer observations in the data sample. Sources: ESMA, Structuredretailproducts.com, financial entities' websites.

ASR-PC-S.198

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') illustrate 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 marchés 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
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

SRI 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

