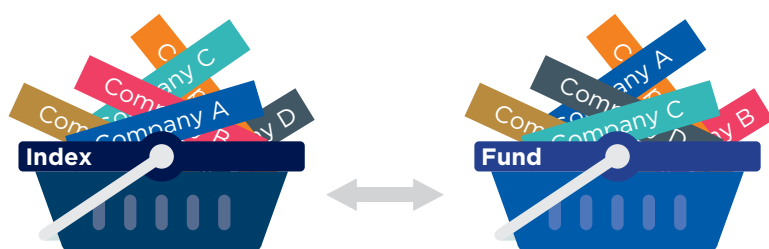


Why ETF performance matters



What is the goal of an ETF?

The objective of every ETF is to replicate the performance¹ of its chosen index. ETF managers do this by mirroring the index composition with the fund's investments. It sounds simple – the return of the fund is expected to reflect the return of the index².

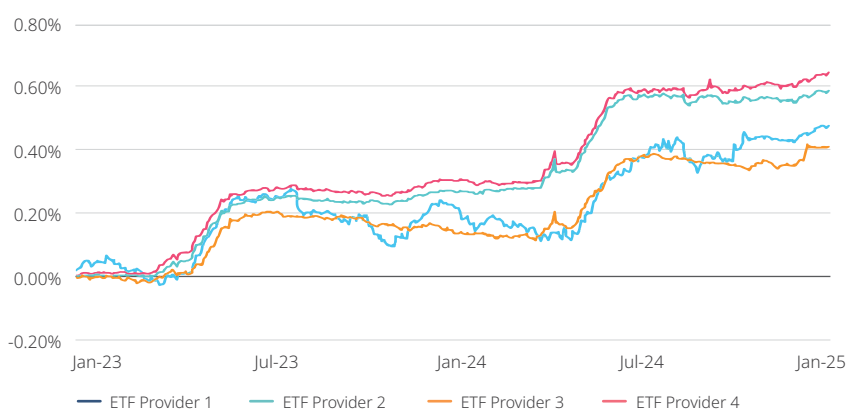


ETFs attempt to reproduce index performance by mirroring index constituents.

In practice, it is not quite so clear-cut as many aspects – such as **fund's costs and the way the fund manager replicates the index** – can impact performance. Looking at the chart below we can see that four providers tracking the same index can produce quite different patterns of relative performance.

One index, many outcomes

Relative performance



Costs and fund manager's replication methodology can impact performance.

Past performance is not a reliable indicator of the future ones. Source: MSCI and Amundi as of December 31, 2024. - Amundi's fund represented is Amundi ETF MSCI Europe UCITS ETF. For more information regarding the index methodology, please refer to index provider website: [msci.com](https://www.msci.com).

Importantly: while the chart highlights the deviation from the index, it is still a very small deviation of less than 0.30% at most per year. ETFs typically track indices very closely.

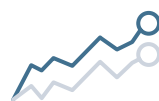
¹ Past performance does not predict future returns. Investment involves risks. For more information, please refer to the Risk section below.
² For more information regarding the index methodology, please refer to index provider website.
³ For more information regarding all the costs supported by the fund, please refer to its Key Information Document (KID). Transaction cost and commissions may occur when trading ETF.
⁴ Comparative performance of European ETFs replicating the MSCI Europe NTR index over the 2023-2024 period.

How to analyse performance

Understanding the reasons behind relative performance is vital – it's how we spot the well-run, attractively valued ETFs consistently tracking their index's return. We can use tracking difference and tracking error to identify any issues with how an ETF is tracking its index.



Tracking difference (TD)



- **Tracking difference is the net performance⁵ of the ETF minus the performance of the index over a period of time.** It gives a snapshot of how an ETF is performing relative to its index, in much the same way that we would measure the performance of an actively managed fund, relative to the benchmark it is trying to achieve or exceed.
- **Tracking difference varies depending on all elements that affect the fund's performance**, such as the costs that the fund charges, the components of the underlying index, and the skill and experience of the fund manager in closely mirroring index performance.



Tracking error (TE)



- **Tracking error is the volatility of the tracking difference.**
In other words, to what extent and with what regularity, the fund's performance deviates from the index return over a period of time – regardless of whether it provides better or worse returns than the index.
- **Tracking error is how we measure the quality of replication.**
This is of vital importance, because two ETFs with the same tracking difference can have very different tracking errors. Investors want to know that their passive investment is performing as advertised. A low tracking error means that the tracking difference does not show wild swings in either direction, and that the index is properly replicated.

⁵ Net performance means that the performance is calculated using the fund's Net Asset Value after having deducted the fund's ongoing costs.

Tracking difference and tracking error: do they matter?

Some may ask, if two funds are producing the same returns with different tracking errors, does this really matter? It does, because their returns may not remain the same, especially when market conditions are unfavourable.

A high tracking error shows that the fund manager is having issues replicating the index and – especially in times of market stress – this could have adverse consequences for investors.

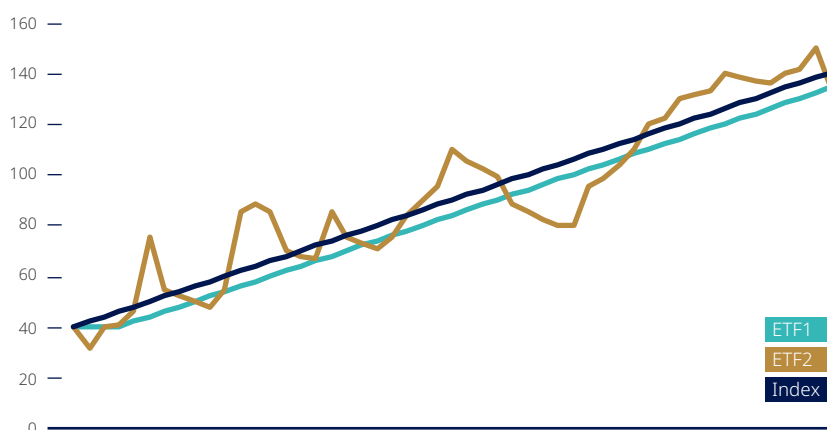
In the illustrative example, both funds have a similar tracking difference at the start and finish, both start at 40 and end at 134. Within that time period however, they have contrasting tracking differences and therefore very different tracking errors.

ETF 1

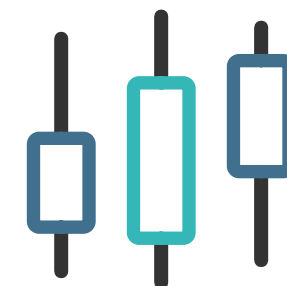
ETF 1 has a negative tracking difference, as it always underperforms the index. It does so continuously and regularly, which makes its tracking error – or the volatility of the constant tracking difference – close to zero; this ETF is well replicated by the fund manager.

ETF 2

ETF 2 shows a much more erratic pattern, outperforming or underperforming the index in a completely random manner. The tracking error is high – close to 1 – demonstrating that the fund is not properly managed and the index not well replicated; this ETF must be analysed with more scrutiny.



Source: Amundi



A high tracking error shows that the fund manager is having issues replicating the index.

Which factors contribute to performance?

The impact of exposure

It is important to remember that tracking difference and tracking error will also differ depending on the market an ETF is tracking. For example, replicating an emerging market index might be difficult and costly: we expect the tracking difference to be negative, with all ETFs that have the same exposure underperforming the index⁶.

Whereas replicating a European index is much easier and revenue optimisation techniques carried out by the fund manager are frequent: we expect the tracking difference to be positive, with most ETFs that have the same exposure outperforming the index.



Performance drivers

Unlike an index, ETF performance⁷ is affected by the impact of ongoing costs taken each year and related to the management of the fund: management fees⁸ and transaction costs (the costs when buying or selling the assets)⁹. These costs are deducted from the daily net asset value of the ETF. Some of these costs are controlled by the ETF manager, and others not (for example taxes). They are published in the fund's Key Information Document (KID) on a regular basis.

There are ways to manage costs. These will differ from manager to manager. It is important to remember that the management fees are far from being the only influence on tracking difference. Two funds on the same index with the same management fees can have very different tracking differences.

- ⁶ For emerging markets exposures, replication costs are high and fund management techniques to optimize are difficult to put in place and therefore not typical. However, an ETF that underperforms its benchmark in this way, can still be an attractive proposition depending on individual investor objectives
- ⁷ Past performance does not predict future returns. Investment involves risks. For more information, please refer to the Risk section below.
- ⁸ Management fees refer to the management fees and other administrative or operating costs of the fund. For more information about all the costs of investing in the fund, please refer to its Key Information Document (KID).
- ⁹ Transaction cost and commissions may occur when trading ETF.

Performance considerations when making your choice

Applying performance analysis when choosing an ETF

When you choose an ETF, there are some key elements to keep an eye out for, which determines best practice in terms of tracking difference and tracking error.

The tracking difference varies according to:

- The index components and their underlying markets
- The management fees and transaction costs, which is easily recognisable and published
- Importantly, the capacity of the ETF manager to replicate the index

With this in mind, it is crucial to compare ETFs from different providers with very similar exposure, i.e. the same 'family' of index. Tracking difference and tracking error should be analysed together and analysed relative to their peers.

Together, this can help you select the most appropriate ETF – and ETF provider – that will offer the best quality of replication.



Tax implications of ETFs

Tax¹⁰ is an expense that cannot be lessened by either the expertise of the investment manager nor the movements and constituents of the underlying index. Investors need to understand the tax implications that come with their chosen ETF investment, which will be unique for each investor. It is important to seek independent advice on your specific circumstances.

¹⁰ The tax treatment depends on the individual situation of each investor and can be changed at any time. Each investor is reminded to consult their financial intermediary and/or tax advisor before carrying out any transaction.

Amundi ETF

Amundi, the largest European ETF provider, offers over 300 UCITS ETFs covering a wide range of asset allocation needs and a broad spectrum of ESG and Climate investing goals.

For more information on how to invest in Amundi ETF, please visit **www.amundiETF.com**.

MARKETING COMMUNICATION

Key risks

- Risk of the loss of invested capital. Investors may not get back the original amount invested and may lose all of their investment.
- Risk associated with the markets to which the ETF is exposed. The price and value of investments are linked to the liquidity risk of the components. Investments can go up as well as down.
- Risk associated with the volatility of the securities/currencies composing the underlying index.
- The fund investment objective may only be partially reached.

Important information

This is a marketing communication. Please consult the Prospectus and the Key Investor Document ("KID") before making a final investment decision.

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Past Performance does not predict future returns. Investment return and the principal value of an investment in funds or other investment product may go up or down and may result in the loss of the amount originally invested. All investors should seek professional advice prior to any investment decision, in order to determine the risks associated with the investment and its suitability. It is the investor's responsibility to make sure his/her investment is in compliance with the applicable laws she/he depends on, and to check if this investment is matching his/her investment objective with his/her patrimonial situation (including tax aspects).

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Amundi Asset Management (Amundi AM)

French "Société par Actions Simplifiée" - SAS with a share capital of €1 143 615 555. Portfolio management company approved by the French Financial Markets Authority (Autorité des Marchés Financiers) under no.GP 04000036.

Head office: 91-93, boulevard Pasteur, 75015 Paris – France.

Postal address: 91, boulevard Pasteur, CS 21564, 75730 Paris Cedex 15 – France. Tel: +33 (0)1 76 33 30 30. Siren no. 437 574 452 RCS Paris.