XETRA | DEUTSCHE BÖRSE GROUP

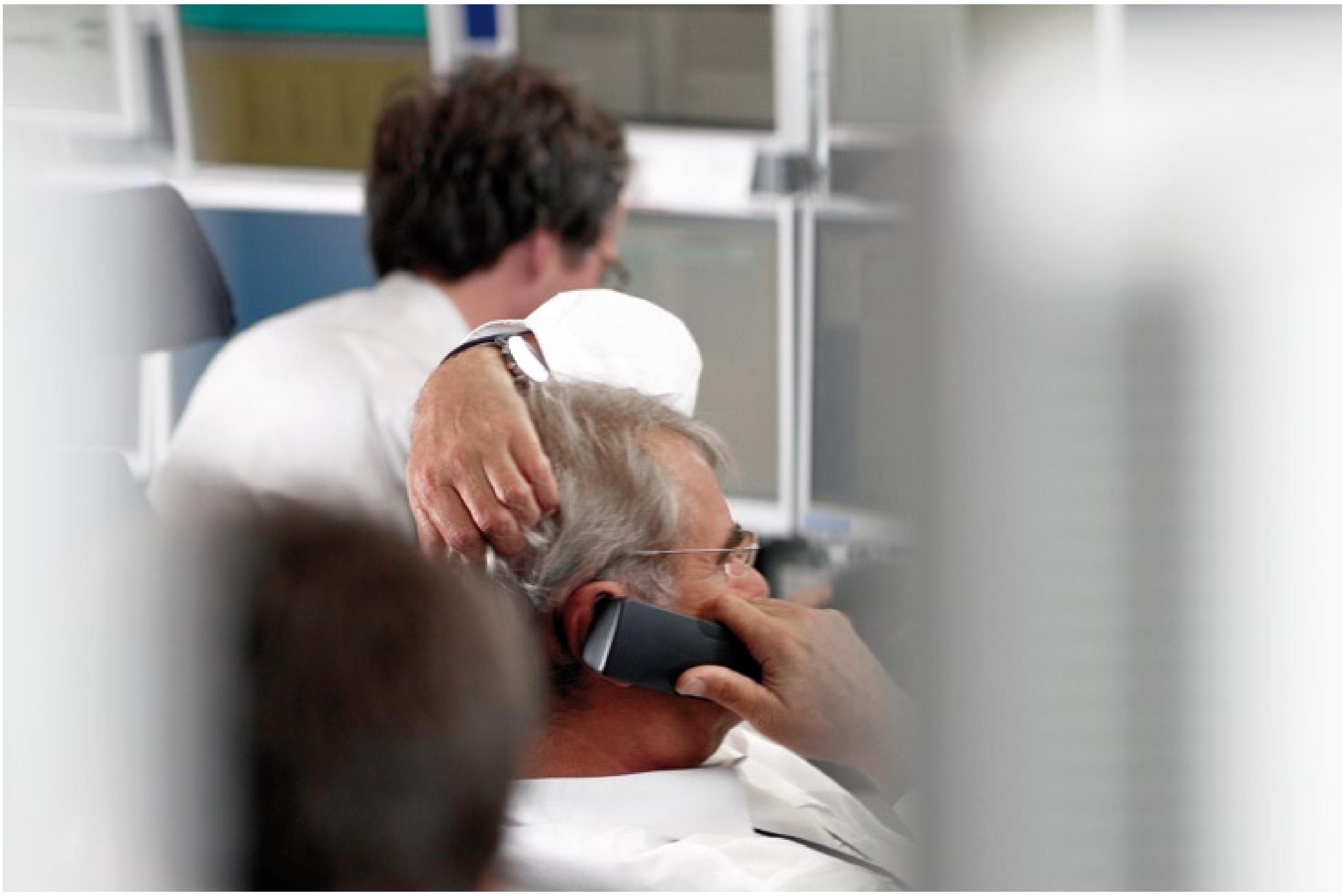
Xetra: Europe's Largest Trading Platform for ETFs

ETF.
One transaction
is all you need.

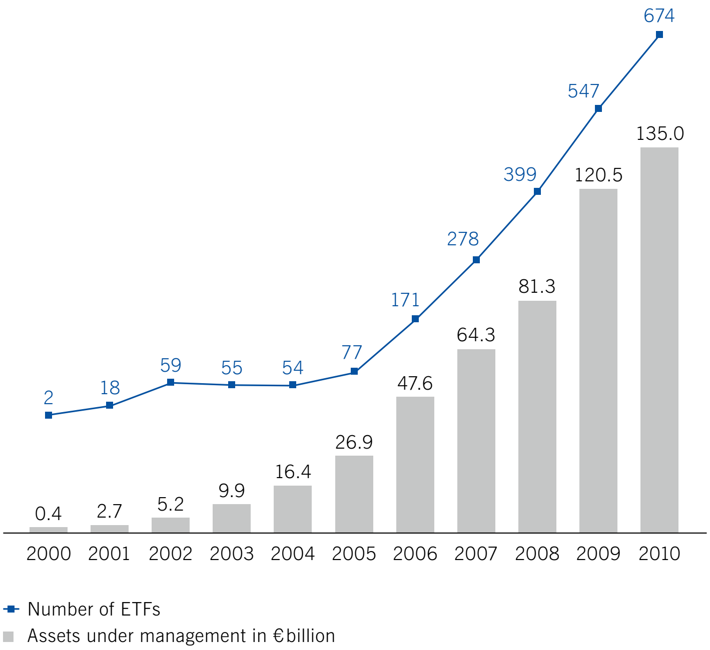
Deutsche Börse Group is the leading global service provider to the securities industry. Its cutting-edge technology provides access for companies and investors to the world's securities markets. Deutsche Börse's XTF segment makes it the European market leader in ETF trading. Investors have access to more than 680 ETFs via the fully electronic trading platform Xetra® and find the most diverse product portfolio and the highest turnover of all stock exchanges in Europe. The average monthly trading volume of this segment is about €14 billion.

Xetra: Europe's Largest Trading Platform for ETFs

Fully electronic and liquid: ETF trading on Xetra
ETFs (exchange-traded funds) are traded all over Europe via the fully electronic Xetra® trading platform. Xetra's trader screens give investors access to more than 680 ETFs as well as an extensive range of equities, mutual funds and structured products. Buy and sell orders from traders at diverse locations across the globe are matched in the Xetra order book and executed immediately. On peak days, the trading system executes more than 2.1 million transactions per day. Xetra sets standards for liquidity, transparency, speed and flexibility in securities trading. What is more, it is location-independent and extremely price-competitive.



Development of the ETF segment
in the years 2000–2010



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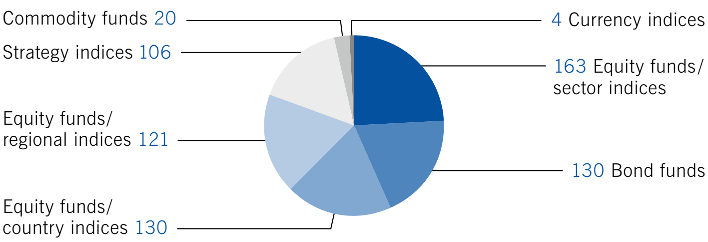
ETFs tradable on Xetra



The XTF segment: Wide selection, high volumes
Deutsche Börse was the first European stock exchange to commence trading in listed index funds with its XTF segment, which was launched in April 2000. Since then, the segment has grown continuously, enabling Deutsche Börse to maintain its position as market leader in Europe for exchange-traded funds. Since trading began, the number of listings has risen to 674 by June of 2010, while fund assets have jumped from an initial €400 million €135 billion – an annual growth rate of 80 percent.

In the early years, the segment mainly handled funds on major European indices such as the DAX®, the EURO STOXX 50®, or the STOXX Europe 50®. Since then, the selection of ETF products has grown substantially. Besides large standard equity indices such as DAX®, the range now also comprises numerous other country and regional indices, “exotic” markets such as Brazil, Taiwan and Korea as well as a host of sector indices. The fixed-income segment has a wide range of high-volume bond and money market ETFs.

The issue of new ETFs provides access for investors to new asset classes and numerous portfolio strategies. Deutsche Börse’s XTF segment now also includes ETFs on German and international real estate shares, REITs, money market as well as on commodity indices and strategy indices.

You can find an up-to-date overview of all tradable ETFs on Xetra at www.boerse-frankfurt.de.

ETFs Track the Performance of Indices and Markets

Unlike actively managed funds, where the investment objective of the fund manager is to outperform a reference index, ETFs pursue a passive investment strategy, the aim of which is to replicate the performance of an underlying index as accurately as possible. Underlying indices may be national or international equity indices, bond and real estate indices, or even commodity or strategy indices. Indices and whole markets can be traded as easily as single shares. The investor acquires an entire basket of securities in a single stock exchange transaction. This enables investment strategies to be implemented more easily and efficiently than in using other financial instruments.

The price for a single share generally corresponds to a fraction of the index value defined by the issuer. The price can be verified at all times using the indicative net asset value (iNAV®) which is calculated continuously.

In contrast to certificates, ETFs, like traditional investment funds, consist of a separate pool of fund assets. Consequently, ETFs are a very safe investment and investors are protected against total loss if the issuer goes bankrupt. According to the swap agreement, Swap-based ETFs may show a counterparty risk of the swap contract partner, which is legally limited to no more than 10 percent of the fund assets. However, issuers are able to reduce or eliminate this risk by depositing appropriate collateral.

The main objective of ETFs is to replicate the performance of specific indices as accurately as possible. In the process, the ETF manager must keep the tracking error as small as possible. The tracking error is the difference between the price performance of the ETF and the performance of the index it is linked to. In practice, the performance of the index fund may differ from that of the index it is replicating.

This is due to the following factors:

- Fund management costs: these are deducted from the performance.
- The point in time at which the ETF is valued: this may differ from the time of the last index valuation.
- The use to which investment income is put: dividends, income from rights issues and special payments may be distributed or accumulated.
- The date of the index change: the composition of the selection index DAX is reviewed every three months, for example, with individual securities being reweighted as necessary.

Benefits of ETFs for Investors and Trading Participants

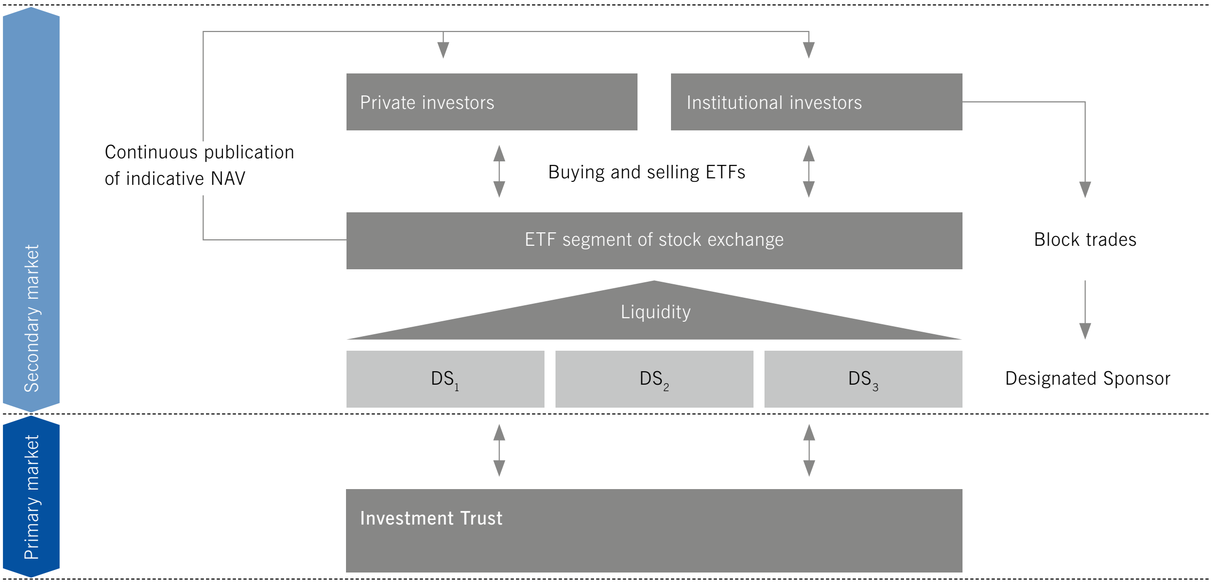
Broad diversification with a single investment
Buying an ETF gives investors access to entire markets with just a single transaction. Exchange-traded funds also allow highly diverse investment strategies to be implemented. ETFs combine the tradability of an equity with the risk diversification of a portfolio. Investors spread their risk by investing in the entire basket of securities underlying an index. Institutional investors also save themselves the hassle of having to do their own research and can avoid the sometimes complex currency and settlement procedures involved in investing in individual markets.

Continuous trading with top liquidity
ETFs are continuously traded with top liquidity on the fully electronic Xetra trading platform. Xetra accounts for about 95 percent of the total turnover in exchange-traded funds.

The higher the liquidity, the lower the implicit transaction costs, i.e. the costs incurring the investor by the bid-ask spread when buying or selling products. By now, ETFs on the most popular standard indices have evolved into the most liquid instrument group on Xetra; they show a higher liquidity than even the most heavily traded DAX® equities. On average, the implicit transaction costs for the 20 most liquid equity ETFs are less than 9 basis points for an order size of €100,000.

ETFs on Xetra: The advantages at a glance
- High degree of flexibility and possible applications through pan-European electronic trading
- Indicative net asset value (iNAV) provides transparent price information
- Low purchase and management cost without any front load fee
- Narrow bid/offer spreads
- High liquidity during continous trading
- High degree of risk diversification with just one investment
- Implementation of a large number of investment and trading strategies possible
- Protection from issuer risk due to separate pool of fund assets

Creation/redemption process



Trading on Xetra enables the investor to utilize the key functions of fully electronic equity trading for ETFs as well. In addition to Designated Sponsors and continuous trading, these include various forms of auctions, different order types and a minimum trading size of one fund share. The extremely high liquidity makes ETFs interesting for algorithmic trading as well.

The creation/redemption process has a positive effect on ETFs' liquidity and performance. In this process, the Designated Sponsor and the ETF provider exchange baskets of securities for ETF shares and vice versa. The Designated Sponsor can buy or sell baskets of shares on the market without the ETF provider incurring transaction fees. All participants profit from the creation/redemption process: the issuer can efficiently replicate the index, the Designated Sponsor benefits from additional trading opportunities and the investor receives a fair price with low trading fees at all times.

Transparency assured by the indicative net asset value
For exchange-traded funds in the XTF segment an indicative net asset value is calculated at least once per minute during trading hours by the issuer or a third party commissioned by the issuer. Deutsche Börse AG, for example, performs this function for many issuers under its iNAV® brand.

Indicative net asset values (iNAVs) state the current value of the fund assets, thus ensuring maximum transparency. Indicative net asset values are usually calculated on the basis of the portfolio, meaning that the current prices of the individual items contained in the fund portfolio are used as the basis. The composition of the fund portfolio, which is published daily, is factored into the calculation. The cash in the fund is also added to the individual items in the fund portfolio. The fund assets calculated in this way divided by the number of fund shares gives the current indicative net asset value.

This value has many possible applications: Designated Sponsors use it to monitor their calculations during trading, institutional investors use it to assist in risk management and it offers a convenient way of establishing the current value of the ETF.

Lower purchase and management costs
As ETFs are traded like equities they have no front load or redemption fees – unlike traditional funds. The only costs incurred are the standard transaction charges for purchases or sales via the stock exchange. What is more, thanks to the passive management strategy, the annual management fees for ETFs are generally far lower than those of actively managed funds. The management fee is calculated proportionately for each day and deducted automatically from the fund assets.

For most ETFs the spread is very narrow, which allows their purchase and sale on a low (transaction) cost basis. Highly liquid ETFs demonstrate bid/offer spreads of less than 5 basis points on the stock exchanges. By and large, the spreads for major liquid indices range between 8 and 10 basis points, though they may top 50 basis points for more specialized products.

No issuer and reinvestment risk
Legally, an index certificate is a bearer bond. By contrast, an exchange-traded fund comprises a pool of fund assets that is separate from the assets of the ETF management company. While a certificate harbors the risk of total loss if the issuer goes bankrupt, ETFs are not exposed to this issuer risk.

ETFs generally have an unlimited duration and no maturity date; they are open-ended products. Investors have no reinvestment risk; they do not have to dissolve the ETF at the end of the term and reinvest the money at less favorable conditions. As a result, no reinvestment costs are incurred, which is an advantage over fixed-income securities, for example.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Investment and Trading Strategies

ETFs can be used to implement a number of different trading and investment strategies. As trading on Xetra® provides high liquidity, ETFs are also a suitable tool for algorithmic traders.

Productive investment
Due to their attractive cost structure, ETFs are ideal for both short- and long-term investments. A growing number of institutional investors have already invested in ETFs, leveraging the cost benefits and the opportunity these provide to implement their strategy more effectively. For example, using ETFs, investors can exploit short-term market trends as part of a short-term investment strategy without having to analyze individual stocks. ETFs on broad indices lend themselves to longer-term investment strategies. They can be specifically enhanced with individual securities, depending on the investor's individual risk appetite.

Core-satellite approach
In this strategy, portfolio managers use one broadly diversified core investment plus other, smaller individual investments called satellites. The core investment generates a basic return in line with the benchmark or a broad index while the satellites allow for a higher risk/return profile. The satellites chosen have a low correlation with the core investment. Due to their attractive cost structure and extreme flexibility, ETFs are ideally suited for use in such strategies, both as a core investment and as satellites.

Cash equitization

ETFs lend themselves extremely well to the short-term management of cash assets because of their high liquidity and flexible trading. Fund managers and institutional investors can manage existing cash and inflows of funds flexibly, rapidly and accurately using ETFs. By temporarily parking income from dividend, bonus, or interest payments in ETFs, they can benefit from the performance of the benchmark. The funds can then be reinvested in individual equities in keeping with the investment objective.

Arbitrage strategies

Different trading strategies can also be implemented with ETFs. One of the main strategies here is based on temporary price imbalances between markets. Any time a price imbalance of this nature arises for a specific underlying instrument, a potential arbitrage opportunity arises for market participants. Taking advantage of this arbitrage opportunity not only eliminates the temporary price imbalance; it also ensures high price quality on the relevant markets.

Short-selling and an alternative to derivatives

Investors can use short selling to hedge existing portfolios quickly and at low cost or, alternatively, to bet directly that the market will fall. To do this, ETFs are borrowed from the lender against payment of a securities lending fee and then sold on the market. If the underlying index falls the investor can buy back the loaned ETFs at a lower unit price and return them to the lender.

A short-selling strategy using ETFs is especially useful for markets in which individual equities cannot be sold short for regulatory reasons or for which a corresponding futures contract is not available. Moreover, ETFs provide an alternative to the use of futures for groups of investors that are not allowed to trade derivatives on account of their legal form, or when the aim is to avoid roll risk and managing margin accounts.

Different Forms of ETFs

Performance or price index as reference
ETFs can replicate both performance indices and price indices. The main difference lies in the way the interest and dividend payments for the instruments quoted on the index are handled. Price indices, for example, measure the actual price performance and are merely adjusted for the income from rights issues and special payments. In performance indices, all income from dividend, bonus, or interest payments is also reinvested in the index portfolio.

Independent of the calculation method for the underlying reference index, investors benefit in both variants from the dividend and interest payments that the ETF generates.

If the ETF replicates a performance index, the dividends or interest income accruing to the ETF will be reinvested in keeping with the calculation method of the reference index i.e. this income will accrue to the investor through the price performance of the ETF. If, on the other hand, the ETF replicates a price index, the income accruing to the ETF will be paid out to investors at regular intervals. In this way, both variants of the ETF develop in line with the index.

Minor differences in the degree of index tracking may occur depending on the calculation method. For example, when performance indices are replicated the management fee for the ETF will be deducted from the fund assets on a daily basis; on the other hand, the fund must pay taxes on dividends and interest received that are not included in the index calculation. When price indices are replicated, dividends and interest received increase the fund's cash assets i.e. they result in a positive difference between the performance of the ETF and the underlying index until the date they are distributed to shareholders. Over and above this, in both index variants fund managers can generate additional income e.g. through securities lending transactions that may boost the performance of the fund and thus compensate for negative variance from the performance index to a certain extent or even in full.

Swap ETFs
Swap ETFs use derivatives to track the performance of indices as accurately as possible. This enables non-index-related costs such as trading expenses and trading taxes (e.g. stamp duty in the UK) to be largely avoided. The index is not tracked directly by acquiring the securities it contains but rather indirectly via one or more swap agreements. The company acquires securities for the fund that initially do not generate any index-related income for the fund. Under the swap agreement, however, the entire performance of the securities held by the fund is swapped for the performance of the underlying index so that the shareholder of the swap ETF participates fully in the performance of the underlying index. By avoiding or reducing non-index-related costs, swap-based ETFs allow even more precise tracking of the performance of the underlying index.

Active ETFs
Active ETFs are exchange-traded funds that pursue an active investment strategy. This may, for example, aim at outperforming an underlying benchmark index or combining the performance of a reference index with a structured component to achieve leverage, provide a capital guarantee or generate a reverse exposure to the reference index. Like traditional ETFs, active ETFs are continuously tradable on Xetra®, offering investors a comparatively high degree of flexibility and a wide range of applications. Active ETFs must meet the same requirements in terms of transparency as passive ETFs.

You can find a current overview of all tradable ETFs and active ETFs, including information about their distribution policies and structure at www.boerse-frankfurt.de.

The Admission Process for ETFs

ETFs that are to be traded in Deutsche Börse's XTF segment must have been admitted to trading on the Frankfurt Stock Exchange. Applications can only be considered for securities whose public distribution is permitted in the Federal Republic of Germany. Other preconditions include the appointment of at least one Designated Sponsor and to calculate an indicative net asset value, plus certain disclosure requirements. Further requirements for the participation in the ETF segment can be found in the conditions of participation at www.deutsche-boerse.com.

Applying for admission to trading on the stock exchange is a quick and easy process. Issuers seeking admission to the XTF segment should observe the following:

- We recommend starting off by arranging an informal meeting with Deutsche Börse's Xetra Business Development department, which will answer questions on the market segment and admission to trading. This department will also put the issuer in contact with Designated Sponsors.
- Application for admission to trading on the Regulated Market is filed jointly by the issuer and a co-applying lead manager who must be admitted to trading on the Frankfurt Stock Exchange. Contract partner is the department Xetra Listing.
- The Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin – Federal Financial Supervisory Authority) reviews the prospectus and grants permission for the public distribution of the shares.
- Funds approved for distribution can be admitted to trading on the Regulated Market of the Frankfurt Stock Exchange within eight trading days.
- Deutsche Börse admits Designated Sponsors to trading within two days. Please find the application form for Designated Sponsors at www.deutsche-boerse.com.
- Deutsche Börse's Issuer Data & Analytics department will answer any questions on arranging and calculating indicative net asset values (iNAV®).

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