



db X-trackers – Simply buy the market

db X-trackers ETFs under the microscope

A guide to ETF structures and risks,
with an in-depth look at db X-trackers ETFs

Passion to Perform





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Introduction

In recent years Exchange-traded funds (ETFs) have become increasingly popular investments for both retail and professional investors. One reason for this is the simplicity of what most ETFs offer. The more popular ETFs today aim to provide investors with a straightforward economic outcome – the replication of the risks and rewards generally of a well-known investment index. An FTSE 100 ETF for example will aim to mirror, as closely as possible, the returns of the FTSE 100 index.

In terms of what they deliver, it is not difficult for investors to understand that in purchasing an ETF they are taking market risk and that their investment is designed to generate market levels of reward. In terms of economic outcome, therefore, the majority of ETFs are not complex. However, investors today are rightly taking a keen interest in what is going on behind the scenes that allows the ETF, as a delivery mechanism, to replicate market risk and reward. Today's investors, more conscious than ever of underlying risks that may not be easy to identify – such as counterparty risk – want an understanding of the underlying mechanics of the engine that delivers the performance.

This guide aims to provide that insight in a detailed yet easy-to-read format. The guide is not exhaustive, and investors in any fund product should read the investment prospectus before investing. It should, however, give a reasonable outline of the structural components of ETFs, showing what implicit risks these can create for the investor. With a particular focus on db X-trackers ETFs, it should also show that db X-trackers provides tracking products with good structural integrity, primed first-and-foremost to serve the investor.



A short guide to index tracking

ETFs have their genesis in non-listed passive tracker funds that first emerged in the United States in the 1970s as an alternative to actively managed portfolios. The premise for offering a tracker was straight forward and partly came down to the following: markets are relatively efficient, which means it is difficult for an active manager to beat the market – by outperforming a market index such as the FTSE 100, for instance – consistently over time; instead of paying relatively high fees in return for the possibility of outperformance, a more optimal strategy may be to pay relatively low fees and be content with generating market returns.

Although there are undoubtedly talented active asset managers who generate ongoing superior returns for their investors, a number of studies have suggested that consistent outperformance is generally elusive. For example, ratings agency Standard & Poor's conducts a regular piece of research called the S&P Indices Versus Active Fund Scorecard (SPIVA), which provides performance comparisons for actively managed US mutual funds. The Mid-Year 2011 SPIVA records show that in the three years running to the middle of 2011, 64% of actively managed large-cap funds were outperformed by the S&P 500 index, 75% of mid-cap funds were outperformed by the S&P MidCap 400 index, and 63% of small-cap funds failed to match the performance of the S&P SmallCap 600 index. Among international equity categories, 57% of global funds, 65% of international funds and 80% of emerging markets funds failed to outperform their benchmarks (Source: Standard & Poor's SPIVA US Scorecard Mid-Year 2011, August 2011).

It is no surprise then that passive funds, as a low-cost alternative to active management, have grown in popularity.

The early 1990s saw the next major stage of development when some trackers were listed on stock exchanges and were referred to as ETFs. At this stage, ETFs were still mainly a US retail product, but as more ETFs emerged, and as the market spread beyond the US, ETFs began to be used by all types of investors, and to fulfill a variety of investment goals. As the number of investment indices being tracked by ETFs proliferated, ETFs became not just an alternative to active management but a flexible investment instrument that could just as easily be used by an institutional investor seeking to manage a portfolio

on an active asset allocation basis as by a buy-and-hold retail investor.

The growth of the market prompted investors and independent analysis groups, such as ratings agencies, to seek ways to distinguish one tracker product from another when both aim to replicate the same market. One way to do this was to examine how closely an ETF tracks its index. The costs of buying and selling securities to keep up with index re-balancing, the impact of corporate actions such as dividend distributions of specific companies within the index, plus a number of other factors, can lead to the performance of the ETF varying from the performance of the index it is aiming to track. "Tracking error" therefore became one potential measure of quality, and this is where swap-based ETFs come in.

Unlike the first ETFs, which came from large asset managers and are commonly referred to as "physical replication ETFs", swap-based ETFs – also often called "synthetic replication" ETFs – were developed by asset management divisions of banks that had expertise in using swaps to "synthetically" replicate the performance of indices. Emerging in Europe in 2001, the idea was that rather than dealing with the difficulties and uncertainties of buying and selling physical securities to achieve replication, the ETF would instead commission the bank as a service provider to deliver the returns of the index being tracked, leaving the job of managing the real world factors that can create tracking difference with a third party. The result? More precise index tracking, and also highly competitive fees because of the efficiency gains had from outsourcing the provision of index returns to a large broker-dealer – the economic agent optimally placed to manage that risk. Another benefit of swap-based replication meanwhile, was that it allowed for the development of ETFs that track the performance of markets in traditionally difficult-to-reach areas, such as certain emerging markets.

Today, physical replication and swap-based ETFs are popular in Europe, so it is important for investors to understand the mechanics of the different replication techniques.

Full physical replication

The first ETFs aimed to mirror the performance of leading equity indices by buying and managing all the underlying constituent securities of that index – ie the ETF aimed to hold every security the index did at the appropriate weighting. This is called full, direct physical replication. It works well – meaning the difference between the performance of the ETF and the index it is designed to track should be low – for large funds tracking developed market indices, where underlying securities can be easily bought and sold and where transaction costs can easily be absorbed. Because direct physical replication ETF managers have to dynamically trade their portfolio to keep up with changes to the index they aim to mirror, transaction costs can be high when tracking broad indices referencing a high number of individual securities. Further, full physical replication may not be feasible when all or some of the underlying securities being tracked are relatively illiquid, or where there are country-specific tax laws on foreign holdings. (One example of an index that would be difficult to replicate with full physical replication is the MSCI Emerging Markets index, which references over 800 underlying constituent securities from over 20 countries.)

To overcome these problems, physical replication providers developed tracking methods that involve only holding a portion of the underlying securities of the index. This has the advantage that it broadens the range of indices physical replicators can track while lowering transaction costs, but at the same time it can introduce complexity in terms of the underlying mechanics and implicit risks of the product, while making tracking accuracy more difficult to achieve. The two methods used are referred to as stratified sampling and optimisation.

Physical replication with stratified sampling

With stratified sampling, the ETF provider holds a selection of "representative securities" only. This typically involves splitting the index into subgroups – by sector, for instance – and then purchasing the representative securities from each group. The choice of which securities will form part of the sample may be taken by the ETF manager or by a computer-driven, quantitative model.

The advantages of this approach (reduced costs to the fund) must be balanced by the risk of the fund being subject to tracking difference. For example, the ETF may have an unintentional bias towards holding large-cap stocks as part of its sample, which means if small-cap stocks outperform then the ETF will fail to reflect the true performance of the broader index it is aiming to track. Also, market exposure in a physical replication ETF using stratified sampling will not be as diversified as the diversification implied by the index.

Physical replication with optimisation

Sometimes referred to as a “black box” approach, as with stratified sampling, optimization involves only holding some of the underlying constituents of the index being tracked. Optimisation methods are entirely model-driven, with a computer system making the buy and sell decisions. The model may, for example, analyse historical data on a set of factors, including correlations between stocks, and from there create an “optimal portfolio” that aims to closely track the underlying index through only holding a portion of its stocks.

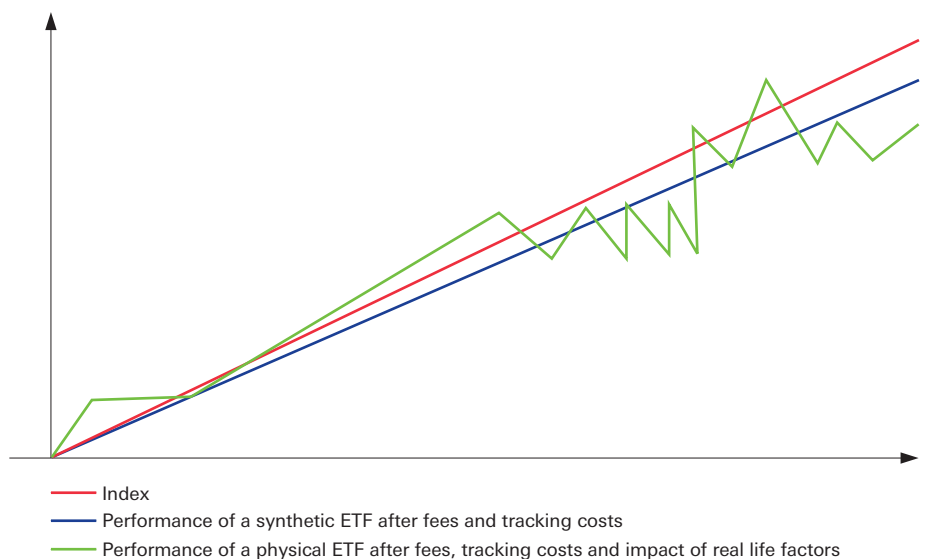
Optimisation has similar advantages and disadvantages to stratified sampling. However, as the technique is fully dependent on complex mathematical models, which themselves rely on historical statistical relationships holding true for the future, the economic outcome for the investor is subject to “model risk”.

Swap-based replication

The emergence of swap-based replication occurred for a combination of reasons. In Europe, a new set of fund market regulations, UCITS III (which have now been updated to UCITS IV) came into effect in 2001. The regulations allowed UCITS-compliant funds to invest in a broader range of assets than under the previous, more restrictive rules. It meant that for the first time UCITS-compliant funds could use derivatives for investment purposes, all be it within a strict set of limitations. Up until this point the ETF market had been dominated by traditional asset managers using the various forms of physical replication outlined above. Barriers to entry were high because physical replication only becomes commercially viable

once a relatively large amount of assets under management have been achieved. But with the onset of UCITS III, investment banks saw an opportunity to introduce a new type of ETF, the swap-based, or synthetic replication, ETF. Rather than the ETF itself dealing with the tricky task of physical replication, this would instead be handled by the investment bank, which with its large trading book and inventory of securities is optimally placed to deliver index returns. Via a swap agreement with the ETF – with the ETF run from a separate fund management division – it became possible for the investment bank to deliver precise index returns, lowering uncertainty in terms of economic outcome for the investor.

Figure 1: Comparison of physical versus synthetic replication (note that the below is not based on actual performance and is for illustrative purposes only)



Source: Deutsche Bank AG

With swap-based ETFs, UCITS rules provide that the ETF’s exposure to the swap counterparty must be kept within specified limits. As a result, the ETF will normally have access to physical assets, either in the form of a basket of securities (where the swap is unfunded) or in the form of collateral (where the swap is funded) which will effectively reduce the exposure to the counterparty. Such physical assets are set aside with a third party custodian

on behalf of the ETF. In the event of the swap provider failing in its commitments, the assets can be liquidated as compensation or as the basis for entering into a new swap agreement with another provider. The risks in swap-based ETFs – default of a counterparty, a reduction in the value of assets which are available to the ETF if the counterparty defaults – are similar to the risks that arise in respect of physical ETFs when they engage in securities lending.

Operational and structural risks in ETFs

In general, fund investors can split the risks they are exposed to into two parts: explicit and implicit. The main explicit risk the investor is exposed to is the market risk the ETF is explicitly designed to deliver. If a private investor purchases an ETF designed to track the performance of the Brazilian equity market for instance, then the investor has made a conscious decision to accept that part of their wealth will now be linked to the performance, up or down, of the index tracking that market, for as long as they hold the ETF. Tracking difference risk could also be thought of as falling into the explicit risk category, as investors in trackers always expect some amount of tracking difference, even if this is only due to the annual management fee marginally impacting performance. Implicit risks relate to operational risks and risks inherent to how a fund is structured to meet its investment objectives. For physical replication ETFs that use optimization technology, model risk would fall into the implicit risk category. However, the most obvious implicit risk for ETF investors is counterparty risk. This is the risk that the counterparty to a financial transaction will fail, negatively impacting the fund. UCITS funds, be they ETFs or unlisted mutual funds, can be exposed to counterparty risk either through their use of derivatives contracts or because they engage in securities lending, or both. Investors in mutual funds, physical replication ETFs and swap-based ETFs should seek to understand the potential counterparty risks they may be exposed to.

Securities lending

Securities lending is a practice engaged in widely by providers of mutual funds and physical replication ETFs, and by some swap-based ETFs (although not by db X-trackers swap-based ETFs). It involves the fund lending out, for the short term, securities it has purchased, in return for fee payments. This exposes the ETF, and therefore the ETF investor, to counterparty risk because there is a risk that the borrower could default and fail to return the loaned securities. To limit this risk, the lender (the fund), under UCITS rules for UCITS-compliant funds, demands that the borrower deposit collateral with a third party custodian. If the counterparty fails then the collateral is liquidated in compensation to the fund.

Derivatives usage

Many actively managed UCITS-compliant mutual funds use derivatives for investment or hedging purposes. This creates counterparty risk to the financial institution that has written the derivative contract. However, the UCITS rules stipulate that a fund cannot invest more than 10% of its prevailing net asset value (NAV) in derivatives instruments issued by a single counterparty.

Swap-based ETFs achieve replication by using swaps in one of two ways. One way, referred to as the “unfunded swap model”, involves the investor’s cash being used to purchase a basket of securities from the swap counterparty (this is referred to as the “substitute basket”), with the latter committed to delivering the performance of the reference index in exchange for the performance of the securities held by the fund. Another financial institution acting as independent custodian holds the substitute basket securities in a ring-fenced account. The other method used is called the “funded swap model”. Here, rather than use investor’s cash to purchase a portfolio of securities from the swap provider, the ETF instead delivers the cash to the swap provider, which in return commits to delivering to the ETF the performance of the index being tracked. At the same time, the swap provider delivers a basket of securities as collateral to the relevant custodian of the ETF. In a similar way to how physical ETFs that engage in securities lending create counterparty risk but then manage that risk by ensuring counterparts post other types of physical securities with an independent custodian, swap-based ETFs create counterparty exposure through their use of swap agreements but then manage that exposure by ensuring that physical assets are held by an independent custodian for the benefit of the fund, should a counterparty default.

Figure 2: Key flows & exposures in securities lending

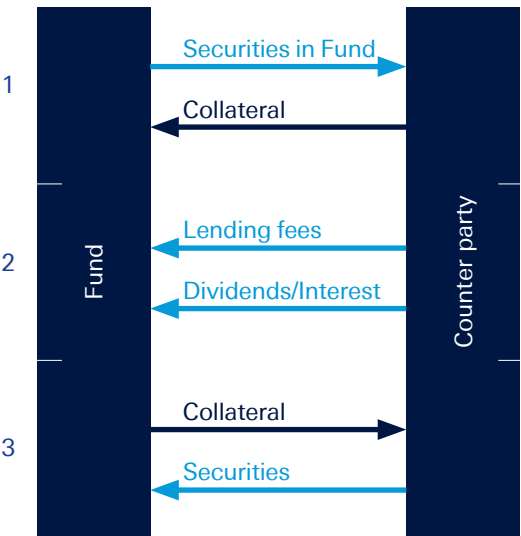
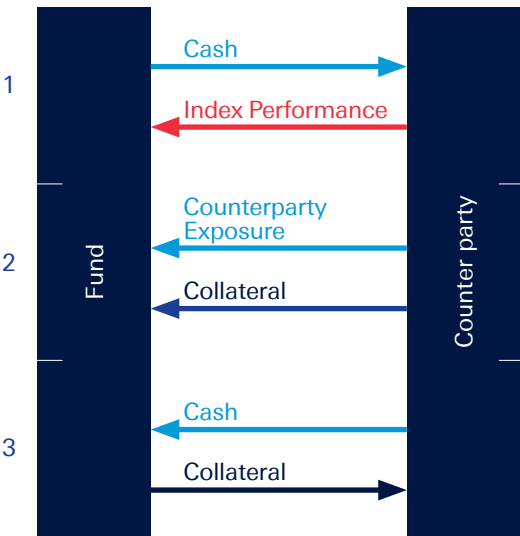


Figure 3: Key flows & exposures in a “funded” swap-based ETF



1 = Flows and/or exposures at time of initial investment
2 = Flows and/or exposures while invested
3 = Flows and/or exposures at termination or reset of arrangement

Other operational risks

Other operational risks can stem from how an ETF platform is set up. Professional investors undertaking in-depth due diligence will, for example, look at whether an ETF provider has an independent administrator, custodian and collateral manager in place, and that the provider produces properly audited financial statements. Digging deeper into collateral arrangements, some investors will analyse the quality of the collateral – in terms of liquidity, diversification and so on – and how transparent collateral arrangements are. db X-trackers standards in this respect will be detailed later in this document.

Beyond instrument risk – market liquidity risks

Are there market liquidity risks in relation to ETF trading investors should be aware of? The liquidity of all ETFs is dependent on the liquidity of the underlying market being tracked. When the underlying market becomes less liquid this will generally impact corresponding ETF spreads. It is worth noting however that ETFs, including synthetic ETFs, have traded through a number of market stress scenarios, such as the dotcom crash and the 2007-2009 financial crisis, and that ETFs still constitute a relatively small part of the mutual fund industry overall. Meanwhile, the presence of a secondary market in ETFs means that market makers provide a liquidity buffer, as shown in Figure 4. Figure 5 meanwhile shows how synthetic and physical ETFs access the underlying securities markets.

Figure 4: Market makers provide a liquidity buffer against redemption

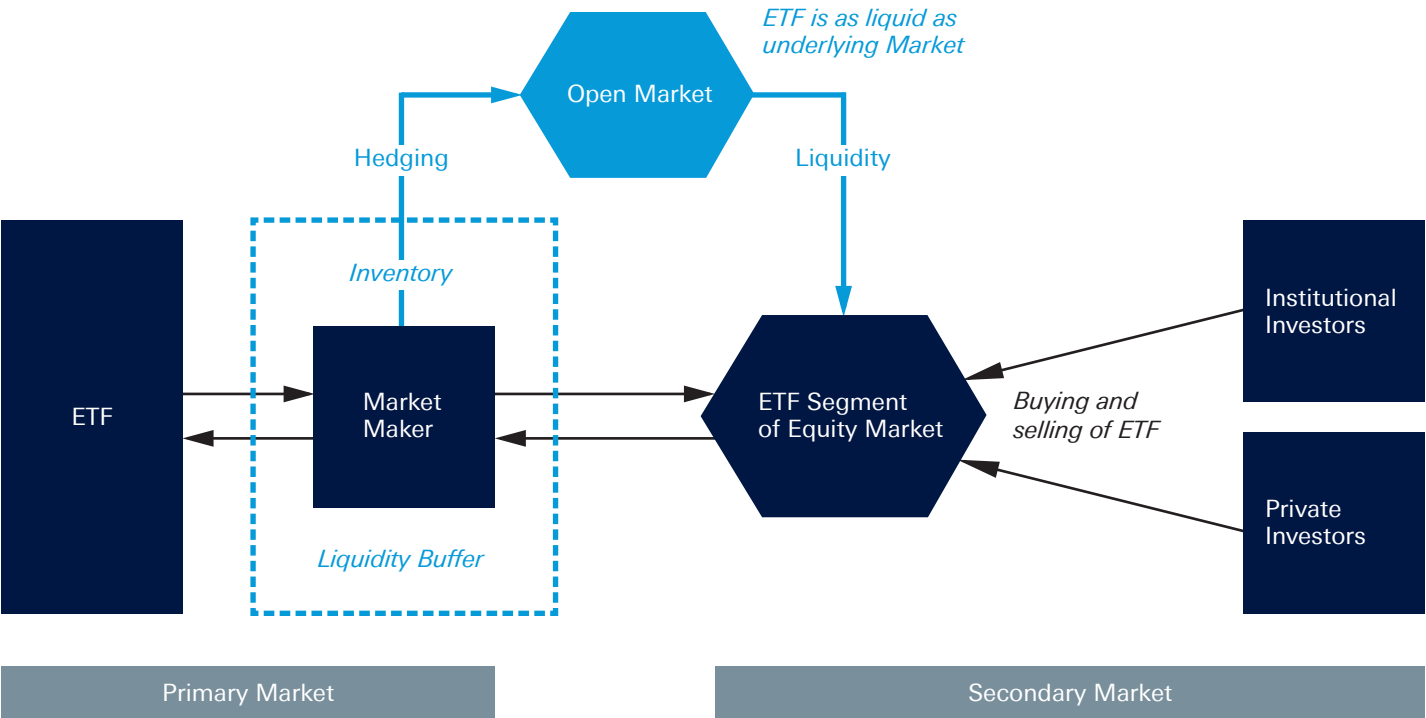
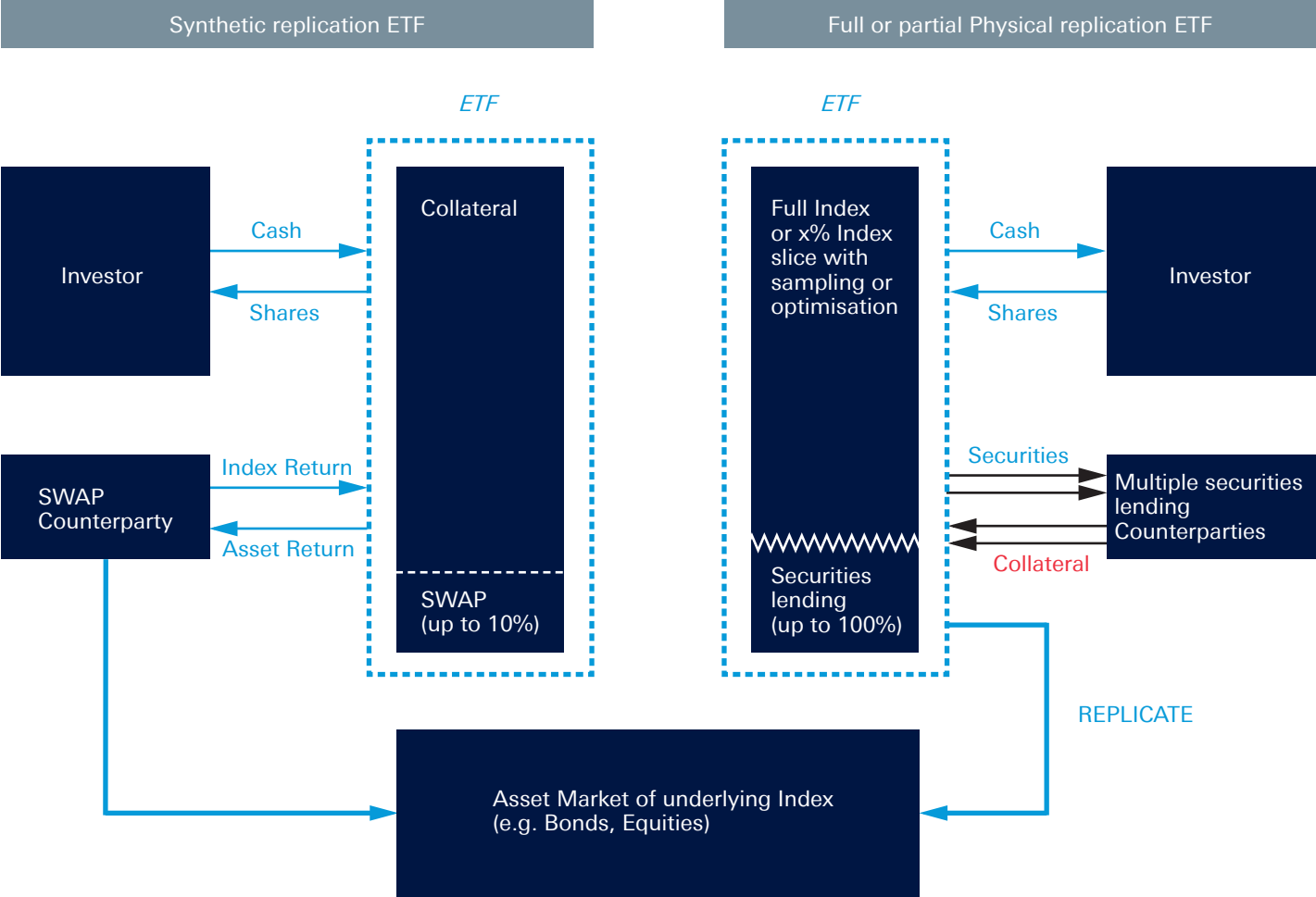


Figure 5: Physical and swap-based ETFs generally lead to the same flows into and out of primary securities markets



db X-trackers management of operational and structural risks

Potential conflicts of interest

When an investment bank acts as both ETF platform sponsor and swap provider there is a potential conflict of interest stemming from the fact that the former has an incentive to use illiquid or low quality securities as collateral, or as the components of the substitute basket. Indeed, any arrangement which involves one party having to deliver assets as security while committing to some form of obligation – be it a commitment to deliver index

returns by a swap provider, or a commitment to return borrowed securities by the counterpart in a securities lending or any other lending arrangement – can potentially suffer from such a negative economic bias. It is important therefore that such biases are managed in the interests of the end investor. db X-trackers does this by supplementing UCITS requirements with a well constructed ETF platform and the application of further, in-house rules on quality of collateral, which are independently monitored and enforced. When

this is combined with full transparency on collateral and derivatives use, the result is that any theoretical conflicts of interest are managed in a practical sense.

db X-trackers engages independent service providers to manage the day-to-day operations of its ETFs. This includes checking swap valuations and monitoring swap exposures and collateral quality, as illustrated below.

Figure 6: Key participants in the db X-trackers platform

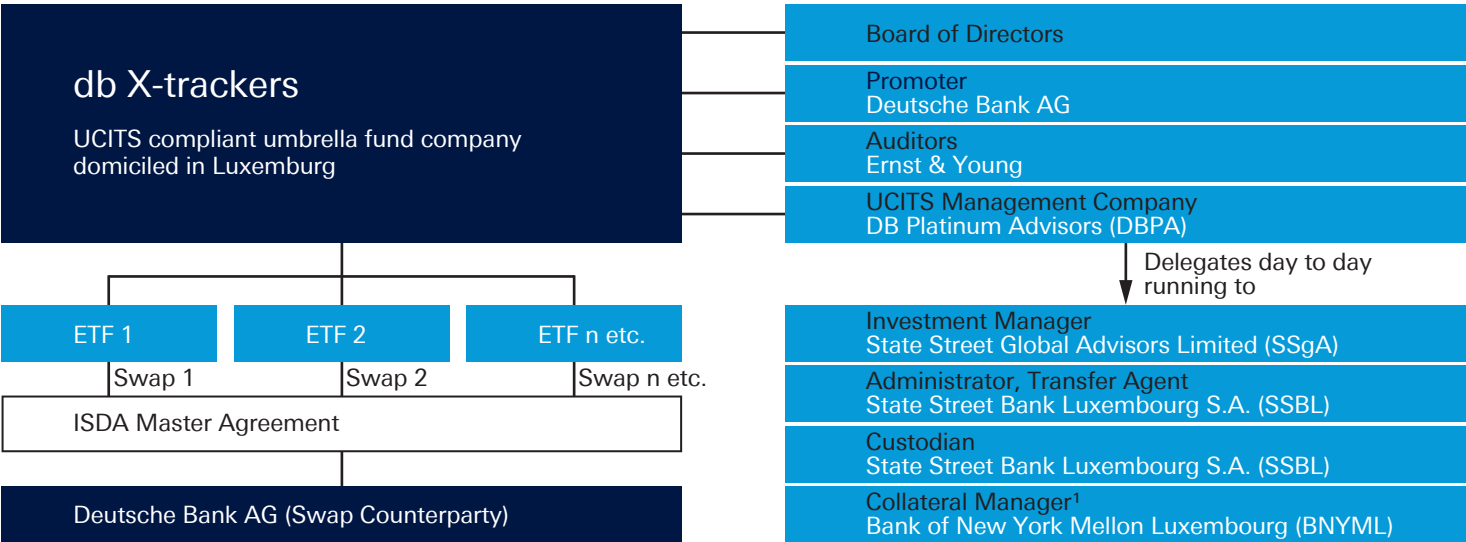
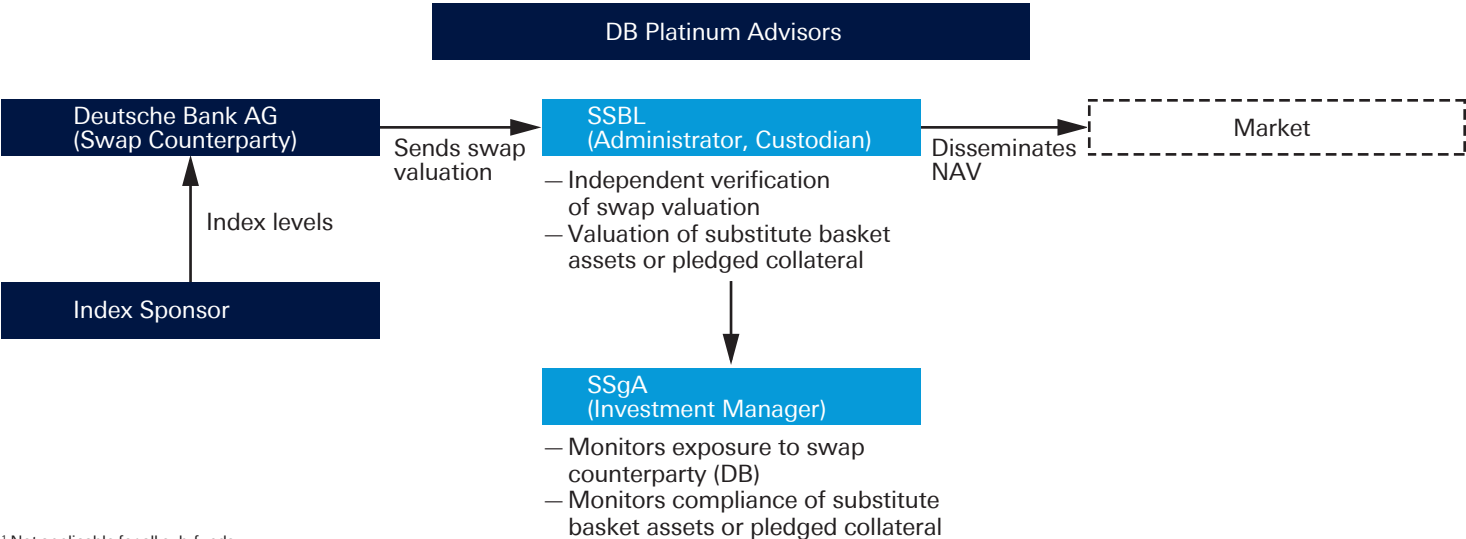


Figure 7: Daily process for monitoring swap and counterparty exposure



¹ Not applicable for all sub-funds

db X-trackers counterparty and operational risk

db X-trackers uses the unfunded swap model for all of its fixed income ETFs, and also for a small number of its equity ETFs, namely: EUROSTOXX 50, DAX, long and short CAC 40 ETFs. The funded swap model is used for all remaining equity ETFs and for db X-trackers currency, commodity and alternative investment ETFs. The swap counterparty is always Deutsche Bank AG, which currently has long term credit ratings of Aa3 from Moody's Investors Service, A+ from Standard & Poor's, and A+ from Fitch Ratings (as at February 1st 2012).

db X-trackers swap-based ETFs do not engage in securities lending, so there is no counterparty risk in this respect. Under UCITS rules, db X-trackers ETFs can have a maximum counterparty exposure to Deutsche Bank of up to 10% of the net asset value (NAV) of the fund. However, for db X-trackers ETFs that use an unfunded swap arrangement, db X-trackers limits this further to 5% NAV of the fund. Counterparty exposure in relation to db X-trackers funded swap arrangements is, in purely quantitative terms, negative on a daily basis due to the collateral basket being subject to "haircuts" – the posting of additional collateral to push the value of the collateral basket above that of the NAV of the fund. Meanwhile, strict rules are in place to ensure that high quality securities are held in db X-trackers substitute and collateral baskets. The following table outlines these high standards:

	db X-trackers ETFs that use the unfunded swap model	db X-trackers ETFs that use the funded swap model
Types of securities/collateral used	OECD equities for equity ETFs. Investment grade bonds for fixed income ETFs.	OECD equities and minimum of investment grade bonds (government and corporate).
Rules for inclusion in basket	UCITS eligible securities. Diversified in accordance with UCITS requirements.	In-house diversification rules ensure a minimum of 30 securities and maximum weighting of no more than 4% per issuer. In-house developed rules on liquidity enforced (a nominal position cannot exceed five times the security's average daily trading volume).
Securities lending	None	None
Maximum quantitative counterparty exposure on a daily basis ²	5% of prevailing NAV.	Mathematically negative counterparty exposure. (Collateral basket is "fully-collateralised", with "haircuts" applied to each security in the basket, ranging from zero for cash and some fixed income securities, to between 107.5% and 120% for equities.)
Monitoring/enforcement of rules	Independent investment manager, custodian.	Independent investment manager, custodian and collateral manager.
Additional notes	5% maximum NAV rule goes beyond UCITS 10% requirement.	Rules to ensure quality of collateral are over and above those required under UCITS. Deutsche Bank cannot unilaterally change the rules.

² As measured by the net asset value (NAV) of the fund and the "mark-to-market" (value as measured by current market prices) of the substitute or the collateral basket.

Quality of collateral/substitute basket securities

With strict rules in place to ensure that only quality (OECD equities or investment grade bonds), liquid securities can be deposited by Deutsche Bank in collateral or substitute baskets, and with daily monitoring and enforcement of these rules performed by independent parties, it should come as no surprise that in aggregate the quality of physical holdings is high. The following tables demonstrate this:

Breakdown of constituents of collateral and substitute baskets (as of 30 December, 2011) for db X-trackers equity and alternative asset class index ETFs

Countries	% of assets
G10 Equity	71.16
Australian equity (ASX 200)	2.90
Other OECD	3.26
G12 sovereign debt	13.43
Corporate debt (investment grade)	9.24
Other	0

Breakdown of constituents of collateral and substitute baskets (as of 30 December, 2011) for db X-trackers fixed income, cash and credit index ETFs

Rating breakdown	% of assets
Aaa	73.67
Aa1	6.76
Aa2	0.03
Aa3	3.95
A1	3.71
Ba1	1.22
Baa3	0



Transparency

Another important aspect when assessing the quality of a fund investment is how transparent the product is in terms of providing the level of detailed information needed for investors to gain an informed qualitative, explicit quantitative, or even simply an intuitive, sense of the potential counterparty and operational risks they are exposed to. Traditional mutual funds may only provide information on derivatives use and securities lending on an annual or bi-annual basis. Investors in physical replication ETFs meanwhile have also generally struggled to gain full transparency on securities lending.

In December 2010 db X-trackers began publishing swap exposures as a percentage of NAV of the fund, and also full details and analysis of the underlying constituent securities making up collateral and substitute baskets – down to the individual security level and its associated weighting in the basket. This information is available on all db X-trackers ETFs, is updated daily, published on the db X-trackers website, and is available for anyone to access (www.dbx-trackers.com). This is a high level of transparency for a mutual fund product.

Illustration of daily publication of collateral and swap exposure details (“ETF Details” page)

FTSE 100 ETF

FTSE 100 ETF

Net Asset Value 6.03 GBP (16/02/2012)

ISIN	LU0292097234	TER p.a.	0.30%	Total AUM of Fund	437.78 Mio EUR	PDF Factsheet
Use of profits	Distributing	Asset class	Equities			

Trading Information

ETF Information

Index Information

Performance Chart

Documents & Downloads

» Trading Volume

» Ticker Symbols

» **ETF Details**

» Collateral

» Income Treatment

» Dividends

» Index Key Facts

» Weightings

» Top Components

» Performance (%)

» Performance (NAV)

» Product Details

» Prospectus

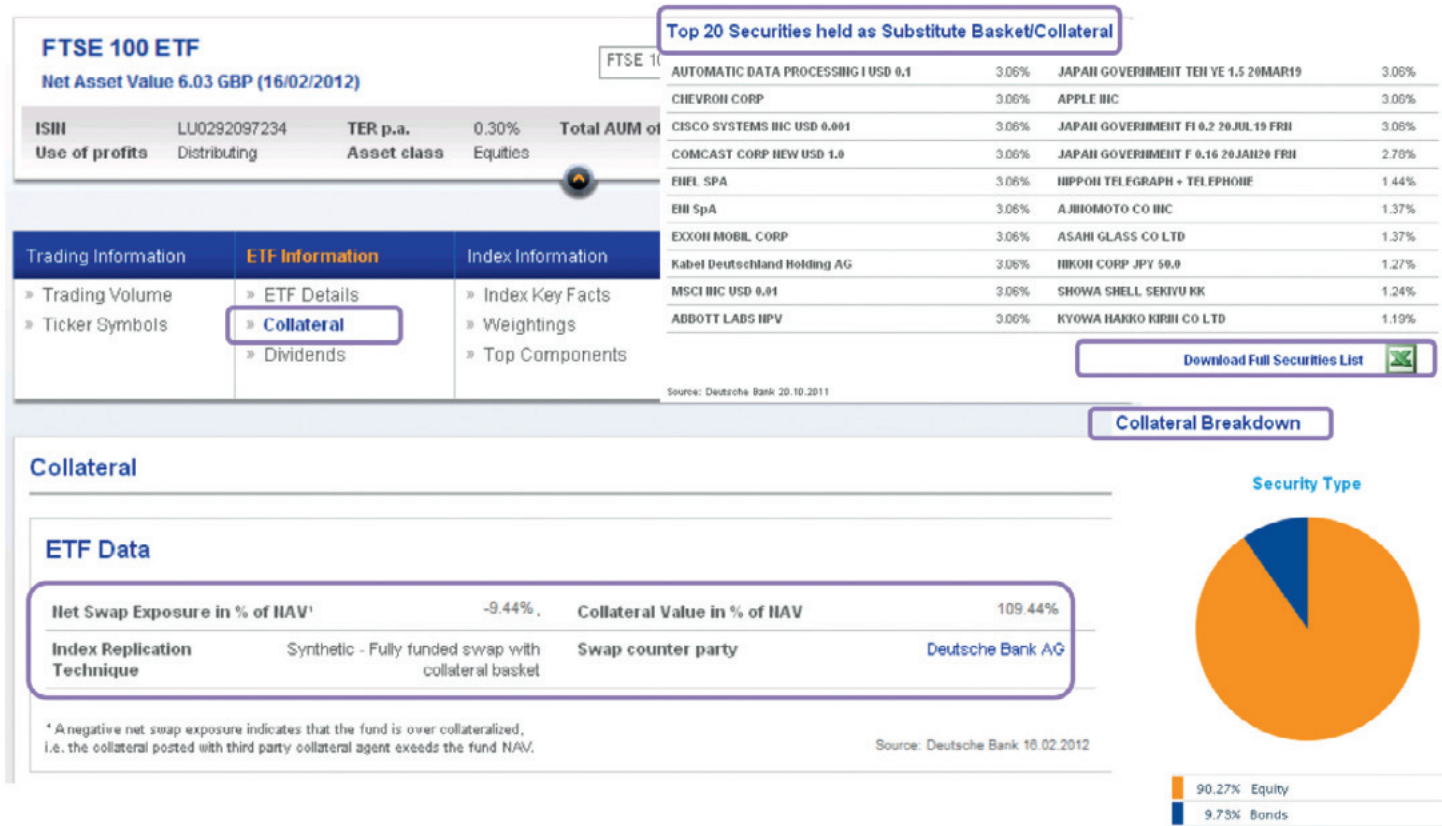
» Brochure, Flyer

» Historical Data

ETF Details

ETF Structure		Management and Administration	
Index Replication Technique	Synthetic - Fully funded swap with collateral basket	Issuing Company	db x-trackers
Swap counter party	Deutsche Bank AG	Fund Domicile	Luxembourg
Net Swap Exposure in %	-9.44%	Management Company	db platinum advisors
		Depository bank	State Street Bank Luxembourg S.A.
		Administrator	State Street Bank Luxembourg S.A.

Illustration of daily publication of collateral and swap exposure details ("Collateral" page)



Daily transparency such as that offered by db X-trackers is important not just in the sense that it lets investors and others see the physical assets set aside as security on their investment, but also because it serves as an incentive for all parties involved in running the fund on a day-to-day basis to ensure that the highest standards are being met at all times.

Bringing it all together

Although this guide has focused on counterparty and operational risks that can be present in ETFs, the starting point for any investor in a UCITS-compliant ETF should be that they are investing in a product structured to meet a set of strict and highly respected regulatory standards. This in itself ensures that counterparty and other implicit risks are limited and managed. But for those that do wish to gain a full and in-depth understanding of the underlying risks they may be exposed to, the following is a possible checklist of basic questions that could be asked of a provider (note that this is not exhaustive and should not be regarded as adequate for proper due diligence – prospective investors should read the prospectus thoroughly):

- 1) Is the ETF a physical replication or swap-based ETF?
- 2) If physical replication, is the ETF a full physical replicator or does it rely on stratified sampling or optimization?
- 3) If optimization or stratified sampling is used, what proportion, on average, of the index is usually held? How does this impact tracking difference? Who develops the modeling technology – what is the “model risk”?
- 4) Does the fund engage in securities lending?
If the answer is yes:
 - What is the counterparty risk to each counterparty, and can that risk be monitored regularly?
 - What securities are posted as collateral, and what “haircuts” are applied to that collateral?
 - How liquid is the collateral?
 - What happens to the collateral in the event of default by the lending counterparty?
 - How much profit from securities lending goes to the fund and how much to the ETF provider?
 - How good are the ETF provider’s securities lending risk management systems?
- 5) If the ETF is swap-based, how easy is it to access information on the securities that are placed in collateral or substitute baskets?
- 6) How can any underlying counterparty credit risk be assessed?
- 7) Which institution(s) act as swap counterparty?
- 8) What “haircuts” are applied to the collateral – ie, to what extent is the collateral account fully-collateralised in relation to the NAV of the ETF?
- 9) What happens to the collateral/substitute basket securities in the event of default of the swap counterparty?
- 10) What are the costs of the swap?
- 11) Are there any replication costs/fees in addition to the annual management fee?

In terms of db X-trackers ETFs, the following answers to the above apply:

- 1) The majority of db X-trackers ETFs are swap-based.
- 2) No optimisation or stratified sampling takes place with swap-based ETFs.
- 3) N/A
- 4) No db X-trackers swap-based ETFs engage in securities lending.
- 5) Investors can access a full breakdown and analysis of collateral and substitute basket holdings from the db X-trackers website – down to the individual security level and its associated weighting. This covers all db X-trackers ETFs and information is updated on a daily basis.
- 6) With full transparency on collateral and swap exposures, and with the knowledge that any small amount of counterparty credit risk that is present is to a known, single swap counterparty, investors can assess counterparty risk qualitatively or quantitatively.
- 7) db X-trackers ETFs only use Deutsche Bank AG as swap counterparty, providing for clarity and curtailment of counterparty exposure. Some swap-based providers engage with multiple swap counterparties. However, this can increase counterparty exposure to beyond 10% NAV of the fund (the UCITS rules stipulate that counterparty exposure can be a maximum of 10% to a single swap counterparty, but with more swap counterparties in use the fund is free to take more counterparty exposure).
- 8) The ETFs are 100% collateralized and apply “haircuts” of 7.5% to 20% for equity collateral, 10% for corporate bond collateral and 0% for government bond collateral.
- 9) For db X-trackers unfunded swap-based ETFs which use a substitute basket, the securities in the substitute basket are held in a ring-fenced custodian account in the name of the fund. The fund therefore has ownership of the physical securities, which in the event of a default by Deutsche Bank AG will either be sold to produce cash to return to investors, or be kept with the custodian bank while another swap counterparty is procured to meet the fund’s investment objectives – the choice of which route to take would be made by the ETF’s board of directors.

For db X-trackers fully-funded swap-based ETFs, the collateral is “pledged” by Deutsche Bank in the ring-fenced custodian account in favour of the fund. Luxembourg law (note that all db X-trackers swap-based ETFs are domiciled in Luxembourg) ensures that in the event of default the custodian and the fund can seize assets without requiring the approval of Deutsche Bank (see Appendix for more details).
- 10) The majority of db X-trackers swap arrangements are done on a zero-cost basis (see Answer 11 for an explanation of the handful of db X-trackers ETFs that pay a swap spread), which means the Deutsche Bank swaps desk provides the swap to the fund free of charge. This is a benefit of the vertically integrated model where the same institution acts as swap provider and sponsor of the ETF platform.
- 11) The majority of db X-trackers ETFs provide investors with the exact returns of the index being tracked minus the total expense ratio, with no other tracking difference or fees applicable. However, some ETFs (for example, certain “beta-plus” strategy ETFs) charge an additional and transparent fixed management fee. Also, a small number of db X-trackers ETFs – emerging markets equity and short equity ETFs – charge an additional “replication costs” fee. This fee is variable and is used to cover access costs in relation to underlying markets that are illiquid, and borrowing costs in relation to ETFs designed to provide an automated short position. Swap costs in relation to these ETFs therefore are not zero, which means the Deutsche Bank swaps desk charges the fund a swap spread, which can vary over time. These costs are published in the relevant ETF’s audited annual report.

Conclusion

This guide has hopefully gone some way to demonstrating that db X-trackers works hard to provide top quality ETFs that work for the investor in terms of providing good tracking at minimum cost, with low underlying counterparty and operational risks, and with maximum transparency. db X-trackers takes its responsibilities to investors seriously. With strict rules in place to ensure that, for example, physical assets set aside to secure db X-trackers tracking arrangements are liquid, diverse, fully transparent, and monitored and operated by independent third parties, investors can be reassured that all efforts have been made to analyse and then manage any potential conflicts of interest.



Appendix

A closer look at counterparty exposure and collateral enforcement with the unfunded swap-based model.

With the substitute basket method, db X-trackers exchanges all or part of the relevant ETF's portfolio of assets held with the custodian, State Street Bank Luxembourg (SSBL), for the performance of the index that the ETF tracks. Depending on how the value of the portfolio of assets owned by the ETF changes in relation to the value of the underlying index, either party may have a credit exposure to the other party. When the ETFs credit exposure to Deutsche Bank exceeds a set percentage of its net assets (the limit is 10% by law but more stringent limits are generally put in place in the case of transactions between db X-trackers and Deutsche Bank) then db X-trackers may require Deutsche Bank to reset the swap transactions and portfolio of assets such that the ETF's credit exposure to Deutsche Bank is maintained within the relevant limits.

If Deutsche Bank defaults under the swap transactions then db X-trackers can terminate the swap arrangement and a termination amount, which will reflect the relevant positions across the swap transactions, will be delivered (note that if Deutsche Bank were to default on the swap transaction, the ETF still retains its portfolio of physical assets).

It should also be noted that, as with any fund that uses a custodian to safe-keep its assets, db X-trackers as the ETF provider is also exposed to the risk of SSBL defaulting. In the unlikely event of this happening, db X-trackers ETF assets should be ring-fenced and protected under Luxembourg insolvency law.

A closer look at counterparty exposure and collateral enforcement with fully funded swap-based model.

Two arrangements are in place for fully-funded db X-trackers ETFs. For a minority of the fully-funded db X-trackers ETFs, Deutsche Bank has a single account known as the "pooled account" with SSBL. The collateral received by all db X-trackers ETFs that use this collateral method is credited to a single account, which is held by SSBL as custodian and in the name of Deutsche Bank as swap counterparty. Collateral assets are notionally allocated to each db X-trackers ETF. The pooled account is pledged in favour of db X-trackers with respect to all the underlying ETFs involved in the collateral programme. The terms of this arrangement are set out in a formal pledge agreement entered into by db X-trackers, Deutsche Bank and SSBL. If Deutsche Bank defaults on the swap transactions then the ETF managers can enforce the pledge and claim the assets.

The collateral is subject to a common set of provisions regarding asset eligibility criteria, diversification requirements and applicable haircuts. State Street Global Advisors (SSgA) as investment manager is required to check, on a daily basis, that these requirements are being satisfied.

As with any standard fund industry custody arrangement, db X-trackers is exposed to the risk of insolvency of SSBL in its role as custodian of the pooled account, although again if default occurred then assets would still be ring-fenced.

The majority of db X-trackers fully funded ETFs however fall under a collateralisation arrangement run in conjunction with Bank of New York Mellon Luxembourg (BNYM Luxembourg).

This arrangement differs from the State Street arrangement in that in respect of each underlying ETF there is a separate account in the name of Deutsche Bank held with BNYM Luxembourg as custodian. Deutsche Bank and BNYM Luxembourg are each a party to the underlying pledge document, while BNYM Luxembourg also acts as collateral manager. If Deutsche Bank defaults then the ETF can enforce the pledge and claim the collateral from BNYM Luxembourg.

The underlying ETFs subject to this collateral arrangement are exposed to the risk of default of BNYM Luxembourg, although again the assets should be ring-fenced and protected under Luxembourg law.

Meanwhile, depending on their respective investment objectives and policies, the underlying ETFs subject to this arrangement may be pulled together into family groups for the purpose of applying a specific collateral schedule defining specific rules governing eligible collateral assets, diversification requirements and applicable haircuts.

db X-trackers ETFs Risk factors

Investors should note that the db X-trackers ETFs are not capital protected or guaranteed and investors in each db X-trackers ETF should be prepared and able to sustain losses of the capital invested up to a total loss.

Investment in db X-trackers ETFs involve numerous risks including among others, general market risks relating to the relevant index, credit risks on the provider of index swaps utilised in the db X-trackers ETFs, exchange rate risks, interest rate risks, inflationary risks, liquidity risks and legal and regulatory risks.

The db X-trackers ETFs use Deutsche Bank as the counterparty for OTC derivative transactions. In the event of a default under the terms of the OTC derivative transaction by Deutsche Bank, the db X-trackers ETFs would be liquidated and investors could lose up to 10% of the NAV of the ETF. The NAV at the time of default also may be considerably less than the amount an investor originally invested depending on the performance of the relevant underlying index. You should therefore understand and evaluate the counterparty credit risk prior to making any investment.

The value of an investment in a db X-trackers ETF may go down as well as up and past performance is not a guide to the future.

Not all db X-trackers ETFs may be suitable for all investors so please consult your financial advisor before you invest in a db X-trackers ETF.

ETFs shares may be denominated in a currency different to that of the traded currency on the stock exchange in which case exchange rate fluctuations may have a negative effect on the returns of the fund.

Tax treatment of the db X-trackers ETFs depends on the individual circumstances of each investor. The levels and bases of, and any applicable relief from, taxation can change. db X-trackers may trade in limited markets.

There may be tracking difference between this ETF and the underlying index „ due to the impact of annual fund management fees. The returns on this ETF may not be directly comparable to the returns achieved by direct investment in the underlying assets of the sub-fund or the underlying index Investors' income is not fixed and may fluctuate.

The value of any investment involving exposure to foreign currencies can be affected by exchange rate movements.

For further information regarding risk factors, please refer to the risk factors section of the listing particulars or full prospectus.



Make a well-informed decision

Important information

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About db X-trackers ETFs

db X-trackers is Deutsche Bank's Exchange Traded Funds (ETFs) index tracking solution platform. db X-trackers was launched in January 2007 and with over EUR 34 billion of assets under management (as taken at March 2012) is one of the largest ETF providers in Europe.

db X-trackers ETFs are listed on nine different stock exchanges across Europe and Asia and are supported by multiple market makers.

db X-trackers ETFs are domiciled in Luxembourg and comply with UCITS regulations.

All of the above data was correct as at March 2012.

Further Product Information

Further product information on the db X-trackers ETFs, including the simplified and full prospectus, are available on the website: www.dbxtrackers.com

Alternatively, you can contact us in writing, by telephone or by email on the details provided below.

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