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NAPF
Securing the future of pensions

Exchange Traded Funds

October **2014**

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1 Introduction

An ETF is an investment fund which trades like a share on a stock exchange.

Any pension trustee wishing to understand the investment options open to their scheme should have a basic understanding of Exchange Traded Funds (ETFs) and how they compare with other types of investment funds. This guide describes what ETFs are, how they work and their different features such as structure, liquidity, performance evaluation metrics and Total Cost of Ownership. The different roles for ETFs in a pension fund portfolio and the key factors to consider when selecting an ETF are also highlighted. In summary, this guide explains how to choose an ETF investment which is in line with the pension scheme's investment objective.

What is an Exchange Traded Fund (ETF)?

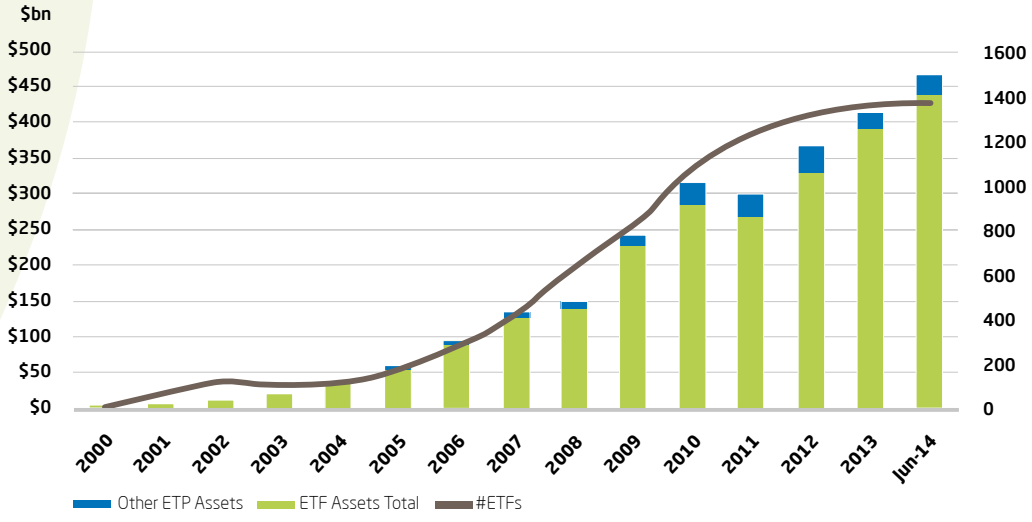
- An ETF is an investment fund which trades like a share on a stock exchange.
- It tracks an index, such as the S&P 500, to achieve the index return minus costs.
- Investors can use it to participate in investment markets with flexibility and often at a lower cost than with traditional investment funds.

ETFs are the most popular type of Exchange Traded Products (ETPs), which also include various investment vehicles such as Exchange Traded Commodities (ETCs) and Exchange Traded Notes (ETNs). This guide was produced in association with iShares. iShares is the largest ETP provider in Europe with over US$220.8 billion in assets under management (AUM). Within its European-domiciled range, iShares offers 271 ETPs ranging from developed, emerging and regional equity market funds to corporate, government and inflation-linked bond funds[1].

Market growth in ETPs: particularly ETFs

Investment in ETPs has grown dramatically over the past 10 years. For example, global assets in ETPs have increased from US$79 billion as at 2000 to over US$2,632 billion as at June 2014[1]. Specifically, it is ETFs, the largest fund category within the ETP landscape, which are gaining traction in the marketplace. For example, in Europe, there are now 1,374 ETFs totalling $438 billion of AUM[1].

Figure 1: Number of ETFs and the AUM of ETFs and ETPs



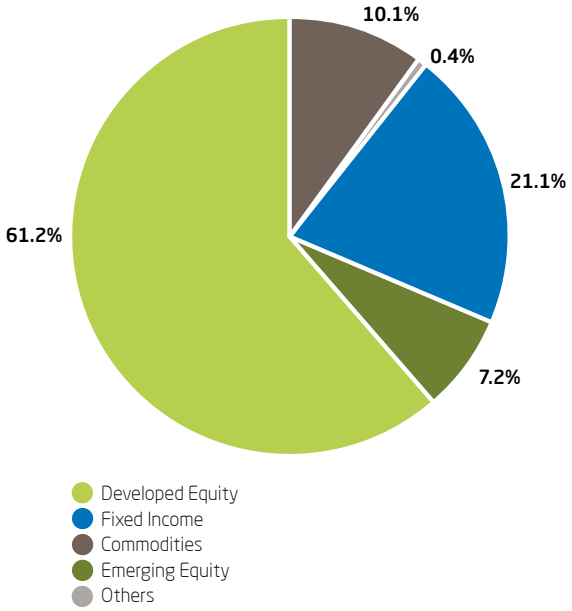
Source: BlackRock, ETP Landscape as at end June 2014.

[1] *ETP Landscape, BlackRock as at end June 2014.*

Growing investment choice

The range of ETFs available in Europe offers access to a wide variety of asset classes, regions, countries, sectors and durations. ETFs have also been developed to offer access to specific equity strategies, such as a high-dividend strategy.

Figure 2: European ETP (AUM) % distribution across asset classes



Source: BlackRock, ETF Landscape as at end June 2014.

The tradability, availability and low cost characteristics of ETFs ensure that they are used to invest across a wide range of asset classes and regions. In the UK, these characteristics have led to these funds being gradually adopted across the pension industry. They are used in defined benefit and defined contribution fund ranges, within individual investors' personal pension fund arrangements such as Self Invested Personal Pensions (SIPPs). This increased usage by pension funds is evident in the Greenwich Associates survey (2013) of European institutional investors which highlighted that, in Europe, 43% of corporate pension funds and 46% of public pension funds expected to increase their allocation to ETFs over the following 12 months.[2]

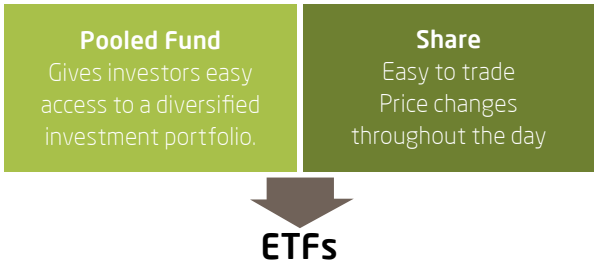
[2] *Source: The Greenwich Associates survey (2013), 'Continental European Institutional Investors', was based on interviews with 706 institutional investors across the Continent, each with over €150 million in externally-managed assets. This was comprised of 424 pension funds, 102 insurers or reinsurers, 37 banks, 45 Sparkassen, 64 foundations or church funds and 34 other institutional investors.*

2 Features of ETFs

ETFs have features in common with pooled funds and shares

- They have the diversification benefits of pooled funds.
- They have the tradability of shares.
- They provide diversified exposure in a single trade across a regional market, asset class or investment sector in the same way as pooled funds.
- They can be bought and sold on an exchange at a market price which is determined by the forces of supply and demand.

Figure 3: Overview of ETFs



The majority of ETFs are index-tracking funds (also known as 'passive' funds). They are structured to track the performance of a specific market index, such as the FTSE 100 Index of UK shares. For example, if the FTSE 100 Index rises by 10%, the value of shares in a FTSE 100 ETF should rise by the same amount, minus fees. Dividends may be accumulated in an ETF's net asset value (NAV) or distributed, typically half yearly or quarterly. ETFs offer a cost-effective route to diversified market exposure. This, combined with their availability across a wide range of indices, has led to them being viewed as flexible and cost-effective vehicles by which to access the performance of many different markets, industry sectors and asset classes.

Figure 4: Benefits of ETFs

Transparency	• Investors can generally see an ETF's underlying composition at any given time[3]. • The objective of an ETF is clear.
Liquidity	• An ETF is as liquid as its underlying securities. • ETFs can be bought and sold at any time during the trading day.
Cost	• ETFs offer a cost-effective route to diversified market exposure.
Diversification	• ETFs offer immediate exposure to a basket or group of securities, providing diversification through a single trade. • ETFs are available across a broad range of asset classes, including equities, bonds, commodities, and investment themes.
Flexibility	• ETFs are listed on numerous exchanges. • The pricing of ETFs is continuous throughout the trading day.
Securities Lending	• ETF units and their underlying assets can be lent out to generate additional revenue.

[3] *Information usually refers to the fund's securities of the previous business day.*

3 Structures of ETFs

The aim of an ETF is to track the performance of an index, such as the S&P 500. An ETF's performance is reflected in the fund's NAV and in the price of its shares. To replicate an index, an ETF can be structured as either a physically replicating ETF or a derivative replicating ETF.

Physically replicating ETFs

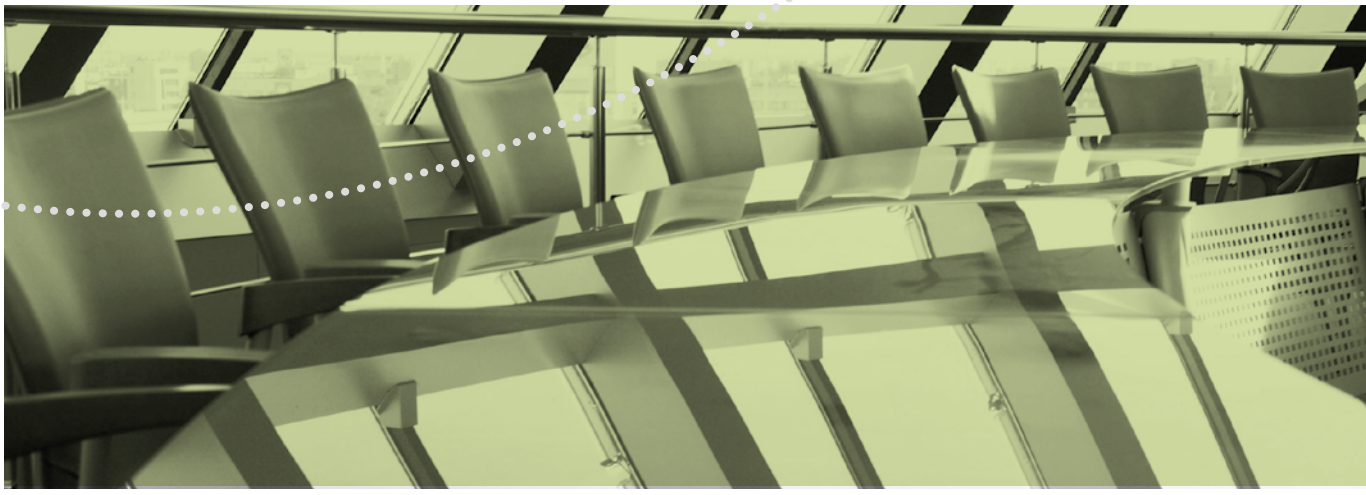
Physically replicating ETFs buy the same assets as the index being tracked, providing the investor with the reassurance of actually owning the assets. There are two physical tracking techniques:

- **Full replication:** all the assets in the index are held and the weighting of each asset is equal to its weighting in the index; or
- **Sampling replication (optimisation):** all the assets of a large index are not held, as full replication could be less efficient and costly.

When using an optimised approach, the ETF provider buys a sample of the index's constituents in order to replicate its performance. This approach is commonly used where the tracked indices comprise a very large number of stocks or bonds, some of which could be illiquid. Sampling will tend to focus on the largest and most liquid stocks in the index, in order to reduce transaction costs. Computer modelling may be used to determine the most efficient basket of stocks to achieve the most accurate replication.

Derivative replicating ETFs

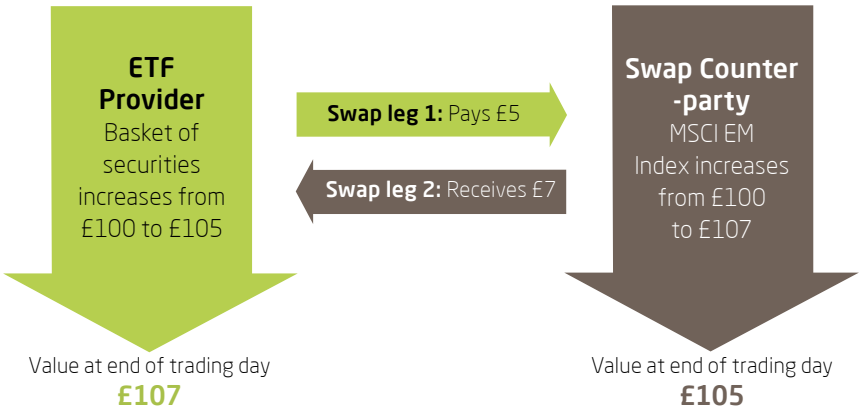
Derivative replicating ETFs are constructed to deliver the performance of an index through the use of derivative contracts (total return index swaps) with counterparties such as investment banks. Under the swap agreement, the counterparty promises to pay the return on the index to the ETF provider in exchange for the return on a basket of securities which the ETF provider owns (normally prescribed by the swap counterparty).



Swaps

Swaps are usually over-the-counter (OTC)[4] contracts based on terms agreed between two parties. They are legal agreements in which collateral is posted as security against a counterparty failing to make its agreed payments.

A swap agreement: To exchange the return from an agreed basket of securities for the return from the MSCI Emerging Markets Index.



An ETF provider has set up a swap agreement with an investment bank to swap the return from a portfolio of securities it owns (normally prescribed by the swap provider) for the return from the MSCI EM Index, which comprises companies listed in developing markets.

- The ETF provider's basket of securities increases in value during the trading day from £100 to £105.
- The MSCI EM Index increases from £100 to £107.
- The swap counterparty must swap a return of £7 for a £5 return from the ETF provider.

In practice, the two returns are netted and therefore, in this example, the counterparty would simply pay the £2 difference to the ETF provider at the end of the trading day. The value of the ETF would rise to £107.

The risk is that the investment bank will be unable to pay the £2 difference to the ETF provider. According to the UCITS rules, this risk (counterparty exposure) is limited to 10% of the NAV of the fund. In other words, the value of any swap should not exceed 10% of the fund's total NAV. The swap is marked-to-market on a

In general, physically replicating ETFs have lower counterparty risk and better transparency than derivative replicating ETFs. A key benefit of physically replicating ETFs is that, typically, a full disclosure of their holdings is available to investors on a regular basis ensuring a high level of transparency. With the exception of a single fund, iShares uses either full physical replication or optimised physical replication for all its ETFs.

[4] Over-The-Counter trading is trading done directly between two parties without the supervision of an exchange.

[5] Mark-to-Market can be defined as the accounting act of recording the price or value of a security, portfolio or account to reflect its current market value rather than its book value.

Other ETPs

ETFs dominate the exchange traded products market, but there are two other main types.

Exchange Traded Notes (ETNs)

- These are not investment funds.
- They are debt obligations issued by banks for a fixed term in order to raise money.
- Investors are promised a payment at maturity linked to the performance of a corresponding index, minus fees.
- Investors can sell their holdings on the stock market before maturity.
- The issuing bank may offer redemptions (buying back the holdings) at regular intervals.
- ETNs expose investors to two types of risk:
  - The credit risk of the issuing bank.
  - The market risk of the selected index.
- The ETN may not have the usual usual protections of ETFs, such as the independent custody of assets, segregation of liability, diversified exposure and independent oversight.

Exchange Traded Commodities (ETCs)

- These are debt securities rather than investment funds.
- They can be either physically-backed or derivative-based.
- Physical ETCs will track the daily movement of the spot price of the relevant commodity by actually buying the asset.

iShares' ETCs are 100%-backed by fully-allocated physical holdings of precious metals held in segregated accounts, which should imply no issuer risk. However, the ETC label is used by some providers to identify any commodity exposure, some of which may not be physically-backed and can therefore expose investors to some additional issuer risks.

4 Trading and tax

Unlike traditional pooled funds, ETFs have an additional layer of liquidity as they trade on two markets - the primary market and the secondary market.

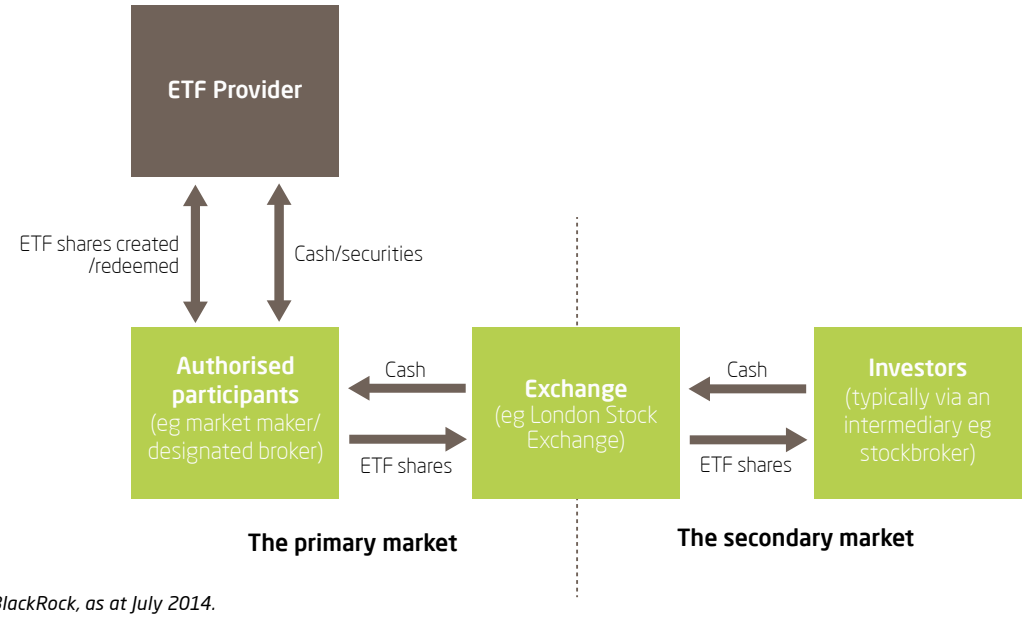
Primary and secondary markets

Given the large size of an average trade, liquidity, or how easily an investment can be bought and sold, is critical for pension funds.

- **Primary market:** The primary market, also known as the underlying market, is the same market accessed by other beta vehicles, such as index funds or segregated mandates. ETFs in Europe are open-ended funds and do not have a fixed number of shares. This means that shares can be created or cancelled (redeemed) on-demand directly from an ETF provider by authorised participants (APs), who typically are large investment banks.

New ETF shares are created by a process called 'creation'. APs liaise directly with the ETF provider in the primary market to exchange either the securities that make up the index ('securities in kind') in the proportion of the existing holdings of the fund, or cash for large blocks of ETF shares known as 'creation units'. The ETF shares are then sold to investors in a secondary market – such as the London Stock Exchange – just like conventional shares.

Figure 5: The creation process of ETF units



Source: BlackRock, as at July 2014.

- **Secondary market:** The primary market works alongside the secondary market, which involves the trading of ETF shares on either stock exchanges or OTC via a market maker who has an inventory of the ETF units. Prices of ETFs are influenced by demand and supply factors and market movements. Typically, in the secondary market, market makers only show a fraction of their volumes on screen at any one time, and these volumes do not necessarily reflect their access to large inventory pools.

Since ETF units can be created and redeemed directly with the provider, large trades above Average Daily Volume (ADV) amounts can be completed. Generally, given the growth in AUM of individual ETFs, sizable institutional investments can be made without incurring liquidity risk. The size of a trade will normally determine whether the primary or secondary market is the most suitable for a particular trade.

Buying and selling of ETFs

ETF availability

- ETF providers make their funds available through many different brokers and stock exchanges so it is easy for investors to buy and sell them.
- ETFs are now available across a range of asset classes and sectors.
- Currency and interest rate hedged ETFs are also available, as well as non-market cap weighted funds such as Minimum Volatility ETFs.

Transaction costs

Broker commission

- As with ordinary shares, buying or selling an ETF involves a dealing charge, which can vary from broker to broker.
- Investors can shop around different brokers and exchange platforms to find the most competitive commission terms.
- In order to get the best price, it is important to deal with market makers or brokers who are ETF specialists and and who are skilled at pricing the fund in question.
- Unlike the purchase of conventional shares, in the UK there is no stamp duty payable on an ETF tracking an equity index, such as the FTSE 100 Index, when it is purchased on the secondary market.

Bid-offer spreads

- Shares of ETFs are subject to a spread.[6]
- At any given time, brokers will offer to sell an ETF at one price and buy at a lower price.
- The spread will reflect the spreads on the assets that make up the index which is being tracked, but will also depend on the AUM of the ETF.
- As an ETF grows in size, more trading activity is carried out in the secondary market and this higher liquidity can lead to spreads narrowing.
- Generally, spreads are the narrowest on highly-traded ETFs with significant AUM based on highly liquid indices.
- A high level of liquidity can result in an ETF having lower spreads than the spreads of its assets in the underlying market.

Some pension funds do not have broker accounts. However, buying an ETF is still a relatively straightforward process which can be completed through a custodian. Custody banks such as BNY Mellon, HSBC, J.P.Morgan, Northern Trust and State Street may be able to facilitate the transaction for those institutional clients who do not have broker accounts.

[6] A spread can be defined as the difference between the buying price and selling price of the same asset.

Pricing of ETFs

ETFs are priced throughout the day, reflecting real-time movements in their reference index. Brokers price an ETF using the real-time prices of the securities that make up the index, or estimated prices when real-time prices are not available. These broker prices, once confirmed, are binding. Buyers and sellers therefore know the price at which they will trade before the transaction takes place. To calculate an ETF's NAV, iShares uses the closing prices of the constituents of the ETF on a specific day.

Tax and ETFs

When held in an authorised UK pension scheme, ETFs are subject to the usual beneficial pension tax treatment, including tax-efficient fund growth and tax relief on member contributions. As mentioned above, ETFs also have an additional tax advantage in that purchases of UK equity ETFs are not subject to UK stamp duty (currently 0.5 %). To be tax-efficient, the majority of UK-listed ETFs are domiciled in offshore centres such as Dublin or Luxembourg.

Although returns within a pension scheme are largely tax-free, there are some tax liabilities to be aware of:

- **Tax credit on dividends:** Distributions from equity ETFs will be treated as dividends and will be paid net of a 10% tax credit that cannot be reclaimed. Interest paid on fixed income ETFs is paid gross and there is no further tax to pay, if the ETF is held in an authorised pension scheme.
- **Withholding tax:** Overseas domiciled funds may suffer withholding tax at the investment level, depending on the investments. The country of domicile of the ETF may also impose a withholding tax on any distributions made to a pension fund on the basis of holdings and the residence of the pension fund.

In general, tax advice should be sought by individual pension schemes.

5

Role of ETFs in portfolios

ETFs are gaining traction with pension funds. They are increasingly being used as the vehicle of choice for diversifying across a wide range of asset classes, participating in shorter term tactical allocation strategies and reinvesting unexpected cash inflows on a timely basis. An ETF can be an ideal tool for implementing this broad range of functions due to its liquidity, tradability and low cost characteristics, which all compare favourably to alternative vehicles. Historically, institutional investors have mainly used ETFs for tactical strategies alone, however, in recent years there is a trend towards using ETFs for strategic asset allocation, and this trend is gaining momentum[7].

Asset allocation

Different assets classes have different risk/reward profiles and tend to perform well at different stages of the economic cycle. Asset allocation aims to blend assets to achieve optimal performance and, at the same time, achieve an appropriate risk/reward level for the portfolio.

ETFs can be used for two types of asset allocation decisions:

- **Strategic asset allocation (SAA):** SAA is about long-term strategy. It focuses on creating an appropriate split of capital across asset classes to produce overall returns in line with an investment portfolio's agreed objectives, time horizon and risk tolerance. For example, the strategic asset allocation for a growth-focused portfolio may have a large percentage of its assets invested in equities. Institutional investors are increasingly using ETFs in SAA due to their recognition of the importance of dynamic asset allocation and an increased focus on costs.
- **Tactical asset allocation (TAA):** TAA, or short-term tilts, can also be implemented using ETFs. The breadth and depth of the ETF marketplace enables investors to use them to tactically over or underweight an asset class, or sector. For example, if a pension fund manager has a view on a particular market, an ETF can be purchased (sold) to increase (decrease) the pension fund's exposure to reflect this view.

Given their liquidity and tradability, pension funds can use ETFs to gain exposure to niche or difficult-to-access markets for both SAA and TAA. Examples of niche markets include segments of the fixed income market, thematic exposures and single countries in the emerging markets. An interesting thematic exposure in which ETFs are playing an increasing role is emerging market debt, as investors seek yield in the current low interest rate environment.

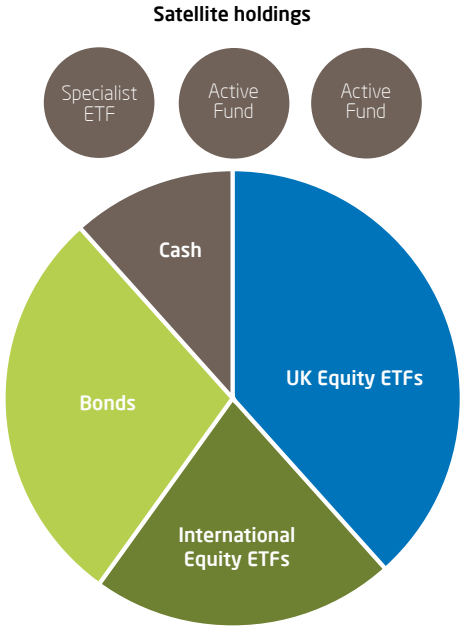
Many pension funds are considering opportunities in asset classes such as property and infrastructure, which can potentially offer incremental yield. Since these asset classes tend to have lower liquidity, pension fund managers may also consider the use of ETFs to create a more balanced, liquid portfolio particularly in the case of maturing cashflow negative schemes.

[7] *Source: The Greenwich Associates survey (2013) included 178 institutional investors, 20 investment consultants, 18 insurance companies, 69 RIAs and 10 asset managers. Interviews were conducted between February and April 2013.*

Core-satellite portfolio

Core-satellite investing is based on the idea of having a stable long-term base of investments (the core) around which specialist or niche investments (the satellites) can be added to enhance potential performance. Another common strategy is to use index-tracking ETFs as a core portfolio to achieve returns in-line with markets. Actively-managed funds might then be used as satellites to try to achieve above-market returns.

Case study: core-satellite investing



A pension fund has assets of £100 million. After a recent review of its investment performance and costs, it wants to identify a solution that will h elp reduce investment management costs while still retaining the ability to generate strong returns.

The pension fund decided that a core of £80 million should be held in low-cost ETFs that are designed to replicate the returns from developed markets. In addition to the core, actively-managed funds and specialist market ETFs will be used as satellite holdings to give the portfolio the potential to generate additional returns.

Source: BlackRock, July 2014. The example above is for illustrative purposes only.

Cash management

Fund managers find ETFs useful for portfolio management functions such as cashflow management.

When faced with a large cash inflow or outflow, pension funds may find themselves with excess cash relative to their asset allocation plan. This could be the result of an investment cash flow, such as dividends, or an unexpected cash inflow from a sponsor. Being out of the market even for short periods can mean a performance shortfall in times of rising markets. ETFs can help fund managers offset the negative impact from unexpected cash inflows by providing instant exposure to a specific index, ensuring that the fund participates in a rising market. This allows them the time to research appropriate long-term investment ideas by reducing the risk to their performance figures of sitting in cash.

A liquidity 'sleeve' or buffer of ETFs can be useful if there are large and frequent cashflows. This buffer can be a basket of ETFs representing the asset allocation strategy of the portfolio. Cashflows can result in substantial transaction costs associated with buying or selling individual securities in the underlying market. A buffer in the form of ETFs can help minimise these transaction costs and assist in rebalancing the portfolio back in line with its targeted asset allocation.

Transition management

ETFs are useful when a fund is in transition from one manager to another to maintain exposure, or to gain exposure to a new asset class. A new portfolio can hold an ETF while attractive investment ideas are being generated by the new manager. In addition, when an ETF is being sold, a physically replicating ETF offers an opportunity to redeem in-kind (securities). This means that the proceeds of the ETF are not paid out in cash but through a direct portfolio of the underlying securities. This portfolio can be delivered to the selected asset manager without having to go through cash again. This avoids having to use the cash proceeds from a sale to repurchase securities which would result in paying additional transaction costs.

6 Evaluating an ETF

Due diligence

As with other investment products, ETFs require thorough due diligence before investment. Although different ETFs play a broadly similar role, there are many important differences in their structure, how they are managed and the level of transparency they offer. Due diligence is therefore necessary to ensure the chosen fund can offer the market coverage, liquidity, cost structure and disclosure that is expected, in addition to being able to track its benchmark index accurately.

We have identified the key elements that we believe investors should consider when evaluating an ETF:

- Index suitability
- Tracking error and tracking difference
- Method of index replication
- Liquidity
- Domicile
- Total cost of ownership
- UCITS compliance
- Transparency of underlying holdings
- Derivative replicating ETFs

Index suitability

Given the vast range of indices tracking each market, it is important to choose an ETF that tracks the most appropriate index for a scheme's needs. For example, a pension scheme may wish to use an ETF to track the UK stock market. To do this, it may chose an ETF that tracks the FTSE 100 Index of 100 leading UK companies or the FTSE All-Share Index, which covers large, medium and smaller companies as well.

In addition, as exposures change over time, indices need to rebalance and therefore investors need to consider the level of liquidity of the index's securities, as this has an impact on the cost of rebalancing (ie transaction costs). Another consideration is whether the index is a total return index that will include all dividends paid out by its constituents, or a price index that will only reflect share price performance. Potential indices tracked need to be thoroughly researched, ideally with the support of a professional investment consultant, to ensure the correct market coverage is achieved.

Tracking error and tracking difference

Tracking error (TE) and tracking difference (TD) describe how accurately an ETF follows its reference index. **TE** is defined as the volatility of the differences in returns between a fund and its benchmark over a given time period, at given intervals.

There are various ways of calculating TE. For example, the data points used can be aggregated over different time periods (eg daily, weekly or monthly) and can then be annualised. However, a TE based on daily data often overstates the actual tracking differences that an investor might incur. A TE calculated on a weekly or monthly basis, however, produces calculations that are often closer to the actual differences an investor might incur. Broadly speaking, the closer the TE is to zero, the more accurate the ETF is in tracking its benchmark.

For a physically replicating ETF, the key driver of TE is the difference between the funds' holdings and the index constituents. This difference is a function of replication style and the instruments held in the underlying portfolio. Tax, cash management and trading costs (eg from rebalancing) can also have an impact on TE. Importantly, the impact can be either positive or negative depending on the underlying circumstances. For example, if an ETF has excess cash during a market rally (market downturn), the

fund would likely underperform (outperform) the reference index.

Also, funds with liquid, accessible underlying securities are likely to track their benchmarks more closely, than are funds with less liquid securities.

TD is defined as the total return difference between a fund and its benchmark index over a certain period of time.

For an investor looking further ahead than a few days or weeks, TD is a more important factor to look at than TE. This is because in some months the ETF may slightly underperform the reference index, while in other months the ETF may outperform the index. In the long run, these differences should cancel each other out. It is therefore more useful to look at the TD of an ETF over a longer period of time such as one, three or five years.

For a buy and hold investor, the TD between the fund and the index over the target investment period (eg a one-year or three-year period) is more important than TE. This is due to the fact that factors such as additional income from securities lending (see below) and different tax treatments between the fund and the index can increase TE, but can have a positive influence on the TD for the investor.

Method of index replication

As explained in Section 3, an ETF may be a physically replicating ETF which holds the securities of the index that is being tracked, or a derivative replicating ETF which delivers the performance of the index through the use of swap contracts with counterparties. Physically replicating ETFs can use full replication or sampling replication of the index that is being tracked.

Each approach has advantages and disadvantages as outlined in the table below. Pension fund managers need to consider how these approaches comply with the agreed risk guidelines of their pension funds schemes.

Figure 6: ETF replication approaches

	Physical replication		Derivative replication
	Full replication	**Sampling (optimisation)**	
Advantages	• Will track index accurately • Full transparency of underlying holdings • Can achieve an additional return through 'securities lending' • No direct counterparty risk*	• Can be more cost effective • More practical for indices with lots of constituents • Can achieve an additional return through 'securities lending' • No direct counterparty risk	• Will track index accurately • Makes it possible to track hard-to-access markets
Disadvantages	• Can be more expensive to achieve	• May track index less accurately	• Swap counterparty may not meet its agreed payments (counterparty risk) • Underlying securities may be very different from those in the index • Structure is generally more complex

*Securities lending can create counterparty risk. Counterparty risk can be mitigated using over-collateralisation and multiple counterparties. Different ETF providers may choose to manage the counterparty risk differently.

Liquidity

As ETFs are traded on stock exchanges, they are generally promoted as a highly liquid investment. An ETF's trading volume on-exchange is an indication of the level of its liquidity. The greater the number of ETF shares being exchanged each day, the more liquid the fund is likely to be. This will also lead to narrower spreads – a smaller differential between buying and selling prices. When examining the liquidity of an ETF, investors should consider how easy it will be to sell it during exceptional market circumstances – for example, during sharp market downturns.

When selecting an ETF provider, it is important to ascertain how many dealers the provider works with on-exchange. A multi-dealer approach (used by iShares), where multiple market makers commit to providing prices in one fund, generally provides for tighter spreads, typically increases liquidity and enables investors to trade without difficulty during volatile periods. The iShares Capital Markets team focuses on identifying sources of liquidity for the iShares product range.

Domicile

An ETF's domicile refers to the jurisdiction in which it is registered for legal and regulatory purposes. Conversely, its listing refers to the markets on which it can be traded. An ETF will have a single country of domicile, but may be listed on multiple different exchanges to allow investors in many countries to trade its shares.

The majority of ETFs available in the UK are domiciled in offshore financial centres such as Dublin and Luxembourg. An ETF's domicile needs to be examined carefully, as different levels of withholding tax and standards of regulation can apply according to the domicile.

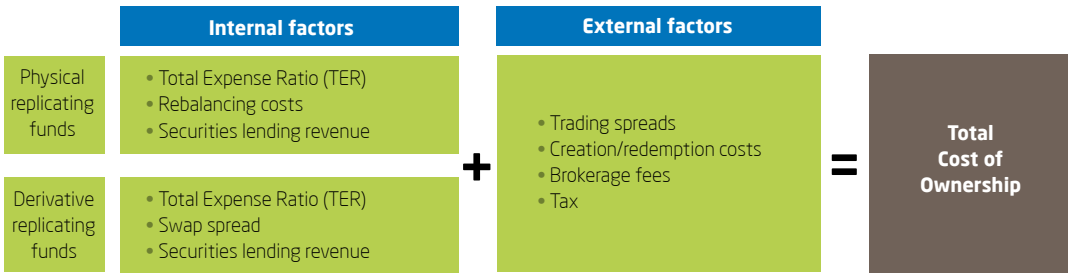
Total cost of ownership

ETFs are widely regarded as a low-cost means of participating in markets. When examining costs within a fund, investors often focus on the total expense ratio (TER) which covers the annual expenses incurred to run the fund. Generally, the TER includes the management fee, the administration costs, custody and audit fees as well as legal, regulatory and registration expenses. The level of the TER depends on the exposure of the fund, its structure and the pricing policy of the ETF provider. For example, the highest TERs will tend to apply to ETFs tracking more specialist indices, such as those following emerging markets. TERs on funds following developed markets such as the UK and US equity markets can be very low. The TER is accrued on a daily basis and is deducted from a fund's daily NAV.

However, the TER does not include all the costs incurred when investing in an ETF. For investors looking to assess the cost of an ETF, it is necessary to measure the Total Cost of Ownership (TCO). The TCO is calculated by adding all the costs of an ETF and subtracting all the revenues generated over the same time period. It considers both internal factors and external factors for the ETF instruments. Internal factors include the TER, rebalancing costs, securities lending revenue generated and swap fees (for derivative replicating ETFs)[8], while external factors include trading or creation/redemption costs along with brokerage fees and tax costs.

The most important difference between ETFs and pooled funds is the trading mechanism. Like pooled funds, ETFs can be bought and sold on the primary market. They also trade on a secondary market. This is, in effect, the purchase and sale of units that already have been created. This can be done at reduced trading spreads versus the spreads of the underlying assets which a pooled fund has to buy or sell.

Figure 7: Costs of an ETF



Source: BlackRock, as at July 2014.

[8] A swap fee is an expense specific to derivative replicating ETFs. In a performance swap contract with a counterparty, this fee represents the counterparty's revenue and is passed on to the investor. Therefore, in the case of derivative replicating ETFs, it should be added to the assessment of the cost components of the holding period.

Securities lending

ETFs have the potential to generate additional revenue through securities lending. This involves lending out shares or other assets to a third party in return for a fee and collateral. Securities are typically lent out to investors involved in short selling who need to borrow a particular security for a certain period of time to cover an investment position.

Securities lending is widespread among institutional investors, including pension funds and asset managers. It is seen as a low-risk way to generate additional revenue on a portfolio of investments to help to offset the fixed costs of running the fund and improve tracking quality. Securities lending is most common among physically replicating ETFs that hold the securities in their reference index, but it may also be undertaken within derivative replicating ETFs.

This activity involves risks, which are relatively low, but do need to be assessed. The main risk is borrower default – the risk that a borrower fails to return a lent out stock or bond. This risk should be managed by carefully assessing the credit quality and solvency of borrowers on a continuous basis, and by having a high-quality collateral policy. The collateral is the 'security buffer' which, in case of default, will be liquidated to allow the manager to re-purchase the securities which were not returned.

Investors should check an ETF provider's securities lending programme to ensure the process is properly managed. Factors to consider include:

- Profile of acceptable borrowers
- History of borrower default
- Level and quality of collateral required
- Proportion of holdings lent out at any given time
- Teams and systems to manage the programme
- Existence of indemnification of clients against losses resulting from the default of a securities lending counterparty

UCITS compliance

ETF providers will typically create an umbrella investment company through which different ETFs can be issued. Each fund is segregated so that the assets of one ETF cannot be used to meet the liabilities of another, or of an ETF provider. In Europe, almost all ETFs are structured as Undertakings for Collective Investment in Transferable Securities (UCITS), a structure which facilitates their distribution throughout the region and ensures minimum standards of diversification. A key fund selection factor for UK pension funds is UCITS compliancy . UCITS imposes a range of requirements on funds regarding permissible investments, levels of diversification, and reporting procedures.

Other ETPs such as ETCs and ETNs are not UCITS compliant instruments. Some of these funds can still be eligible for investment by UCITS, which means that they can be included in a UCITS portfolio, but only under specified restrictions.

Transparency of underlying holdings

Although ETFs are designed to track a market index, it is easy to assume their holdings will be identical to the index itself. However, this is only the case for ETFs that use full physical index replication.

- A physically replicating ETF which uses an optimised or sampling approach will not hold all the constituents of the index.

- A derivative replicating ETF seeks to deliver the performance of an index through the use of an index swap agreement, so the securities of the collateral basket do not need to match the assets of the index tracked. The collateral can be any basket of securities acceptable to the ETF or the swap counterparty. Therefore the securities backing a derivative-based ETF may have little or no relation to the securities in the reference index.

As part of their due dilligence , investors may wish to check that the underlying holdings in an ETF are acceptable. A key benefit of physically replicating ETFs is that their holdings are fully disclosed on the ETF provider's website on a regular basis, ensuring a high level of transparency.

Derivative replicating ETF assessment

As derivative replicating ETFs are based on derivative contracts set up with a third party, they can involve an additional level of risk and complexity that must be carefully evaluated. Counterparty default and collateral risk are factors to consider.

- **Counterparty exposure:** Swaps-based ETFs involve a risk that the counterparty in the swaps agreement will fail to make the agreed payments that provide the index performance. Investors need to consider how the ETF provider manages this counterparty risk, including:
  - What are the policies for selecting and monitoring counterparties? Are they disclosed on the ETF provider's website?
  - Does the ETF set up the swap agreements with multiple counterparties, or only with a single counterparty?
  - What is the maximum risk allowed per counterparty? UCITS rules limit single counterparty exposure to 10% of the fund's value but some ETF providers may reduce it even further.
- **Collateral guidelines:** The swap agreements will involve collateral that the ETF provider can liquidate if the counterparty defaults on its payments. However, as mentioned above, the ETF's performance is delivered through the index swap agreement and therefore there is no requirement for the securities of the reference basket/collateral to match the assets of the index tracked. Typically, the securities do not contain the securities in the index. In the event of a counterparty default, there is a risk that the value of the liquidated collateral could fall short of the cost of repurchasing the securities. However, the shortfall cannot be greater than 10% of the fund's NAV according to UCITS rules.

Investors therefore need to consider:

- What is the policy on collateral quality and liquidity?
- Is the ETF over-collateralised for extra protection – in other words, does total market value of the collateral exceed the counterparty exposure?
- Is the collateral on the ETF provider's website?

7
Assessing the ETF provider

As well as looking at individual ETFs, investors need to evaluate an ETF provider's whole operation to ascertain its commitment and expertise in the ETF market.

Issues to consider include:

- Level of AUM in ETFs
- Length of experience in ETFs and index-tracking generally
- Breadth of product range – and the extent of the focus on new products
- Performance track record, including long-term TEs
- Costs across the product range
- Commitment to providing regular reporting and full transparency on product construction, underlying holdings and collateral
- TERs and total cost of ownership
- Pricing and performance

Figure 8: ETP provider checklist

ETF due diligence checklist	
Product type	- Is this an ETF – or an unregulated exchange-traded product (ie an ETC or ETN)?
Reference index	- Is this the most appropriate index for our needs? - Do we fully understand how it is constructed? - Is it a total return or price index?
ETF structure	- Does the ETF use physical or derivative replication? - If physical, does it use full replication or sampling? - Does the provider publish full details of ETF holdings – and how often? - Does the fund's AUM meet our requirements?
Costs	- What is the TER? - What is the TCO? - Is this data publicly available and updated frequently?
Performance	- What are the ETF's TE and TD over different time periods? - How do these compare with similar ETFs? - Is detailed performance data easily available?
Liquidity	- What is the ETF's daily trading volume? - How many market makers/dealers does the ETF trade through?
Counterparties and collateral (derivative replicating ETFs only)	- Are swaps set up with multiple counterparties or only one? - Is there a policy to identify acceptable counterparties? - What is the quality and liquidity of collateral – is the ETF over-collateralised to reduce risk?
Securities lending	- Does the ETF provider lend out its securities to generate additional revenue – is this passed on to investors? - What percentage of securities in the ETF is lent out? - Who does it lend to and what collateral does it receive?
Domicile and regulation	- Where is the ETF domiciled? - What is the level of regulation in the domicile and the standards expected for ETFs (eg rules on collateral)? - Does the ETF qualify as a UCITS fund? - Does the ETF provider look to improve upon UCITS requirements?
ETF provider	- Is ETF management a core business for the provider? - Do they have a proven track record? - Do their size of assets and range of products indicate commitment to the market?

Source: BlackRock, as at July 2014.

8 Conclusion

Over the past 10 years or so, ETFs have become an important feature of the investment universe. Their unique structure – combining the benefits of an index-tracking fund with those of a share – can enable them to play a significant role in portfolio management.

The sheer number of ETFs on offer can facilitate access to an unprecedented range of markets, strategies and asset classes. With new indices and asset baskets being created in response to ETF demand, this breadth of choice is only set to grow. However, it is important to understand and appreciate that not all ETFs are the same. Their structure – and therefore their level of risk and complexity – can vary enormously. The quality of performance, the level of cost and the ease of tradability also differ from fund to fund. ETFs may be as easy to buy as a share, but potential investors must still conduct a thorough due diligence process. Equally, with more and more organisations looking to participate in the fast-growing global ETF market, investors must be sure that their chosen ETF provider can demonstrate the expertise, stability and commitment expected of an investment partner.

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