

ETF
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Practitioners' Guide: **Synthetic ETFs**

Buyer questions answered
by the issuers



Jamie Gordon

Editor

ETF Stream

Introduction

Welcome to our first Practitioners' Guide, exclusive to members of the ETF Buyers Club. In this series we will take investors' most technical questions and deep dive into a product, service or trend with the leading providers in that space in Europe.

These reports are purely editorial, with ETF Stream sourcing detailed answers to extend buyers' own research and delivering insights in a concise Q&A format.

The first instalment of this series sees us partner with three investors to get into the weeds of increasingly popular synthetic ETFs, where complexities abound from regulation to evolutions in market structure and the structure of the products themselves.

This report navigates everything from swap to warehousing costs, transparency to due diligence and how to define eligible indices.

With thanks to:

Those asking the questions



Rob Starkey
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Dan Caps
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Terry McGivern
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Those answering the questions



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What is the average swap spread/cost embedded in a swap? How does this vary over time and how much of the additional gross return benefit does it consume?



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The average swap cost can vary considerably across different exposures; however, it tends to be fairly stable over time for each individual exposure. If we take the example of an S&P 500 exposure, there is a clear benefit from the synthetic structure owing to the withholding tax (WHT) advantage that comes from the implementation of the HIRE Act section 871(m). This legislation in the US established a clear tax position for swap providers on US indices, explicitly excluding swaps written on indices which meet the requirements laid out in the "Primary Qualified Index Test", such as the S&P 500 index, from being required to pay WHT. The ability to pass through full dividends equates to an improvement in performance of 0.40% per annum versus the standard net return index based on dividends over the past year. This performance advantage is then reduced by the application of a swap fee versus the gross return index, which reflects the cost to the swap counterparty of implementing their hedge compared to the benefit that they gain from their exposure

to the basket leg of the swap. For S&P 500 this swap fee has varied between zero and 0.072% over the past eight years for us. For other US exposures such as Nasdaq 100, MSCI USA, S&P 500 Equal Weight, S&P 500 Scored and Screened and S&P 600 the swap costs have varied between zero and 0.09% depending on the cost/benefit trade-off for the swap provider.

For other non-US exposures the impact of the swap costs can vary significantly and in some cases can even produce a significant excess return above that of the benchmark. For example, swap exposure to a China A-shares mid cap index has boosted performance by an annualised rate of between 3.8% and 12.3% over the past two years. This benefit is due to the unique nature of the demand for index swaps for onshore China equities and the variation is explained by changes in the supply and demand for these exposures. For broader EM exposure by contrast there tends to be a cost to using a swap exposure. We have seen stable swap fees of 0.10% for swaps on the standard net total return index for the past four years.



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Swap spread is an exposure-specific positive or negative charge accrued in the swap mark-to-market, dependent on index economics and counterparty funding dynamics. For developed market indices such as S&P 500 or MSCI USA, spreads demonstrate stability due to strong

correlation between index exposure and substitute basket securities purchased by the fund. Factors which influence pricing include index and counterparty dividend treatment, hedging efficiency, investor positioning and repo market conditions. Compared to developed markets, emerging market swap spreads typically exhibit greater beta. Though swap spreads adjust as market conditions evolve, issuers have visibility of spread development in products due to swap economics being secured for a defined period extending months or years ahead. In addition, investors can seek information on: 1) whether exposure is achieved via gross or net total return swaps, 2) liquidity provisions 3) rationale for pursuing synthetic replication.



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The swap fee is the combination of the index and collateral basket swap legs – typically the fund pays a fee on the index leg and receives a fee on the basket. How swap fees vary over time depends heavily on the underlying index and its correlation to the holdings of the collateral basket. Swap fees are a function of the funding, dividends and repo effective in the specific underlying market(s), so if you were to have a clear difference in the constituents of the index when compared to the collateral basket you will potentially see significant positive or negative swap fees and some volatility to accompany them.



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The average swap spread will be impacted by a number of relevant factors including: the underlying exposure, the issuer's swap model and overall market dynamics. Specific benefits of swap-based exposure vary by region, ranging from tax efficiency (US Equities), structural outperformance (China Equities), Capital Gains efficiency (India), or reducing trading costs (UK & Europe). Looking specifically at the S&P 500, swap-based exposures have consistently outperformed physically replicated ETFs due to enhanced dividend participation, with cumulative outperformance over the last 3-years of over 0.80% net of all costs. It could be unusual to think of swaps in the context of an average swap spread, as explained, the drivers of performance and therefore, costs, are very different.

In practice, how does index provider selection influence swap costs?



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Index provider is less meaningful than specific index selection for the potential swap cost/benefit. This is particularly clear for US exposures for example where 871(m) qualification requires the existence of futures or options contracts for the index the swap is tracking. This

means that an S&P 500 or MSCI USA ETF can benefit from gross returns through the swap but a generic large cap US index would not. Outside of the 871(m) qualification the availability of futures contracts on an index will help reduce hedging costs for the swap counterparties with more liquid futures being of greater benefit in keeping costs low.



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Widely adopted benchmarks benefit from deep liquidity and an ecosystem of financial instruments, enabling banks to hedge efficiently and offer attractive swap pricing. Differences from index provider choice, screening and methodology can influence the overall swap spread, however, as counterparties may highly optimise their hedge, the degree to which a swap spread has cost or outperformance is exposure specific.



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In general, synthetic ETFs are most efficient when tracking widely-followed, liquid exposures with established futures and derivatives markets. This leads to a general trend towards the most well-known indices such as S&P 500, MSCI Emerging Markets, etc featuring within swap ETFs. The choice of a specific index provider will rarely influence the swap spread provided by a counterparty.



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Index provider choice has minimal impact on swap costs. These costs are primarily driven by the funding costs of the underlying assets within the index.

How do fund size and structure affect swap efficiency and transaction cost allocation?



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Synthetic ETFs exhibit low tracking error irrespective of AUM as swaps are marked to market against reference index closing price. Efficiency can improve with multi-counterparty platforms which aid price competition. Creation and redemption processes mirror those of physical ETFs, whereby hedging costs are passed from the fund to the authorised participant. Equally to direct replication, synthetic ETFs benefit from existing ETF inventory supporting price compression in the secondary market. In addition, investors trading synthetic funds are rewarded by counterparties being able to show swap axes via ETF pricing.



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The size and structure of the ETF platform will have a big impact on the efficiency of the swap-based approach. [We run 60 swap-based UCITS ETFs housing \$80bn – with up to six counterparties writing swaps on key products.] The benefits of scale and efficient systems required to achieve that scale are

considerable in keeping costs down. They are also vital to be able to efficiently reset swaps in order to minimise counterparty exposure. Last year we reset more than 25,000 swaps across the fund range.



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Structure is extremely important to consider when considering synthetic (or swap-based) ETFs, as not all swap models are created equal. Investors should consider aspects such as counterparty selection and diversification, substitute basket stipulations and rules around resetting counterparty exposure, and operational considerations such as ultimate responsibility for management and how the swap model facilitates interaction with primary and secondary markets to promote liquidity.

Who pays the transaction costs for securities held within the fund if you 'warehouse' non-benchmark or more illiquid names?



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In many swap models, securities held within the ETF substitute basket are held purely for security purposes and subject to quality/liquidity screens rather than providing any

contribution to the underlying economic exposure. As the performance and costs of the substitute basket are typically swapped back to the counterparty(ies), it is the swap counterparty who bears these costs.



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To be clear, we only ever buy developed market listed equities with strict diversification, concentration and liquidity rules applied in order to ensure a safe and tradable fund basket that is wholly owned by the fund. Transaction costs for the fund basket are 100% borne by the swap counterparties or the investment management company and have no impact on the performance of the ETF.



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Substitute basket schedules are typically aligned to a market standard for quality, diversification and liquidity, balancing swap performance and investor requirements. Restricting substitute basket securities to the fund's reference index is not widely implemented, although for ESG funds a list of eligible securities may be defined as a broad index aligning to the same ESG standards as the reference fund's index. Illiquid names are typically excluded due to restrictions on average daily volume, making warehousing such securities uncommon.

What level of creation costs should be factored in and how can providers assist in managing this?



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Creation costs will depend on the underlying exposure for each ETF, just as they would for a physical fund. In this case they reflect the implementation costs incurred for the swap counterparties to hedge the additional index exposure. It is worth noting that synthetic ETFs may not have to endure UK stamp duty or EU financial transaction tax costs, which can result in lower creation costs in ETFs tracking indices that include securities impacted by financial transaction taxes. Additionally, the nature of the ETF secondary market often allows the ability to trade at spreads inside of the create/redeem costs as brokers can benefit from two-way trading and/or can aggregate order flow in the secondary market.



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Creation and redemption fees for synthetic products exhibit stability and are typically agreed as part of the swap economics. Regardless of replication type, most European ETPs pass back hedging costs to authorised participants at the cost incurred in the fund, preventing tracking error from creations and



redemptions. For synthetic funds, the cost incurred is that to buy or sell the index swap with a counterparty. Issuers, via their capital markets team can additionally help investors to access axed counterparty pricing. Where market circumstances permit, axes can lower round trip trading costs of ETFs.



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As with physically replicated funds, creation/redemption costs for swap-based ETFs can vary based on the underlying exposure. In many cases creation/redemption costs will be lower for swap-based ETFs, especially when considering exemptions from financial transaction taxes in markets such as Europe/UK, or when comparing to less liquid physical markets such as Emerging Markets.



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Creation costs are also product-dependent but can be significantly reduced via synthetic replication. Providers actively work with authorised participants to minimize these costs, particularly for larger transactions.

What explains the limited adoption of synthetic strategies in unit trust form?



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A combination of need for further investor education and structural challenges in often legacy unit trust platforms has resulted in a limited offering for swap strategies in the unit trust market. More broadly, UK investors are increasingly recognising the benefits of swap strategies across a variety of exposures and are often allocating via ETFs.



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The use of a synthetic approach for broad beta index replication has been pioneered in the crucible of innovation offered by the ETF wrapper. We have seen in the ETF space that adoption of new approaches can take time, with education playing a key role in driving the growth in synthetic funds in key exposures. I think we can expect a similar outcome in the unit trust space.

How does the trading differ and what factors are there to be aware of, when switching a physical ETF to synthetic ETF, compared from physical to physical?



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The trading is likely to be very similar, what matters most is the underlying exposure that is being switched. Like any ETF, considerations should be given to when trading occurs. For instance avoiding market holidays when ETFs may be closed for primary market trading, which APs to trade with based on the particular ETFs being traded, always ensuring two-way quotes are requested when trading on RFQ and so on.



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For investors, the process to trade an ETF should not differ at all between physical and synthetic ETFs. Whether trading on exchange or OTC, investors can access synthetic ETFs via their usual route to ETF liquidity. This is particularly true in relation to swap ETF issuers who implement an 'open architecture' model, meaning that all authorised participants are able to create/redeem shares/units in synthetic ETFs.



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Trading mechanics are broadly similar across replication types. The ETF wrapper retains its liquidity and cost advantages in both cases. Synthetic ETFs, however, can benefit from additional pricing axe opportunities due to investment banks acting as both counterparty and market maker.



What level of transparency on swap contracts should issuers provide publicly and can this be improved upon?



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OTC derivative contracts fall under EMIR, which mandates robust standards for managing counterparty exposure. For example, Variation Margin mandates counterparty exposure to be maintained at 0% on a daily basis, subject to a €500,000 minimum transfer amount. Issuers disclose key terms and risk metrics in both prospectus and via publication of substitute basket securities on a regular basis.



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We have always believed in transparency on our swap-based ETFs. Investors can go to our website and see full disclosure of swap fees, basket holding, index exposures, individual swap counterparty exposure as a share of swap notional and the overall mark-to-market value of the swap exposure expressed as a percentage of fund value. If I were choosing a synthetic ETF I would expect nothing less.

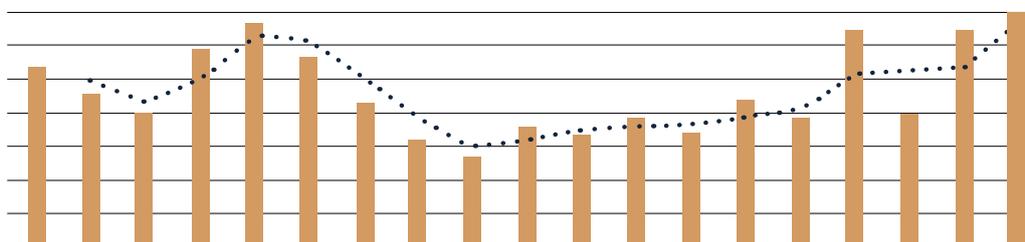


How are changes in the pricing of the underlying swaps communicated to investors?



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Practices vary across the market, but most issuers push economic updates to investors. In addition to swap spread, on an individual investor basis additional factors may also be relevant such as swap tenor, traded index, counterparties and liquidity provision.





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As one of the few providers that shares swap fee levels on our website it is easy for clients to see exactly what the fee level is at any time.



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Typically, this is conducted via an update to the website – for those funds who publish their fees – and/or through sales communications.

What level of due diligence and ongoing monitoring should investors be doing around substitute baskets?



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Substitute baskets should be monitored closely and regularly, since in the event of a swap counterparty default these are the assets that will be liquidated to re-establish the hedge and preserve capital. Particular areas that merit attention include average daily volume (ADV) per name, sector concentrations, and the correlation

of the holdings to the banking sector as a whole.



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Investors should query not just the allowable assets being held in synthetic ETF substitute baskets, but also the process for managing counterparty exposure and the frequency at which this exposure is reset. That said, counterparty risk is not only limited to synthetic ETF as physically replicated ETFs often undertaking securities lending which introduces risks which must be similarly managed.



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It is definitely something I would be looking at before investing. The fund basket is the key backstop to the valuation of the fund. As such, it is important to think about the trade-off between quality of basket and how much the basket might help the swap counterparty to offer more competitive performance to the fund.



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UCITS rules require counterparties to disclose substitute basket holdings regularly. These disclosures include country and currency exposures and adhere to strict liquidity and diversification

standards. Equity substitute baskets typically share similar characteristics to developed market benchmarks.

How do EMIR initial margin rules impact larger products and is bigger always better in synthetics?



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EMIR initial margin rules stipulate requirements for counterparties to post elevated margin against swap balances for larger funds. While this may increase costs for swap counterparties relative to swaps which fall below this level, there are also benefits to investors of larger funds including typically more active secondary markets potentially reducing trading costs, greater investor diversification and the ability to trade large volumes without facing regulatory holding constraints. We do not tend to observe noticeable differences in performance when comparing funds above or below this threshold.



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EMIR IM serves to reduce counterparty risk through the posting of initial margin on the larger swap exposures. However, this can come at a cost since the IM posted

by the swap counterparties can carry a funding charge which increases the swap fee. The size of a fund can be positive or negative, depending on the structural dynamics of the product in question. Factors such as the constraints (if any) of the specific funding market and the availability and appetite of swap counterparties are both key in determining whether big is better.



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We have talked already of the benefits that come from size in terms of operational costs and efficiency. The introduction of the EMIR initial margin rule means that both parties in an uncleared OTC derivative transactions in excess of €8bn opened after 1 September 2022 may be required to post initial margin if above minimum level. Posting of margin is designed to help reduce counterparty risk and is another protection for investors in the largest funds.

Rules around US swap exposures mean qualifying indices can't have a dividend yield 1.5x that of the S&P 500, meaning some indices such as the equal weight are not always eligible. How do issuers navigate this?



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It is something we think about carefully and in most cases it is unlikely to be a problem. The only exposure where we have seen a risk of a qualified index subsequently failing to qualify is the S&P 500 Equal Weight, where we launched a swap-based ETF at the start of this year. At the time we were careful to highlight to investors not only the

benefits of the tax efficiency conveyed by the 871(m) exemption, but also the possibility that the index could fail to requalify for the exemption if it failed the 1.5x dividend yield test versus the S&P 500. While the fact of the index qualifying or not is outside of our control, as a leading provider of synthetics, it was important for us to provide that transparency. When we launched the ETF we made a commitment to clients that, if the index were to fail to qualify in 2026, we would take measures to ensure that the total return on their investment in our swap-based S&P 500 Equal Weight UCITS ETF would be no worse than if they had invested in our physically-replicating ETF on the same benchmark.



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Issuers navigate this through an ongoing monitoring process alongside swap counterparties to determine the qualified status of indices with US Equity exposure. There are a series of tests, including dividend yield relative to S&P 500, which must be passed for an index to qualify and monitoring this is an ongoing requirement.

How have changes to lending in China's onshore market impacted the use case for synthetic ETFs for A-Shares exposure?



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The market continues to monitor the evolution of lending in China's onshore market, which to date has been centred around allowing overseas institutional bond investors to participate in onshore repo. Implications on China's cash equity market are still being assessed but to date no major impacts in the equity derivatives market have been seen in the market.



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Market structure restrictions to physically lend A-Shares have created an attractive environment to gain synthetic exposure to onshore China securities. Driven by short selling demand across a portion of an index, counterparties monetise high repo rates and pass back positive economics through swap pricing. For an extended number of years this has led to outperformance versus physical replication although the degree of outperformance remains volatile based on the macro-economic environment. Recently, trade tensions and softening macro-economic data has supported repo levels. Multi-counterparty models and term swaps provide stability relative to underlying repo markets accessible via other instruments,

making synthetic ETFs an attractive route for accessing Chinese A-Shares.



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As mentioned elsewhere, swap exposure to a China onshore equity market can meaningfully boost returns relative to a physical replication approach. This is due to a ban on stock lending in onshore China equities which creates hedge-fund demand for swap-based exposure to hedge out market risk on long-short strategies. Swap providers are willing to pay a meaningful performance enhancement to swap based ETFs in order to help them to access this business. Our A-Shares mid cap ETF has seen a boost to performance by an annualised rate of 3.8-12.3% over the past two years due to this.

Key numbers to know: Synthetic UCITS ETFs

9

providers with synthetic platforms >\$3bn in Europe

6

India equity

4

S&P 500 Equal Weight

3

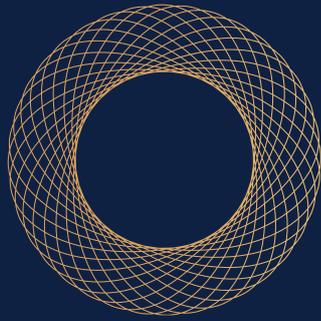
largest providers house \$280bn across synthetic ETFs

23

S&P 500

7

China A-Share



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