ETFs: Physical or synthetic?

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In the nearly two decades since the inception of the European ETF industry, the two main models of index replication – physical and synthetic – have achieved broad acceptance among investors. While there are important structural differences between the models, the risks are broadly similar and sophisticated investors who fully understand both models are, by and large, indifferent between the two approaches. There is a considerable portion of investors who prefer physical replication, though this is often mostly because they find the structure is easier for them to understand and, just as importantly, to explain to their clients.

There are, however, benchmarks for which synthetic replication has clear structural advantages over physical. As these advantages have driven outperformance of synthetic funds as compared to physical funds on the same benchmarks, investors that previously only used physically-replicating funds have begun to add synthetic funds to their portfolio.

Because of its breadth – more than 1,600 stocks across 23 developed markets globally – the replication of the MSCI World index provides a useful case study with which to illustrate the various potential advantages of the synthetic model. The common underlying reason for these advantages is the different treatment of physical investments and derivatives by the tax authorities in the countries from which the index constituents are chosen. We will examine three: US dividend taxation, European dividend taxation and stamp duty / financial transaction taxes.

US dividend tax withholding: The MSCI World index is weighted by market capitalisation with shares of US companies comprising approximately 62% of the benchmark. Achieving US tax efficiency is therefore an essential component of effective replication.

Foreign investors in US stocks are generally subject to a withholding tax on dividends of up to 30%, although many can reduce this to 15% through the application of tax treaties. Under US tax law, certain types of derivatives are subject to an equivalent tax withholding rate when they pass through "dividend-equivalent" payments. Specifically, when a US bank writes a swap on an index with a non-US counterparty, it is generally required to withhold US dividend tax at the same rate as would be appropriate for a physical investment by that same counterparty.

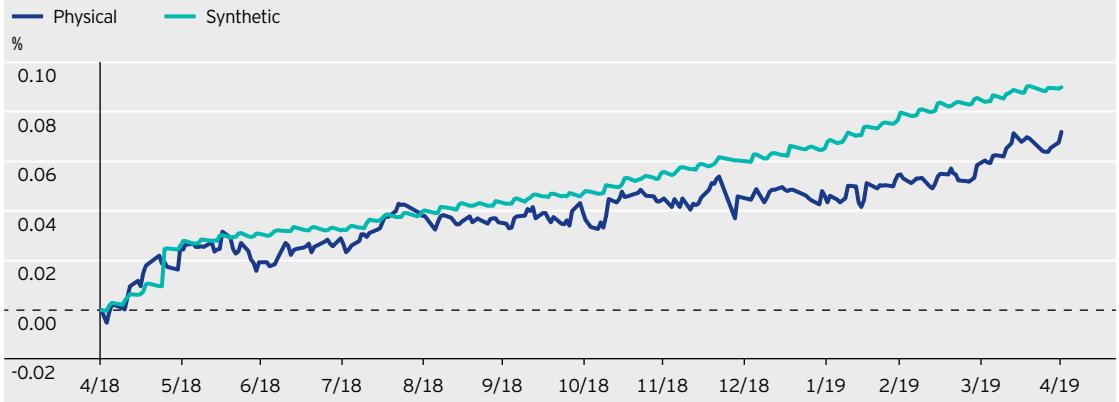
This would seem to level the playing field between physical and synthetic replication strategies, but the details matter. The same rule that imposes this tax treatment on derivatives also specifies certain exemptions, and the MSCI World index meets these.

This means that while a European-domiciled physically replicating fund will generally be able to achieve a maximum of 85% of the dividend yield of the US holdings in their MSCI World portfolio, a synthetic fund can theoretically achieve up to 100% of the full gross dividend amount. With an average dividend yield for US large-cap stocks of approximately 2%, this exemption means synthetic funds can potentially achieve up to 30bps of additional performance on the US exposures, which equates to over 18bps on MSCI World.

Non-US dividend tax withholding: Tax authorities in Europe and other global markets take a similar approach to dividend tax withholding on foreign holders of shares. However, we can see that ETFs tracking the MSCI World index are generally able to achieve better all-in performance than would be assumed under the application of these rates.

For physical funds, this is achieved in two ways. Firstly, the fund will generally not be withheld on dividends paid in its country of domicile (e.g. French dividends in a French fund) while the index methodology assumes a standard foreign withholding rate. The other way is via stock lending, where borrowers of shares may pass on a higher dividend percentage than the lender would receive on a physical holding. For synthetic funds, the index swap market will generally reflect the same enhanced

Average return of the five largest physical and synthetic ETFs tracking the MSCI World Net Return Index*



*Europe wide
Source: Bloomberg, as at 30 April 2019. **Past performance is not a guide to future returns.**

economics available in the stock lending market. As such, the two models both achieve outperformance, but with neither model having an advantage.

Stamp duty and financial transaction tax: Physical MSCI World ETFs will purchase most or all the stocks in the underlying portfolio. When buying shares in the United Kingdom, the fund will generally be subject to a 50bps stamp tax. There are also financial transaction taxes (FTT) applied to the purchase of shares in Italy (10bps for on-exchange, 20bps off-exchange) and France (30bps).

These costs are reflected in the price of creating or redeeming shares of the fund (i.e. they do not impact the existing holders). Based on the current composition of the MSCI World index, these taxes are equal to approximately 4bps on the NAV of the fund. This may seem small but becomes meaningful when considering that the range of performance of the five largest MSCI World ETFs over 2018 is just 12bps.

For a synthetically-replicating fund, the bank swap counterparties purchase the replicating portfolio, not the fund. As this transaction is executed as part of the hedging of a derivative (the swap with the fund), the banks are generally exempt from both UK Stamp and the French and Italian FTTs. This means an up-front saving to the end-investor.

Investor views and preferences on the relative merits of physical and synthetic ETFs vary and many are deeply entrenched. However, as the industry matures, investors are increasingly adopting the more the more pragmatic stance that was previously only common among sophisticated investors. Other things being equal an investor may prefer the simplicity of a physical fund or the very tight tracking of a synthetic approach. However, where one approach has a structural advantage over the other, investors are increasingly willing to prioritise performance and remain flexible to structure.

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Christopher Mellor leads the EMEA ETF Equity & Commodity Product Management Team, responsible for providing support and analysis for the range of equity and commodity ETFs. Before he worked as an investment strategist, focusing on market timing and tactical allocation across regions, sectors and styles for Sunrise, State Street Global Markets, Credit Suisse and Societé Générale. He holds a Doctor of Philosophy in Inorganic Chemistry from Balliol College, Oxford.

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