Understanding more about Synthetic Replication Exchange Traded Funds (ETFs)

Exchange traded funds (ETFs) are investment vehicles that track the performance of an underlying index or asset.

ETFs broadly have two structures: direct replication or synthetic replication. Direct replication ETFs either hold the same stocks in the same proportion as the weights of the constituent stocks in the benchmark index or they hold a selected number of constituent stocks which statistically represent the index. Synthetic replication ETFs either use swaps or other derivatives such as participation notes to replicate the index.

Whichever ETF structure, common risks similar to any investment products exist – market risk, tracking error risk and foreign exchange risk. However, with the use of financial derivatives in synthetic replication ETFs or possible securities lending in direct replication ETFs, additional risks – counterparty risk and collateral risk might inevitably surface as more advanced index strategies are used.

While synthetic replication ETFs may have this additional form of counterparty risk, it may have lower tracking error and total expense ratio relative to direct replication ETFs.

This article will focus on swap-based ETFs and highlight some risk aspects that investors should be aware and fully understand before investing.

Swap-Based ETFs

In a swap-based synthetic replication ETF, the ETF issuer replicates the index performance by investing in a basket of securities that may not be the constituent stocks of the underlying index. The ETF issuer also engages the use of derivatives to exchange the performance of the assets in the ETF against the performance of the underlying index. Among other risks, the ETF is also exposed to counterparty risk of the swap provider if the swap counterparty defaults or faces bankruptcy.

There are 2 types of swap models that may be used by a swap-based ETF issuer: the unfunded swap model and the funded swap model. Investors should note the details of the swap model employed by the ETF issuer as this will determine how swiftly the assets can be liquidated for the benefit of the ETF in the event of a counterparty default.

In an unfunded swap model, the ETF uses cash from investors to buy a basket of collateral assets (e.g. liquid international securities). The collateral assets are held by the ETF in a separate account with a custodian where they are regularly monitored and verified. The swap counterparty will deliver the performance of the benchmark index in exchange for the performance of the collateral assets held by the ETF. The basket of collateral assets may not necessary include the constituents of the index the ETF is tracking but may have high correlation with the index. An ETF that employs the unfunded swap model should have less difficulty liquidating the collateral assets in the event of a counterparty default since the collateral assets are held by the ETF. In this case, the ETF uses the cash from investors to buy the basket of collateral assets.

For an ETF that employs the funded swap model, the ETF will transfer investors’ monies to the swap counterparty (or swap counterparties) in exchange for the index performance. The swap counterparty will then use the monies to purchase collateral assets and hold them in a separate account with a third party custodian. If this separate account is opened in the ETF’s name, the ETF issuer will be able to seize the assets promptly in the event of a counterparty default. However, if the separate account is opened in the name of the counterparty with assets pledged to the ETF, depending on how the pledge arrangements are structured, the ETF may take significant time to claim ownership and liquidate the collateral assets that may be frozen upon bankruptcy of the counterparty. Therefore, some funded-swap ETFs have been over-collateralised in order to compensate for the this risk.
Derivative-Embedded ETFs

For derivative-embedded ETFs, the ETF manager invests in other derivative instruments such as access products in the form of warrants and/or participatory notes (P-notes) that are linked to the underlying securities constituting the index. P-notes are issued by third parties and are unsecured obligations of the P-note issuer. They are commonly issued to replicate performance in restricted markets such as China and India, where there are foreign ownership restrictions for securities. Investors who buy into these derivatives-embedded ETFs are hence exposed to the credit risk of the P-notes issuer.

Collateral Risk

It is not uncommon for the collateral assets to be totally unrelated to the constituents of the benchmark index that the ETF aims to track. Where the collateral is illiquid or of poor credit quality, the ETF may find itself having to liquidate positions at prices far below the market price, diminishing the value of the collateral backing the index. Investors should assess the quality of the collateral held, its liquidity and the flexibility and the time required by the ETF to sell off the collateral. Issuers provide periodic updates on the collateral and investors can obtain such information readily from the issuer’s websites and the annual reports of ETFs.

Mitigation of the Risks of Synthetic Replication ETFs

Regulators and issuers have taken various steps to mitigate the risks of synthetic replication ETFs. Some issuers, for example, in funded swap model, have taken the step of over-collateralising to minimise mismatches in the value of the collateral due to a fall in market value of the collateral assets. Most European domiciled synthetic replication ETFs are *UCITS (Undertakings for Collective Investments in Transferable Securities)*[1] compliant funds and such regulation have provisions which imposed limits on the maximum exposure to a single counterparty, minimise conflict of interests by restricting choice of counterparties and subjecting the collateral assets to liquidity and credit quality criteria. In Singapore, all ETFs have to be first admitted as Authorised Scheme or Recognised Scheme regulated by Monetary Authority of Singapore (MAS) before the ETF can be offered and listed in Singapore.

Exchange’s Efforts to Raise Awareness of Exchange Traded Funds

Other than the ongoing investor education seminars conducted by issuers, the Exchange has also beefed up on the amount of ETF literature on its website to raise investors’ awareness of ETFs. The online education on Specified Investment Products (SIP) introduced in July 2011 has a module dedicated to ETFs. Since 22 August 2011, all synthetic replication ETFs have been tagged with a ‘X’ symbol just before the ‘@’ symbol used to mark SIPs. This makes all the synthetic replication ETFs more visible to investors on trading screens and the SGX live prices website.

To learn more about the two broad types of ETFs, classification of each ETF and the associated risks of the different ETFs, please click here: Risk of Investing.

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*The European UCITS (Undertaking for Collective Investments in Transferable Securities*) Directive is a pan-Europe SICAV and mutual fund regulatory standard. In general, funds that comply with UCITs Derivative can be sold throughout Europe Union countries.

Source: SGX