# CHAPTER 35

# EXCHANGE-TRADED FUNDS MECHANICS AND APPLICATIONS

1. (A) probability of authorized participants (APs) completing an offsetting the trade in secondary market.

**Explanation**

The maximum spread on an ETF is positively related to creation/redemption fees plus other trading costs, spread on the underlying securities, risk premium for carrying the trade until close of trading, and AP's normal profit margin. Maximum spread is negatively related to the probability of offsetting the trade in the secondary market.

(Module 35.2, LOS 35.d)

**Related Material**

SchweserNotes - Book 5

2. (C) both statements are correct.

**Explanation**

Both statements are correct. ETF costs include management fees and trading costs. Trading costs include brokerage or commission fees, and bid-ask spreads. Additionally, larger orders may incur price-impact costs depending on the liquidity of the secondary market. Portfolio turnover of ETFs results in an implicit cost which acts as a drag on returns for the investor. ETFs that track stable indices will have lower portfolio turnover cost.

(Module 35.2, LOS 35.e)

**Related Material**

SchweserNotes - Book 5

3. (A) ETFs using OTC derivative contracts.

**Explanation**

ETFs using OTC derivative contracts as part of their strategy expose investors to the settlement risk of such contracts. Credit risk of defaulting security borrowers is a security lending risk and is different from settlement risk. Exchange traded notes may expose ETN investors to counterparty risk.

(Module 35.3, LOS 35.g)

**Related Material**

SchweserNotes - Book 5

4. (C) the yield on bank's unsecured debt would be higher than the swap fixed rate.

**Explanation**

If a large bank that wants to issue unsecured debt at a fixed interest rate finds that the rate demanded by the market is significantly higher than the swap fixed rate for same maturity, the bank may instead issue an ETN that pays the return on an equity index. The bank then would simultaneously enter into an equity swap as the equity return receiver and the (swap) fixed rate payer. The index return received is used to service the ETN and the bank's effective borrowing cost becomes the swap fixed rate.

(Module 35.3, LOS 35.h)

**Related Material**

SchweserNotes - Book 5

5. (C) use the creation/redemption process.

**Explanation**

Both ETFs and ETNs use the creation/redemption process. Some ETFs may lend securities or use swaps, exposing the fund to some level of default risk. However ETNs are unsecured, unsubordinated debt notes and thus an ETN's theoretical counterparty risk is 100% in the event of a default by the underwriting bank. Unlike ETFs, ETNs do not hold the underlying securities.

(Module 35.3, LOS 35.g)

**Related Material**

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6. (C) The increased settlement complexity from fragmented markets will lead to an increase in the quoted spreads.

**Explanation**

European markets are fragmented across many exchanges and countries and a majority of ETF trades occur in the OTC markets, without "live" bid and offer prices. The added complexity in settlement may widen the quoted bid-ask spreads.

(Module 35.1, LOS 35.b)

**Related Material**

SchweserNotes - Book 5

7. (A) security lending.

**Explanation**

The main components of ETF cost are the fund management fee, tracking error, portfolio turnover, trading costs (including commissions, bid—ask spreads, and premiums/discounts), taxable gains/losses, and security lending. These costs

generally reduce returns, with the exception of security lending, which can be considered a "negative" cost as it generates additional income that offsets fund expenses. Security lending for an ETF typically means loaning a portion of portfolio holdings to short sellers.

(Module 35.2, LOS 35.f)

**Related Material**

SchweserNotes - Book 5

8. (C) **expense ratio.**

**Explanation**

ETFs generally underperform the benchmark by their expense ratio. Tracking error is the annualized standard deviation of daily tracking error (which captures the difference in returns between an ETF and its underlying benchmark). Tracking error may result in the ETF underperforming or outperforming the benchmark.

(Module 35.1, LOS 35.c)

**Related Material**

SchweserNotes - Book 5

9. (B) **the underlying securities are exchange-traded.**

**Explanation**

Premiums or discounts on ETFs are most commonly caused by timing differences, ETFs on OTC bonds where no true closing price is available and when ETFs are traded infrequently (stale pricing).

(Module 35.2, LOS 35.e)

**Related Material**

SchweserNotes - Book 5

10. (A) **neither statement is correct.**

**Explanation**

Both statements are incorrect. Soft closures entail creation halts and changes in investment strategy. When creations are halted by bank ETN issuers, those ETNs may trade at a significant premium to their NAV as the arbitrage mechanism breaks down.

(Module 35.3, LOS 35.g)

**Related Material**

SchweserNotes - Book 5

11. (C) the ETF and the securities underlying the ETF trade in the same market.

**Explanation**

Since the liquidity of the securities in an ETF basket determines the transaction cost, the arbitrage gap tends to be wider for ETFs with illiquid holdings. Due to difference in time zones, an ETF on a foreign index may exhibit a difference between its NAV and the last closing price when the foreign market was open. This timing difference increases risk for the authorized participants (APs), leading to a wider arbitrage gap. This timing difference would not be present for an ETF and underlying securities trading in the same market. If the underlying securities are hard to invest in directly, the APs would not be able to create/redeem ETFs easily, leading to a larger arbitrage gap.

(Module 35.1, LOS 35.a)

**Related Material**

SchweserNotes - Book 5

12. (C) between APs and issuers.

**Explanation**

ETFs trade on both the primary market (directly between issuers and APs) and on the secondary markets (over-the-counter or exchange-based trades, like listed equity).

(Module 35.1, LOS 35.b)

**Related Material**

SchweserNotes - Book 5



13. (C) trading costs.

**Explanation**

Because trading costs are incurred at the time of transaction only, annualized trading costs diminish over a longer holding period. For investors that trade frequently, the spread and commission (part of trading cost) are far more important components of the total cost. For long-term, buy-and-hold investors, management fees are an important component of the cost.

(Module 35.2, LOS 35.e)

**Related Material**

SchweserNotes - Book 5

14. (B) 0.15%

**Explanation**

Round-trip commission = 2 x 0.04% = 0.08%

Round-trip trading cost = round-trip commission + spread

= 0.08% + 0.10% = 0.18%

Holding cost for 3 years = round-trip trading cost + management fees

= 0.18% + (3 x 0.09%) = 0.45%

Average annual cost (for 3-year holding period)

= 0.45% / 3 = 0.15%

(Module 35.2, LOS 35.e)

**Related Material**

SchweserNotes - Book 5

15. (C) **portfolio liquidity management.**

**Explanation**

Portfolio liquidity management entails equitizing excess cash. Portfolio completion strategies use ETFs to fill temporary gaps in portfolio allocation. Excess liquidity management is not a strategy defined in the CFA curriculum.

(Module 35.3, LOS 35.h)

**Related Material**

SchweserNotes - Book 5

16. (B) **Representative sampling/optimization.**

**Explanation**

Replicating index performance by using an optimized sample rather than investing in all the securities in the index is considered a passive ETF strategy. Active management strategies used in the construction of ETFs include factor (smart beta), discretionary active, alternatively weighted, dynamic asset allocation and multi-asset strategies.

(Module 35.3, LOS 35.h)

**Related Material**

SchweserNotes - Book 5

17. (C) **a special group of institutional investors (APs) only.**

**Explanation**

The only investors who can create or redeem new ETF shares are a special group of institutional investors called authorized participants. ETFs' creation/redemption mechanism allows for the continuous creation and redemption of ETF shares.

(Module 35.1, LOS 35.a)

**Related Material**

SchweserNotes - Book 5

18. (B) Narrowing the arbitrage gap.

Explanation

The in-kind creation/redemption process serves three purposes: lower cost, tax efficiency and keeping market prices in line with NAV. Arbitrage gap is the band around NAV at which the ETF should trade at and is not affected by the in-kind creation/redemption process.

(Module 35.1, LOS 35.a)

**Related Material**

SchweserNotes - Book 5

19. (C) difference between the ETF's return (based on its NAV) and the return on the index tracked.

Explanation

Tracking difference is the divergence between an ETF's return (based on its NAV) and the return on the tracked index. This measure provides an indication of the ETF's ability to follow its underlying benchmark. Tracking error is the annualized standard deviation of the daily tracking difference.

(Module 35.1, LOS 35.c)

**Related Material**

SchweserNotes - Book 5

20. (A) both primary and secondary markets.

Explanation

ETFs trade on secondary markets, just as stocks and bonds do. Additionally, ETFs also trade on primary markets when authorized participants (APs) create or redeem ETFs.

(Module 35.1, LOS 35.b)

**Related Material**

SchweserNotes - Book 5

21. (A) popular ETFs.

Explanation

The primary factors affecting ETF spreads are the liquidity and the market structure of the underlying securities. Popular, highly liquid ETFs tend to have smaller spreads. Fixed income ETFs tend to have larger spreads compared to large-cap equity ETFs. Specialized ETFs such as those that track commodities, volatility futures, or small-cap stocks tend to have wider spreads.

(Module 35.2, LOS 35.d)

**Related Material**

SchweserNotes - Book 5

22. (C) be a poor instrument for hedging an exposure to the underlying index.

**Explanation**

Tracking error results in divergence (positive or negative) between the ETF's performance and the performance of the underlying tracked index. This difference might make the ETF a poor hedging instrument to hedge an exposure to the underlying index. ETFs may trade at a premium or discount based on the size of the arbitrage gap and whether the sponsor has stopped creating new units. However, tracking error does not affect the arbitrage gap on an ETF.

(Module 35.1, LOS 35.c)

**Related Material**

SchweserNotes - Book 5