

Question #1 of 56

Question ID: 1709027

A portfolio analyst makes the following statements about derivatives-based approaches to passive equity investing:

- Statement 1: Derivatives-based approaches to passive equity investing are generally used to synthetically track equity indices over the long term.
- Statement 2: A completion overlay is a quick and cost effective way to adjust an existing passive equity portfolio so that it matches the reconstitution of its benchmark index.

Which of the analyst's statements is correct?

- A)** Statement 2 only.
- B)** Statement 1 only.
- C)** Neither Statement 1 nor Statement 2.



Explanation

Derivatives are generally not used to synthetically track equity indices over the long term because derivative positions have finite expirations (e.g., a futures contract) and will need to be rolled over at or near expiration.

A rebalancing overlay is used to adjust an existing passive equity portfolio so that it matches the reconstitution of its benchmark index as stocks are added and removed. A completion overlay is typically used to move an equity portfolio back to the risk exposure of its benchmark index.

(Module P1.2, LOS P1.c)

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Question ID: 1709039

A portfolio manager states that an optimization approach to index portfolio construction has the following advantages over stratified sampling.

- Advantage 1: An optimization approach typically results in lower index-tracking error compared to stratified sampling.
- Advantage 2: An optimization approach is more cost efficient because it requires a lower level of analytical sophistication compared to stratified sampling.

Is the manager correct?

- A) The manager is correct regarding Advantage 2, but incorrect regarding Advantage 1. 
- B) The manager is correct regarding Advantage 1, but incorrect regarding Advantage 2. 
- C) Yes. 

Explanation

An optimization approach typically minimizes index-tracking error for an indexed portfolio.

Optimization requires a higher degree of technical sophistication relative to stratified sampling.

(Module P1.2, LOS P1.d)

Which of the following statements regarding the tracking error of an indexed equity fund (when compared to its benchmark index) is *most accurate*?

- A) The existence of a bid-ask spread increases tracking error. 
- B) The same trades made by both the fund and index within the same day will not impact tracking error. 
- C) Tracking error increases as the sample size increases. 

Explanation

The bid-ask spread is essentially a trading commission paid to brokers to execute trades for the portfolio. There are no trading commissions to be considered for the benchmark. Therefore, trading commissions increase tracking error.

Tracking error *initially declines* as sample size increases because the manager first purchases the most liquid, lowest-transaction-cost stocks. But after a point, as less liquid stocks with higher transaction costs are added to increase the sample size, tracking error increases. Therefore, the statement is not wholly accurate.

Performance of the benchmark index is based on close-of-day pricing while the index fund itself may make security transactions during the day at prices other than closing prices. The potential for large price differences may significantly contribute to tracking error.

(Module P1.3, LOS P1.e)

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Question ID: 1782180

A fund analyst gathers the following data on the cash allocation and expense ratio for three exchange-traded funds (ETFs) that track a large-cap equity index.

	Cash Allocation	Expense Ratio
Fir ETF	0.02%	0.03%
Maple ETF	0.14%	0.05%
Spruce ETF	0.25%	0.10%

The ETF that is *most likely* to have the highest tracking error is the:

- A) Fir ETF.
- B) Spruce ETF.
- C) Maple ETF.



Explanation

The Spruce ETF has the highest cash allocation and highest expense ratio.

A higher cash allocation increases cash drag and contributes to higher tracking error.

Higher expense ratios lower excess returns and contribute to higher tracking error.

(Module P1.3, LOS P1.e)

An investment analyst states that exchange-traded funds (ETFs) exhibit the following trading characteristics:

Characteristic 1: Investors can buy and sell ETF shares throughout the trading day.

Characteristic 2: The fund manager of an ETF acts as the market maker for the trading of the ETF's shares on an exchange.

Is the analyst correct?

- A) Yes. 
- B) The analyst is correct regarding Characteristic 1, but incorrect regarding Characteristic 2. 
- C) The analyst is correct regarding Characteristic 2, but incorrect regarding Characteristic 1. 

Explanation

ETFs are traded throughout the day on an exchange.

An authorized participant acts as the market maker for an ETF's shares. It is also the intermediary between investors and the ETF fund manager for the creation and redemption of the ETF's shares.

(Module P1.2, LOS P1.c)

Bernice Betts is an analyst who is analyzing common equity risk factors in context of passive factor-based strategies. She is currently examining stocks with recent above-average returns. Which risk factor is Betts *most likely* examining?

A) Quality factor.



B) Yield factor.



C) Momentum factor.



Explanation

The momentum factor focuses on trying to earn additional return from stocks that have recently had above-average price increases.

The quality factor focuses on stocks that have consistent earnings and dividend growth, a high cash-flow-to-earnings ratio, or a low debt-to-equity ratio.

The yield factor focuses on dividend yield in comparison to other stocks and seeks stocks with high dividend yields to provide higher excess returns in low interest rate environments.

(Module P1.1, LOS P1.a)

Which of the following statements about passive factor-based strategies is correct?

Statement 1: A minimum variance index aims to minimize index volatility by allocating weights to index constituents based on expected returns.

Statement 2: A maximum diversification strategy attempts to maximize the diversification ratio of a portfolio using historical price return volatilities.

A) Both Statement 1 and Statement 2.



B) Statement 2 only.



C) Statement 1 only.



Explanation

Minimum variance investing is a risk-oriented strategy. The weights of a minimum variance portfolio are those that minimize portfolio volatility based on historical return data.

Maximum diversification is a diversification-oriented strategy. A maximum diversification strategy attempts to maximize the diversification ratio of the portfolio (calculated as the ratio of the weighted average volatility of the constituent stocks to the portfolio volatility) based on historical price return volatilities.

(Module P1.1, LOS P1.a)

Tilly Salway is a US investor whose portfolio has a 60% allocation to domestic equities and a 40% allocation to domestic bonds. Salway will receive \$3 million from the sale of a beach condominium in three months, and she believes that the US equity market will perform strongly over this period. She decides to use the E-mini S&P 500 futures contract to immediately implement her belief about the US equity market. The current price of the E-mini S&P 500 futures contract is 3,008.25, and the contract multiplier is 50. If Salway wishes to maintain her existing asset allocation when investing the proceeds from the sale of the beach condominium, the number of E-mini S&P 500 futures contracts she should buy is *closest to*:

A) 20.



B) 598.



C) 12.



Explanation

To maintain her existing 60% equity/40% bond asset allocation, Salway should allocate 60% of the sale proceeds to US equity exposure.

$$\text{Number of E-mini S\&P 500 futures contracts required} = (0.6 \times 3,000,000) / (3,008.25 \times 50) = 11.97.$$

Because Salway expects the US equity market to grow strongly, she should purchase 12 E-mini futures contracts.

(Module P1.2, LOS P1.c)

Chandler Gough, CFA, is constructing a passively managed equity portfolio containing a large number of stocks. His primary objective is to minimize tracking error, and his secondary objective is to minimize transaction costs. Which of the following construction approaches is *most appropriate* for Gough?

A) Stratified sampling.



B) Optimization.



C) Full replication.



Explanation

Optimization uses the tools of modern portfolio theory to address the problem of minimizing tracking error, which is Gough's primary objective. However, if there are changing historical relationships, then there is the need to maintain the optimization as the data change and that *may* be costly due to transaction costs. Therefore, optimization *may or may not* meet his secondary objective.

Full replication closely matches the index return so it minimizes tracking error, which meets his primary objective. However, because there are a large number of stocks, full replication will *definitely* be costly due to transaction costs and that *will not* meet his secondary objective.

Stratified sampling has higher tracking error due to the large number of stocks—and therefore, the need for a larger sample. That does not meet his primary objective. However, the use of a sample means that the transaction costs are lower than for full replication.

(Module P1.2, LOS P1.d)

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Question ID: 1709006

A large institutional asset manager deploys factor-weighted portfolio allocations across its clients' accounts. Which statement *most accurately* describes the factor-weighting approach?

- A) Factor-based strategies typically have higher fees than purely passive strategies. 
- B) The combination of using both factor-based and market cap-weighted indices for benchmarking typically reduces tracking error. 
- C) Risk-oriented factor-weighted strategies make estimates of forward-looking risk exposures. 

Explanation

Factor-based strategies have higher fees than purely passive strategies because there are additional trading costs associated with a factor-based approach. A risk-oriented approach focuses on minimizing portfolio variance, which is an historically focused approach. There is no effort to forecast future volatility, which is one drawback to this method. When more than one benchmark is used, tracking error will increase because there are multiple points of comparison.

(Module P1.1, LOS P1.a)

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When constructing passively managed equity portfolios, which type of index construction is preferred when the universe comprises a relatively small number of liquid stocks?

- A) Stratified sampling. 
- B) Optimization. 
- C) Full replication. 

Explanation

When the universe is small and liquid, the best option is full replication. Fund managers should switch to either stratified sampling or optimization techniques when the investment universe is large and heterogeneous.

(Module P1.2, LOS P1.d)
